GARLOCK PRODUCTS

PLAINTIFF'S EXHIBIT
G-394

ARE SOLD IN THE UNITED STATES BY THE FOLLOWING

SALES OFFICES AND WAREHOUSES OF

THE GARLOCK PACKING COMPANY

Baltimore, Md.	Detroit, Mich.	Pittsburgh, Pa.
Birmingham, Ala.	Houston, Tex.	Portland, Ore.
Boston, Mass.	Los Angeles, Calif.	Salt Lake City, Utah
Buffalo, N. Y.	New Orleans, La.	San Francisco, Calif.
Chicago, Ill.	New York, N. Y.	St. Louis, Mo.
Cincinnati, Ohio	Palmyra, N. Y.	Seattle, Wash.
Cleveland, Ohio	Philadelphia, Pa.	Spokane, Wash.
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EXPORT DEPARTMENTS

Atlantic Coast Division
114 Liberty Street, New York, N. Y.
for
Europe, Mexico, Central America, South America, West Indies, Africa

Pacific Coast Division
930 Bryant Street, San Francisco, Calif.
for
Hawaiian Islands, Philippine Islands, Australia, New Zealand, China, Japan, Dutch East Indies, British India

IN CANADA

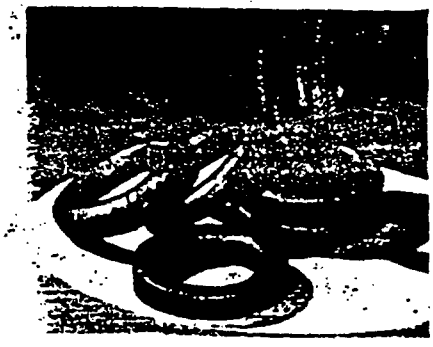
THE GARLOCK PACKING COMPANY OF CANADA, LTD.

maintains the following sales offices and warehouses

Calgary, Alta.	Montreal, Que.	Vancouver, B. C.
Hamilton, Ont.	Toronto, Ont.	Winnipeg, Man.



GARLOCK 233 COIL



GARLOCK 235 RINGS

SQUARE DERBY PACKING

Construction — GARLOCK Square Derby Packing is manufactured from Canadian long fibre asbestos yarn by the braid over braid method. It receives a lubrication and graphite treatment, which by a special process, is impregnated into every strand, making a soft and pliable material.

Service — Recommended for service on piston rods of pumps handling steam, acids, gas, lye or caustic soda.

Form — GARLOCK Square Derby Packing is obtainable in the two forms illustrated above—GARLOCK 233 Coil and GARLOCK 235 Ring.

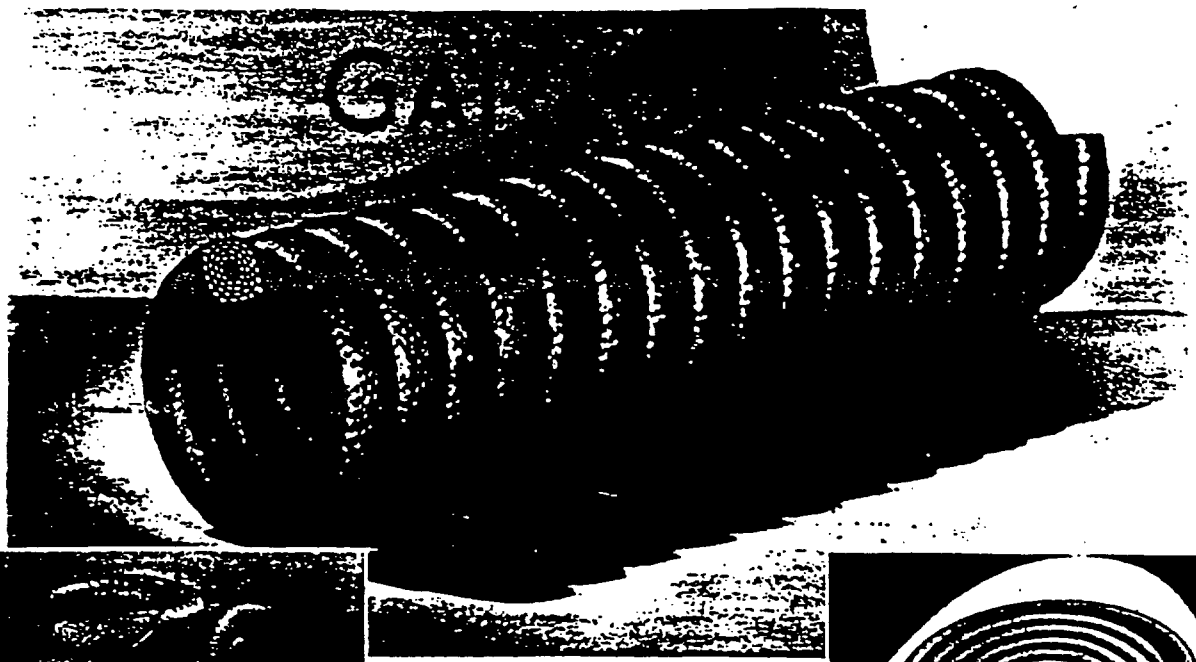
GARLOCK 235 Rings are cut from GARLOCK 233 Coil in any specified size to fit rod and stuffing box dimensions.

GARLOCK 233 Coil is manufactured in all packing sizes from ¼" to 1¼" advancing by sixteenths. Can be furnished in coil lengths or in continuous length on reel.

The table below indicates the number of coils, number of feet and approximate weight per box of a few standard sizes:

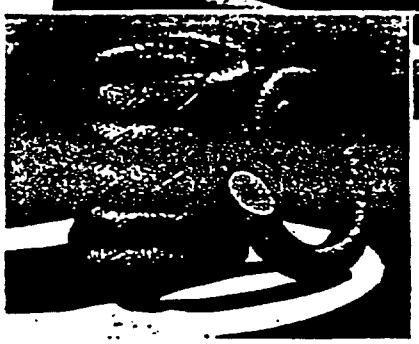
GARLOCK 233 Coil

Size	Coils per Box	Feet per Box	Weight per Box
1/4"	4	132 ft.	5 lbs.
3/8"	3	60 ft.	5 lbs.
1/2"	4	60 ft.	10 lbs.
5/8"	3	30 ft.	10 lbs.
3/4"	3	25 ft.	10 lbs.
7/8"	3	21 ft.	10 lbs.
1"	2	15½ ft.	10 lbs.

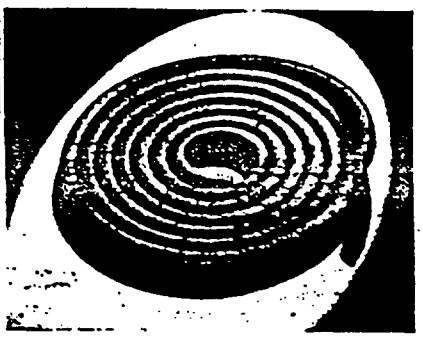


GARLOCK 145 SPIRAL

PALMYRA PACKING



GARLOCK 146 RINGS



GARLOCK 144 COIL

Construction — This high pressure packing consists of a center core of a resilient, red rubber wrapped with covers of specially woven GARLOCK asbestos cloth. The packing is treated with a heat-resisting rubber friction and lubricated with a high grade lubricant, compounded to withstand extreme temperatures; it is finished with a surface coating of graphite.

Service — For general use against high temperatures. Particularly recommended for service against saturated steam pressures up to 300 pounds per square inch and in stuffing boxes in which condensation is present in considerable quantity.

Form — This material is obtainable in the three forms illustrated above—GARLOCK 145 Spiral, GARLOCK 144 Coil and GARLOCK 146 Ring.

GARLOCK 146 Rings are furnished cut and formed in any specified size to fit rod and stuffing box dimensions.

GARLOCK 145 Spiral and GARLOCK 144 Coil are furnished in standard 12½ foot lengths and are manufactured in all packing sizes from $\frac{1}{16}$" to 1½", advancing by sixteenths.

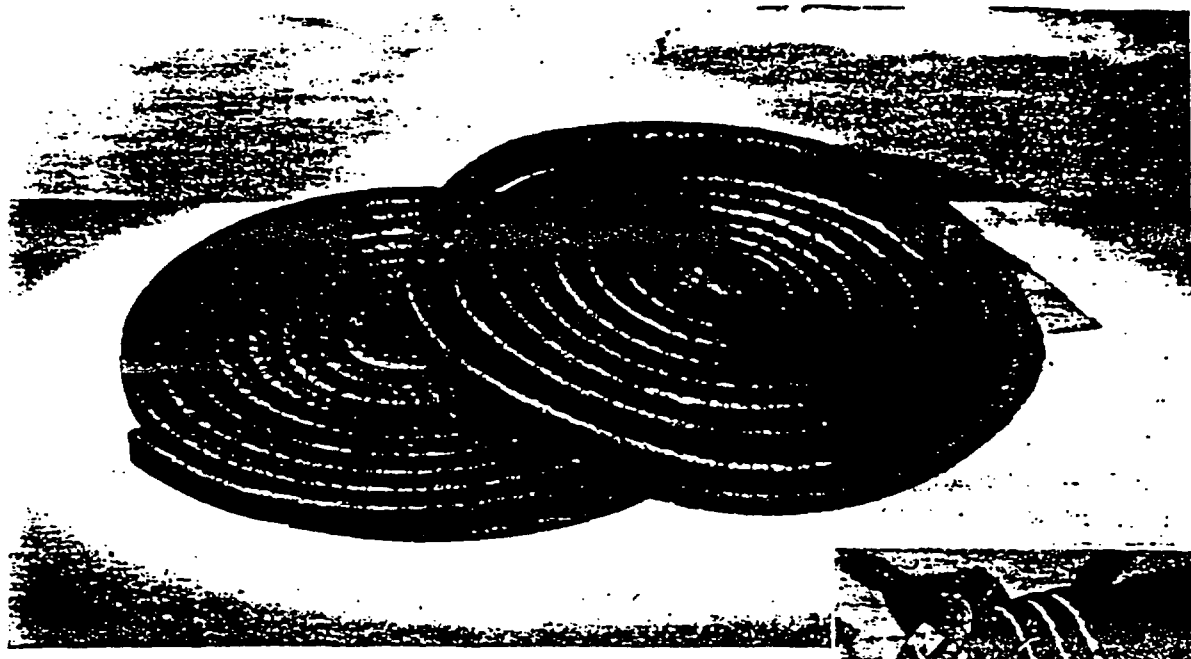
Approximate footage and approximate weight per box of a few standard sizes are shown below:

GARLOCK 144 Coil

Size	Feet per Box	Weight per Box
¼"	75 ft.	4¼ lbs.
⅜"	50 ft.	6½ lbs.
½"	50 ft.	11½ lbs.
⅝"	37½ ft.	12 lbs.
¾"	25 ft.	11¾ lbs.
⅞"	12½ ft.	7¾ lbs.
1"	12½ ft.	10¼ lbs.

GARLOCK 145 Spiral

Size	Feet per Box	Weight per Box
¼"	12½ ft.	1¼ lbs.
⅜"	12½ ft.	1⅝ lbs.
½"	12½ ft.	2¾ lbs.
⅝"	12½ ft.	4 lbs.
¾"	12½ ft.	5⅞ lbs.
⅞"	12½ ft.	7¾ lbs.
1"	12½ ft.	10¼ lbs.



GARLOCK 234 COIL



GARLOCK 239 RINGS

ROTOPAC ROTARY PUMP PACKING

Construction — GARLOCK Rotopac Packing is manufactured from long fibre asbestos, braided square by the same method used in producing flax packing. It receives a lubrication and graphite treatment, which by a special process, is impregnated into each strand of material.

Service — A high grade centrifugal or rotary pump packing recommended for service against hot or cold water, caustic solutions and weak acids.

Form — GARLOCK Rotopac Packing is obtainable in the two forms illustrated above—GARLOCK 234 Coil and GARLOCK 239 Ring.

GARLOCK 239 Rings are cut from GARLOCK 234 Coil in any specified size to fit rod and stuffing box dimensions.

GARLOCK 234 Coil is manufactured in all packing sizes from ⅛" to 1¼" advancing by sixteenths. Can be furnished in coil lengths or in continuous length on reel.

The table below indicates the number of coils, number of feet and approximate weight per box of a few standard sizes:

GARLOCK 234 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	115 ft.	5 lbs.
⅜"	4	108⅔ ft.	10½ lbs.
½"	3	63 ft.	10½ lbs.
⅝"	3	44¼ ft.	12¾ lbs.
¾"	2	27 ft.	9½ lbs.
⅞"	2	22⅔ ft.	10½ lbs.
1"	1	19¾ ft.	13½ lbs.

COMPRESSOR PACKING

GARLOCK 220 COIL
GARLOCK 221 SPIRAL
GARLOCK 222 RING

Construction — GARLOCK Compressor Packing consists of a core of formed asbestos fabric, wrapped with a cover of specially woven GARLOCK asbestos cloth. The packing is treated with a heat-resisting rubber friction and lubricated with a special lubricant compounded to withstand extreme temperature; it is furnished with an external coating of graphite.

Service—For general use against high temperature. Particularly constructed for the severe service encountered in air and gas compressor work.

Form — GARLOCK Compressor Packing is produced in three forms—GARLOCK 221 Spiral, GARLOCK 220 Coil and GARLOCK 222 Ring.

GARLOCK 222 Rings are furnished cut and formed to any specified size to fit rod and stuffing box dimensions.

GARLOCK 220 Coil and GARLOCK 221 Spiral are furnished in standard 12½ foot lengths and are manufactured in all packing sizes from ⅛" to 1½", advancing by sixteenths.

ROTOPAC ROTARY PUMP PACKING

WIRE INSERTED

GARLOCK 244 COIL
GARLOCK 249 RING

Construction — GARLOCK Wire Inserted Rotopac Packing is manufactured from long fibre asbestos yarn, containing a fine brass wire insertion. It is braided square by the same method used in producing flax packing. It receives a lubrication and graphite treatment, which by a special process, is impregnated into each strand of material.

Service — A high grade centrifugal or rotary pump packing recommended for service against hot or cold water, caustic solutions and weak acids.

Form — GARLOCK Wire Inserted Rotopac Packing is obtainable in two forms—GARLOCK 244 Coil and GARLOCK 249 Ring.

GARLOCK 249 Rings are cut from GARLOCK 244 Coil in any specified size to fit rod and stuffing box dimensions.

GARLOCK 244 Coil is manufactured in all packing sizes from ⅛" to 1¼" advancing by sixteenths. Can be furnished in coil lengths or in continuous length on reel.

The table below indicates the number of coils, number of feet and approximate weight per box of a few standard sizes:

GARLOCK 244 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	182½ ft.	13⅜ lbs.
⅜"	3	73 ft.	11⅞ lbs.
½"	3	57 ft.	14⅛ lbs.
⅝"	2	33 ft.	11⅞ lbs.
¾"	2	30½ ft.	15⅞ lbs.
⅞"	2	22 ft.	14¼ lbs.
1 "	1	17 ft.	14⅞ lbs.



GARLOCK 237 COIL



GARLOCK 238 RINGS

THORNDYKE ROTARY PUMP PACKING

Construction — GARLOCK Thorndyke Packing is manufactured from long fibre asbestos, braided square by the same method used in producing flax packing. It is lubricated and graphited throughout.

Service — Developed and recommended for service on the shafts of centrifugal and rotary pumps handling cold oil or gasoline.

Form — GARLOCK Thorndyke Packing is obtainable in two forms—GARLOCK 237 Coil and GARLOCK 238 Ring.

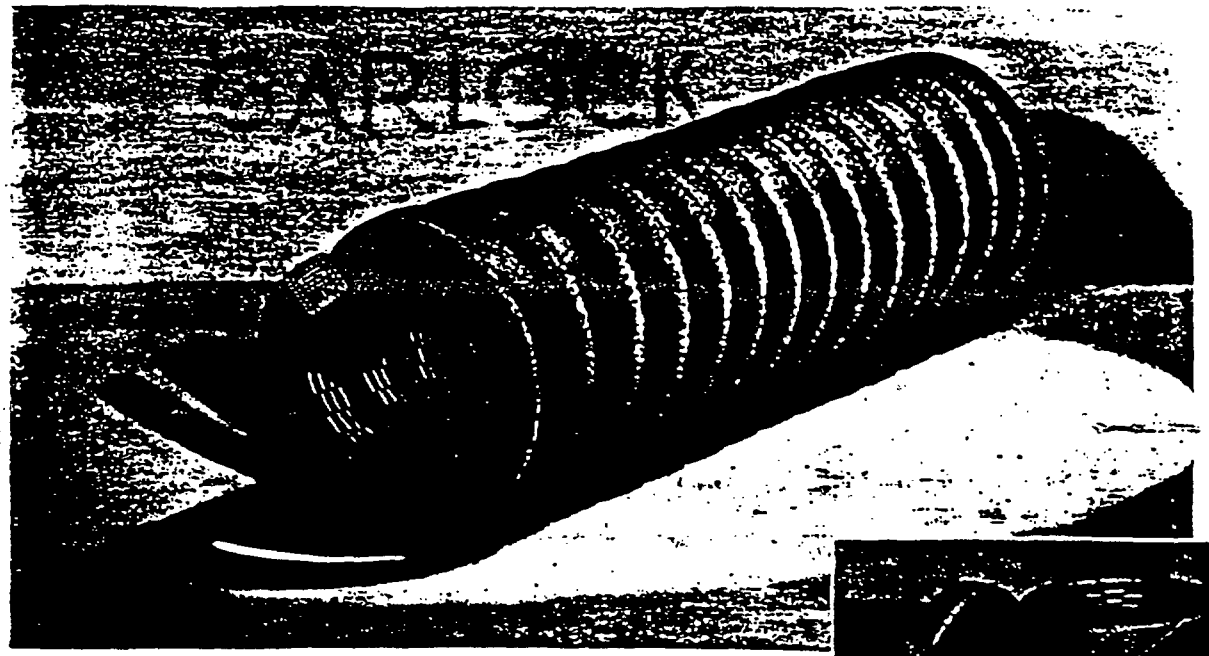
GARLOCK 238 Rings are cut from GARLOCK 237 Coil in any specified size to fit rod and stuffing box dimensions.

GARLOCK 237 Coil is manufactured in sizes from 1/8" to 1 1/4" advancing by sixteenths. Can be furnished in coil lengths or in continuous length on reel.

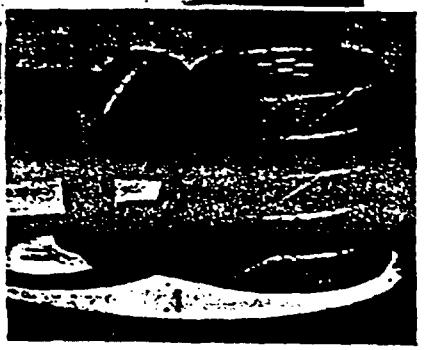
The table below indicates the number of coils, number of feet and approximate weight per box of a few standard sizes:

GARLOCK 237 Coil

Size	Coils per Box	Feet per Box	Weight per Box
1/4"	5	115 ft.	5 lbs.
3/8"	4	108 3/5 ft.	10 11/16 lbs.
1/2"	3	63 ft.	10 11/16 lbs.
5/8"	3	44 1/4 ft.	12 3/4 lbs.
3/4"	2	27 ft.	9 11/16 lbs.
7/8"	2	22 2/5 ft.	10 11/16 lbs.
1"	1	19 3/4 ft.	13 1/16 lbs.



GARLOCK 377 SPIRAL



GARLOCK 377 RINGS

METALMARINE PACKING

Construction — GARLOCK Metalmarine Packing consists of a non-frictional, soft metal core with side walls, back and cushion of rubberized asbestos cloth. The special design of the metal core provides a number of small wearing surfaces so staggered as to give a pressure tight bearing on the rod. This material is supplied lubricated and with a surface graphiting.

Service — Recommended for general steam engine service particularly on piston rods of main engines on steamships, deck engines, hoisting engines, steam shovels and dredges, steam hammers and kickers and steam niggers in the lumber industry.

Form — This material is obtainable in the two forms illustrated above—GARLOCK 377 Spiral and GARLOCK 377 Ring.

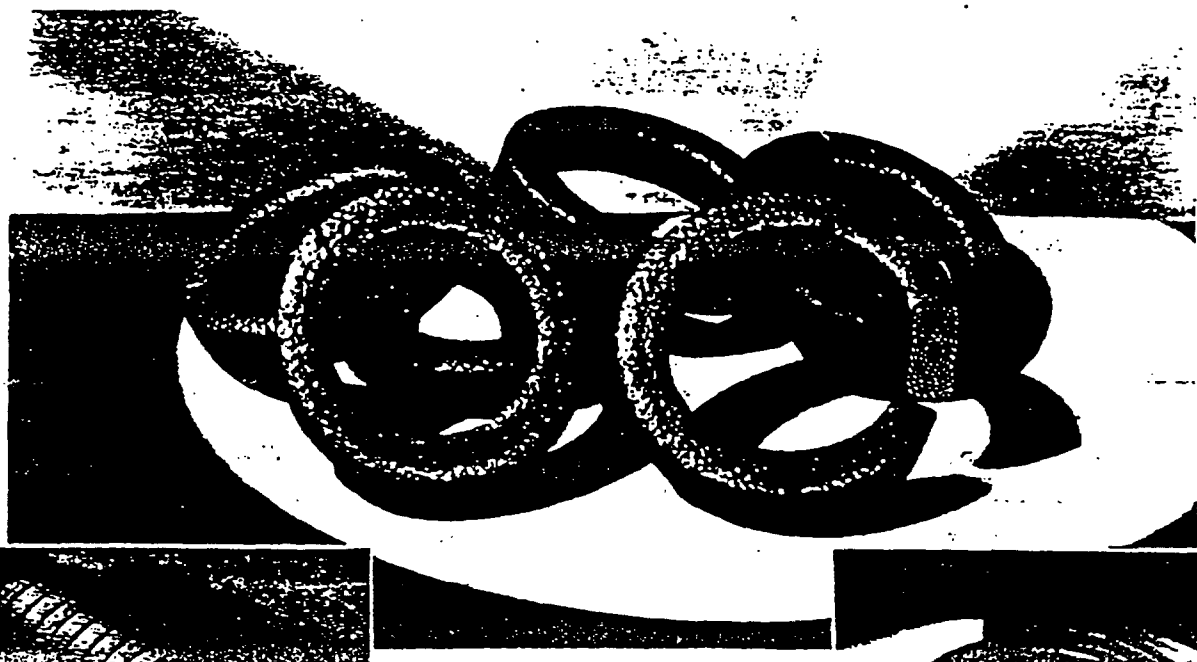
GARLOCK 377 Rings are furnished cut and formed in any specified size to fit rod and stuffing box dimensions.

GARLOCK 377 Spiral is furnished in standard 12½ foot lengths and is manufactured in all packing sizes from ¼" to 1⅛", advancing by sixteenths.

Packed one spiral per box, the following list indicates the approximate net weights of a few standard sizes:

GARLOCK 377 Spiral

Size	Weight per Box	Size	Weight per Box
¼"	1⅝ lbs.	¾"	11¾ lbs.
⅜"	2⅞ lbs.	⅞"	14¾ lbs.
½"	4¼ lbs.	1"	19 lbs.
⅝"	9⅛ lbs.		

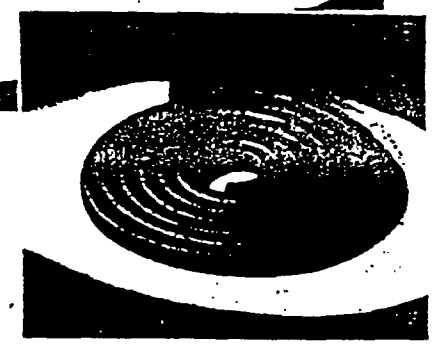


GARLOCK 358 RINGS

"O" CENTER FORGE PACKING



GARLOCK 357 SPIRAL



GARLOCK 356 COIL

Construction — GARLOCK "O" Center Forge Packing is constructed of specially woven GARLOCK asbestos cloth frictioned with a tenacious rubber cement and formed with a hollow center. It is lubricated with a high grade lubricant compounded to withstand high temperatures and is finished with an external coating of graphite.

Service — Recommended for use against high temperatures particularly where extreme vibration or lateral motion, requiring a resilient packing is encountered. Extensively used on the rods of steam hammers.

Form — This material is obtainable in the three forms illustrated above—GARLOCK 357 Spiral, GARLOCK 356 Coil and GARLOCK 358 Ring.

GARLOCK 358 Rings are furnished cut and formed in practically any size to fit rod and stuffing box dimensions.

GARLOCK 356 Coil and GARLOCK 357 Spiral are furnished in standard 12½ foot lengths and are manufactured in all packing sizes from ¼" to 1½" advancing by sixteenths.

Approximate footage and approximate weight per box of a few standard sizes are shown below:

GARLOCK 356 Coil		
Size	Feet per Box	Weight per Box
¼"	75 ft.	4⅜ lbs.
⅜"	50 ft.	5¾ lbs.
½"	50 ft.	10½ lbs.
⅝"	37½ ft.	11¼ lbs.
¾"	25 ft.	10⅜ lbs.
⅞"	12½ ft.	6⅞ lbs.
1"	12½ ft.	9⅜ lbs.

GARLOCK 357 Spiral		
Size	Feet per Box	Weight per Box
¼"	12½ ft.	¾ lbs.
⅜"	12½ ft.	1⅛ lbs.
½"	12½ ft.	2⅝ lbs.
⅝"	12½ ft.	3¾ lbs.
¾"	12½ ft.	5½ lbs.
⅞"	12½ ft.	6⅞ lbs.
1"	12½ ft.	9⅜ lbs.

MILL PACKING—WIRE COVERED

GARLOCK 247 COIL

GARLOCK 250 RING

Construction—GARLOCK Mill Packing—Wire Covered consists of a braided core of brass wire inserted, asbestos yarn, with a cover of fine copper wire. Both the core and the copper wire cover are made by the braid over braid method. The packing is regularly supplied lubricated and graphited.

Service—Recommended for steam and oil conditions at high temperatures and for the piston rods of gas engines.

Form—GARLOCK Mill Packing—Wire Covered is produced in two forms—GARLOCK 247 Coil and GARLOCK 250 Ring.

GARLOCK 250 Rings are cut from GARLOCK 247 Coil in any specified size to fit rod and stuffing box.

GARLOCK 247 Coil is furnished in all packing sizes from ¼" to 1½" advancing by sixteenths. In addition to coil lengths, it can also be furnished in continuous length on reels.

MILL PACKING

GARLOCK 248 COIL

GARLOCK 251 RING

Construction—GARLOCK Mill Packing is manufactured from high grade, brass wire inserted asbestos yarn. It is braided square by the braid over braid method and is regularly supplied lubricated and graphited.

Service—Recommended for steam and oil conditions at high temperatures and for the piston rods of gas engines.

Form—GARLOCK Mill Packing is produced in two forms—GARLOCK 248 Coil and GARLOCK 251 Ring.

GARLOCK 251 Rings are cut from GARLOCK 248 Coil, in any specified size to fit rod and stuffing box dimensions.

GARLOCK 248 Coil is furnished in all packing sizes from $\frac{1}{16}$" to 1½" advancing by sixteenths. In addition to coil lengths, it can also be furnished in continuous length on reels.

Approximate footage and approximate weight per box of a few standard sizes are indicated below:

GARLOCK 248 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	190 ft.	10 lbs.
⅜"	3	84 ft.	10 lbs.
½"	3	46½ ft.	10 lbs.
⅝"	3	30 ft.	10 lbs.
¾"	2	20 ft.	10 lbs.
⅞"	2	15½ ft.	10 lbs.
1"	2	13 ft.	10 lbs.

PACIFIC SEMI-METALLIC PACKING

GARLOCK 644 COIL

GARLOCK 646 RING

Construction — Pacific Semi-Metallic Packing is manufactured from long fibre asbestos yarn and soft metal strands, braided square by the same method used in producing flax packing. It is thoroughly lubricated and graphited.

Service — Recommended for general service on centrifugal pumps.

Form — This material is supplied in two forms, GARLOCK 644 Coil and GARLOCK 646 Ring.

GARLOCK 646 Rings are cut from GARLOCK 644 Coil and are furnished to fit any rod and stuffing box dimensions.

GARLOCK 644 Coil is manufactured in all packing sizes from $\frac{3}{16}$" to 1¼" advancing by sixteenths.

HORNBLENDE ACID PACKING

GARLOCK 230 COIL

GARLOCK 231 RING

Construction — GARLOCK Hornblende Acid Packing is manufactured from pure Blue Cape asbestos, braided square by the same method used in producing flax packings. It receives a thorough lubrication and graphite treatment.

Service — Developed and recommended for service on the shafts of centrifugal and rotary pumps handling acids and strong chemical solutions.

Form — GARLOCK Hornblende Acid Packing is obtainable in two forms—GARLOCK 230 Coil and GARLOCK 231 Ring.

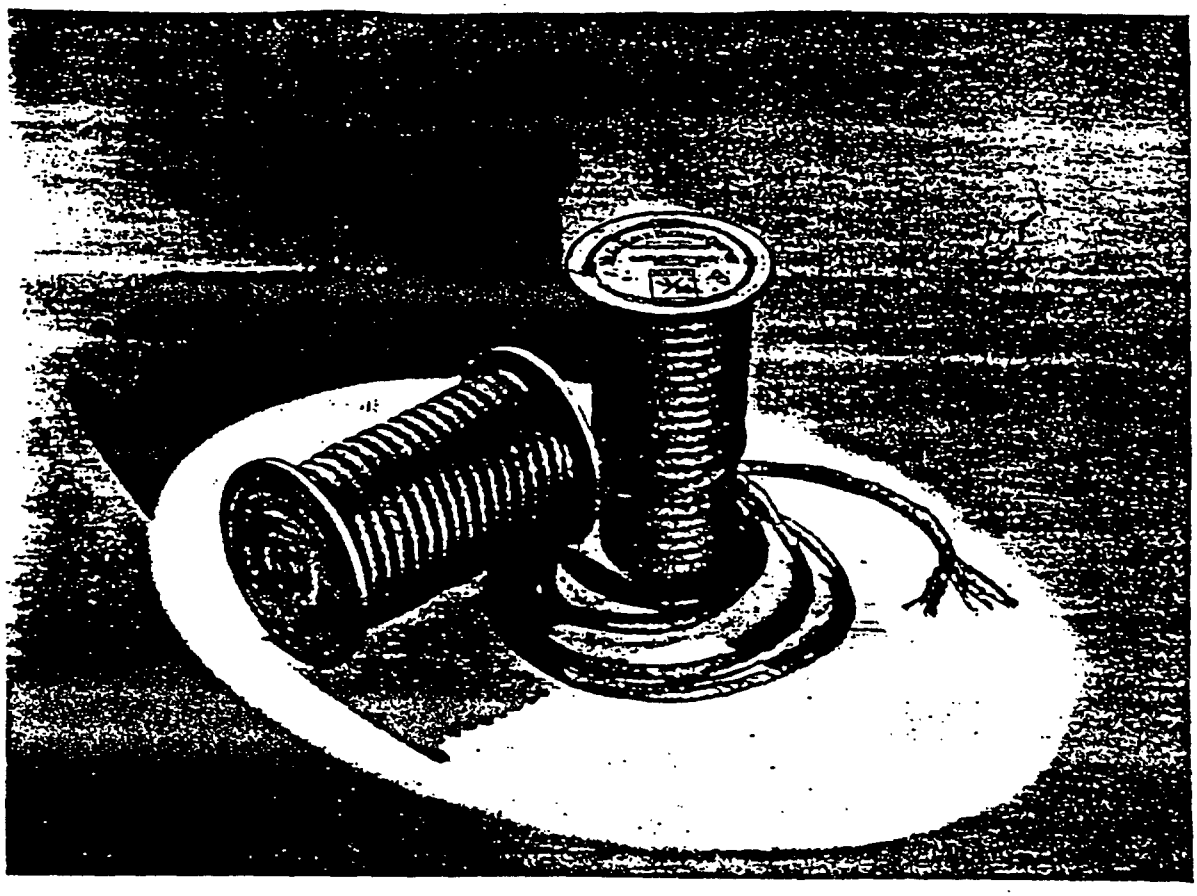
GARLOCK 231 Rings are cut from GARLOCK 230 Coil in any specified size to fit rod and stuffing box dimensions.

GARLOCK 230 Coil is manufactured in all packing sizes from $\frac{3}{16}$" to 1¼" advancing by sixteenths. Can be furnished in coil lengths or in continuous lengths on reel.

The table below indicates the number of coils, number of feet and approximate weight per box of a few standard sizes:

GARLOCK 230 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	4	90⅔ ft.	5⅜ lbs.
⅜"	3	81 ft.	10⅛ lbs.
½"	3	63 ft.	12$\frac{1}{16}$ lbs.
⅝"	2	32 ft.	11⅛ lbs.
¾"	2	28 ft.	10¼ lbs.
⅞"	2	22 ft.	13½ lbs.
1"	1	19¾ ft.	16⅜ lbs.



GARLOCK 117

ROUND BEAVER PACKING

Construction — GARLOCK 117 is manufactured from long fibre asbestos yarn, thoroughly lubricated with a heat resisting compound and graphite. It is furnished either braided or twisted. In ordering, specify which construction is desired.

Service — GARLOCK 117 is recommended for use on stems of globe and angle valves operating against high pressure steam, hot or cold water, or oil.

Form — GARLOCK 117 is furnished round in cross section; standard sizes from 1/16" to 3/4", advancing by sixteenths.

Regularly packaged on 1 pound, 2 pound or 5 pound spools. Maximum size packaged on 1 pound spools is 3/8"; maximum size on 2 pound spools, 1/2". Sizes in excess of 1/2" are furnished on 5 pound spools.

Approximate weights per hundred feet of a few standard sizes both of braided and twisted construction are listed below:

GARLOCK 117 Braided	
Size	Weight per Hundred Feet
1/16"	.25 lbs.
1/8"	.875 lbs.
1/4"	3.5 lbs.
3/8"	7.125 lbs.
1/2"	14.125 lbs.
5/8"	20.125 lbs.
3/4"	28.125 lbs.

GARLOCK 117 Twisted	
Size	Weight per Hundred Feet
1/16"	.3125 lbs.
1/8"	1.125 lbs.
1/4"	4.0625 lbs.
3/8"	7.375 lbs.
1/2"	12.75 lbs.
5/8"	19.875 lbs.
3/4"	30.0625 lbs.

SQUARE BEAVER PACKING

GARLOCK 115

Construction — GARLOCK 115 is a braided asbestos packing produced from long fibre asbestos yarn, thoroughly lubricated with a heat resisting compound and graphite.

Service — GARLOCK 115 is recommended for use on stems of globe and angle valves operating against high pressure steam, hot or cold water, or oil.

Form — GARLOCK 115 is furnished square in cross section; standard sizes from 1/16" to 3/4", advancing by sixteenths.

Regularly furnished on 1 pound, 2 pound or 5 pound spools. Maximum size packaged on 1 pound spools is 3/8"; maximum size on 2 pound spools, 1/2". Sizes in excess of 1/2" are furnished on 5 pound spools.

ALABESTINE PACKING

GARLOCK 17

Construction — GARLOCK 17 is a braided asbestos packing produced from Canadian long fibre asbestos yarn. It is treated with a heat resisting compound and is regularly supplied with a surface lubrication of graphite.

Service — A satisfactory valve stem packing for use on small angle and globe valves or any mechanical equipment where the stuffing boxes are small and difficult to keep steam tight. Will give long service in high pressure work.

Form — This material is regularly furnished round in cross section. It can be furnished, however, in square form if desired; standard sizes from 1/16" to 1 1/4", advancing by thirty-seconds.

Usual method of packaging is on 1, 2 or 5 pound spools. Maximum size supplied on 1 pound spools is 3/8"; maximum size on 2 pound spools is 1/2". All sizes in excess of 1/2" are furnished on 5 pound spools.

Approximate weights per hundred feet of a few standard round sizes are listed below:

GARLOCK 17

Size	Weight per Hundred Feet	Size	Weight per Hundred Feet
1/16"	.1875 lbs.	5/8"	14.375 lbs.
1/8"	.5 lbs.	3/4"	21.5 lbs.
1/4"	2.375 lbs.	7/8"	29.125 lbs.
3/8"	5.125 lbs.	1"	37.625 lbs.
1/2"	7.875 lbs.		

FURNACE DOOR PACKING

GARLOCK 252

Construction — GARLOCK 252 is an unlubricated packing consisting of a braided core of brass wire inserted, asbestos yarn, with a braided cover of fine copper wire.

Service — Recommended for service as a furnace door packing in steel mills, glass plants, blast furnaces and foundries.

Form — GARLOCK 252 is furnished in all packing sizes from ¼" to 1½", advancing by sixteenths. It is furnished in coil lengths or in continuous lengths on reels.

WIRE WOUND COIL PACKING

GARLOCK 114 COIL

GARLOCK 116 RING

Construction — GARLOCK 114 is a high grade asbestos packing produced with a non-vulcanizing rubber core and a cover of braided copper wire.

Service — Recommended for service on all engines that are exposed to the weather. Extensively used in marine service on deck engines.

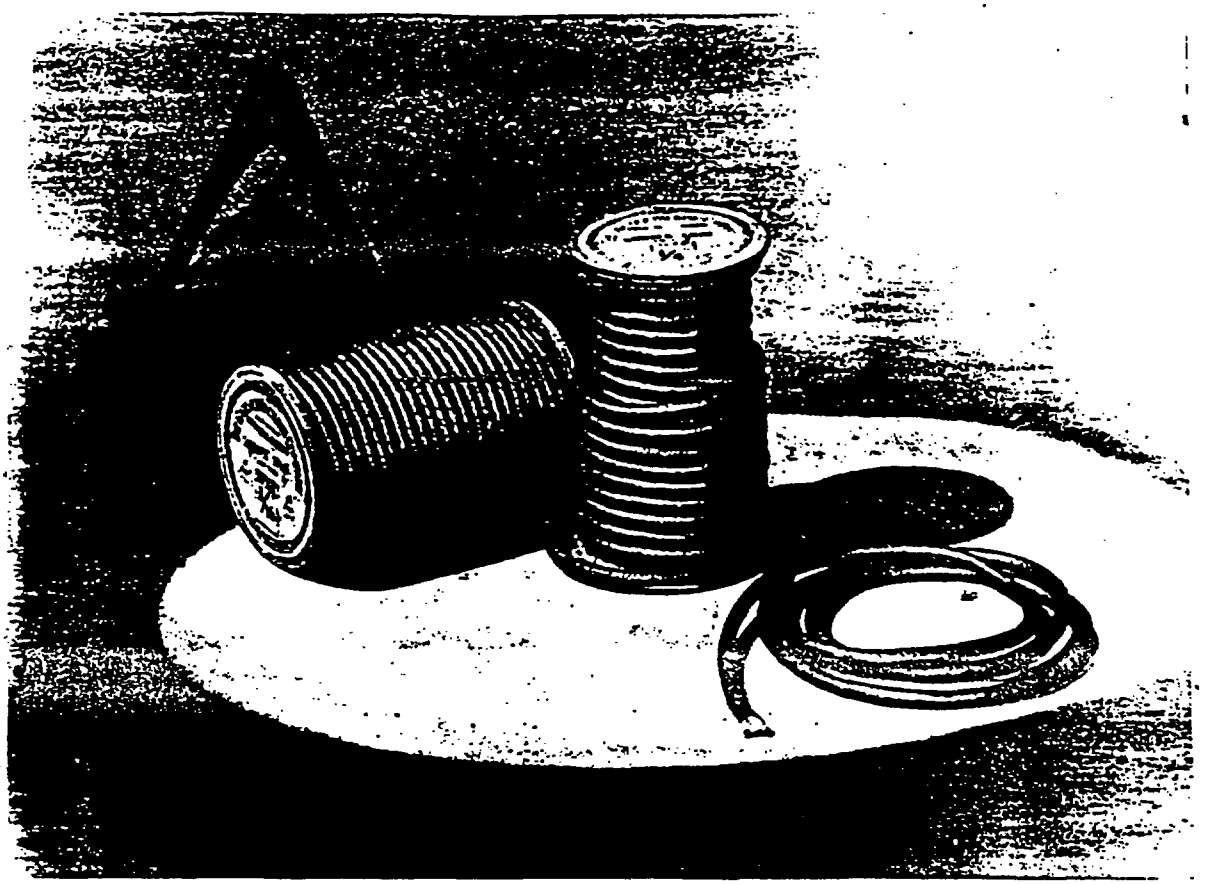
Form — GARLOCK 114 Coil is regularly furnished oval in cross section, standard sizes ¼" to 1". It is also supplied round or square in cross section, if desired.

GARLOCK 116 Rings, which are cut from GARLOCK 114 Coil, are furnished in any specified size.

Listed below is footage and approximate weight on some standard sizes:

GARLOCK 114 Coil

Size	Coils per Box	Feet per Coil	Weight per Box
¼"	3	40 ft.	10 lbs.
⅜"	3	20 ft.	10 lbs.
½"	2	16 ft.	10 lbs.
⅝"	2	13½ ft.	10 lbs.
¾"	2	10 ft.	10 lbs.
⅞"	2	8¾ ft.	10 lbs.
1"	1	11½ ft.	10 lbs.



GARLOCK 1700

LOCOMOTIVE CAB COCK PACKING

Construction — GARLOCK 1700 is braided from Canadian long fibre asbestos yarn. It receives an external graphite treatment.

Service — Recommended for service on locomotive cab cocks and on other valve stems handling high temperature and superheated steam and oils. It is also recommended for use on valve stems operating on acid lines.

Form — GARLOCK 1700 is furnished round in cross section; standard sizes from 1/16" to 1¼", advancing by thirty-seconds.

Regularly furnished on 1 pound, 2 pound or 5 pound spools. Maximum size packaged on 1 pound spools is 3/8"; maximum size on 2 pound spools, ½". Sizes in excess of ½" are furnished on 5 pound spools.

Approximate weights per hundred feet of a few standard sizes of GARLOCK 1700 are listed below:

GARLOCK 1700

Size	Weight per Hundred Feet	Size	Weight per Hundred Feet
1/16"	.25 lbs.	1/2"	7.625 lbs.
1/8"	.5625 lbs.	5/8"	12. lbs.
1/4"	2.375 lbs.	3/4"	18.875 lbs.
3/8"	4.75 lbs.		



GARLOCK 2000

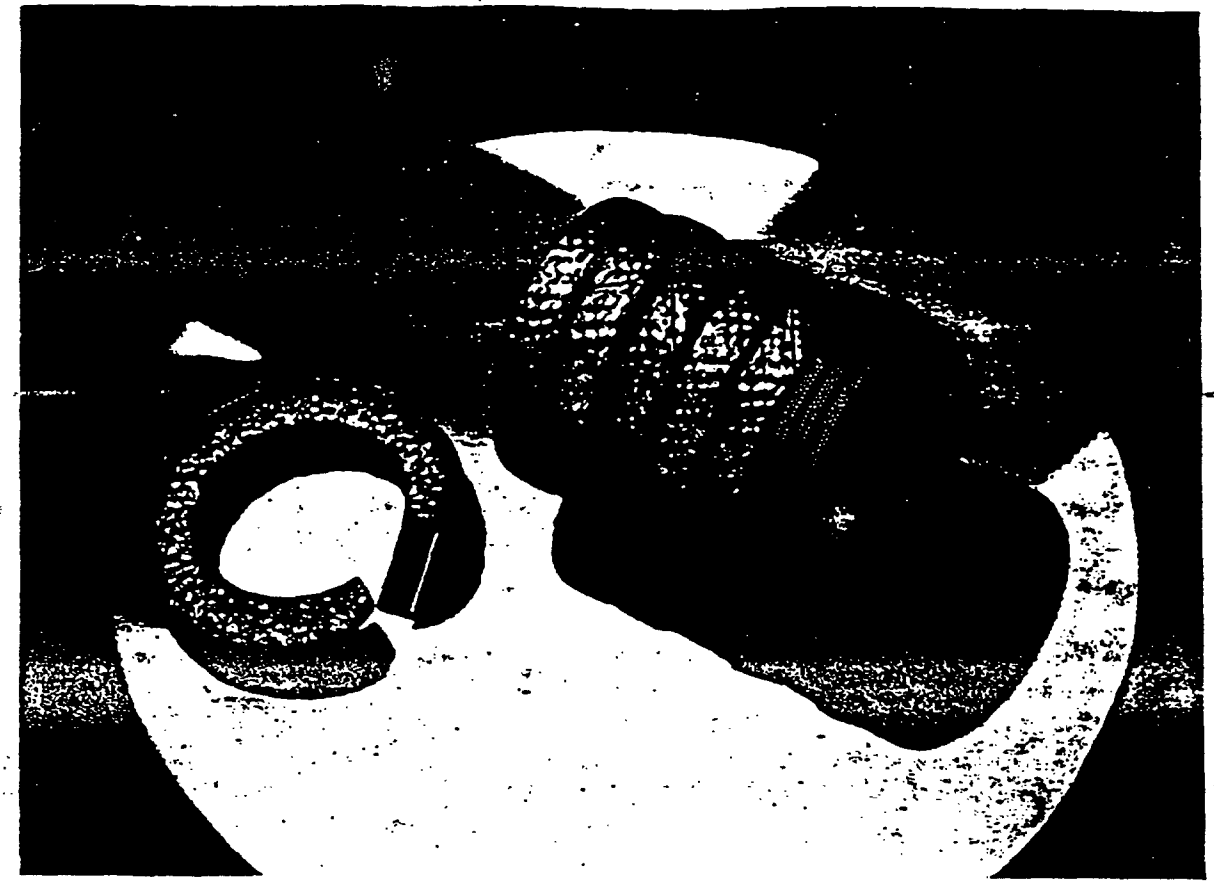
LOCOMOTIVE THROTTLE PACKING

Construction — GARLOCK 2000 is a set packing composed of rings of GARLOCK 200 High Pressure Asbestos Packing.

Service — Recommended for application to throttle stuffing boxes on locomotives. It is particularly suitable for throttle boxes located above the water line.

Form — GARLOCK 2000 is furnished in a complete range of sizes for locomotive throttle installations.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.



GARLOCK 3200

LOCOMOTIVE THROTTLE DUO PACKING

Construction — GARLOCK 3200 is a combination packing consisting of GARLOCK 200 High Pressure Asbestos Packing with a soft metal insertion, duck and rubber ring at the bottom of the set.

Service — Recommended for service in throttle stuffing boxes on locomotives. It is particularly suitable for throttle boxes located below the water line.

Form — GARLOCK 3200 is furnished in a complete range of sizes for locomotive throttle installations.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.

AMERICAN MULTIPLE THROTTLE PACKING

GARLOCK 9001

GARLOCK 9001 consists of a series of concave, convex shredded metal rings, molded from strands of special metal floss suitable for service against temperatures up to 1500° Fahrenheit. Each set contains a throat or top adapter ring.

In most sizes this throat ring is of bronze unless otherwise specified. Sets of 9001-E and 9001-F, however, are regularly supplied with the throat ring of the same material as the balance of the set.

When ordering, specify Superheater Company blue print or card numbers.



GARLOCK 2200

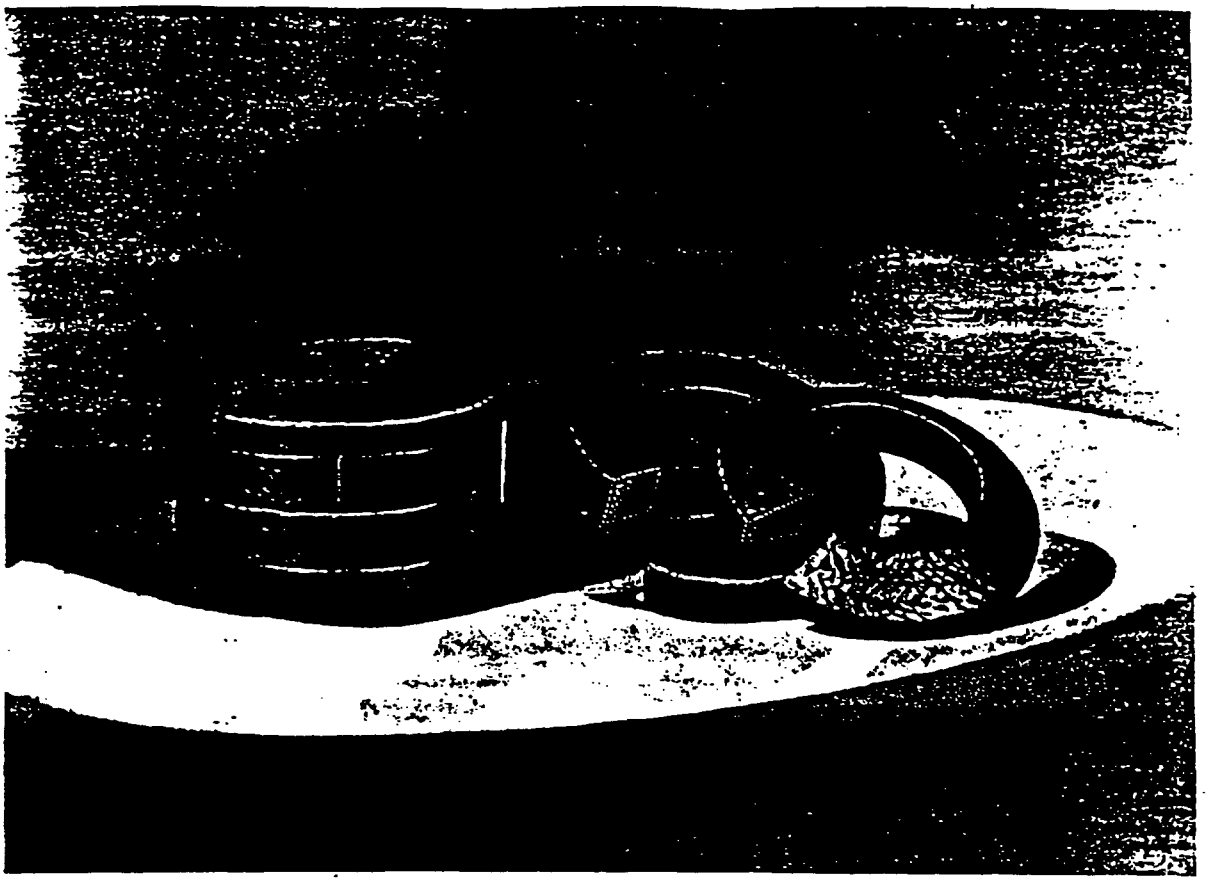
LOCOMOTIVE AIR PUMP PACKING

Construction — GARLOCK 2200 is a set packing composed of rings of GARLOCK High Pressure Asbestos Packing.

Service — Recommended for application to either the air or steam end of Westinghouse and New York Air Pumps.

Form — GARLOCK 2200 is furnished in all standard sizes for Westinghouse and New York Air Pumps. In ordering GARLOCK 2200 for Westinghouse equipment, the size of the pump should be specified; for New York equipment, the number of the pump should be specified.

A package of GARLOCK 2200 contains sufficient packing for one stuffing box only. When ordering for a complete pump installation, it, therefore, is necessary to indicate that a complete set is desired.



GARLOCK 2245

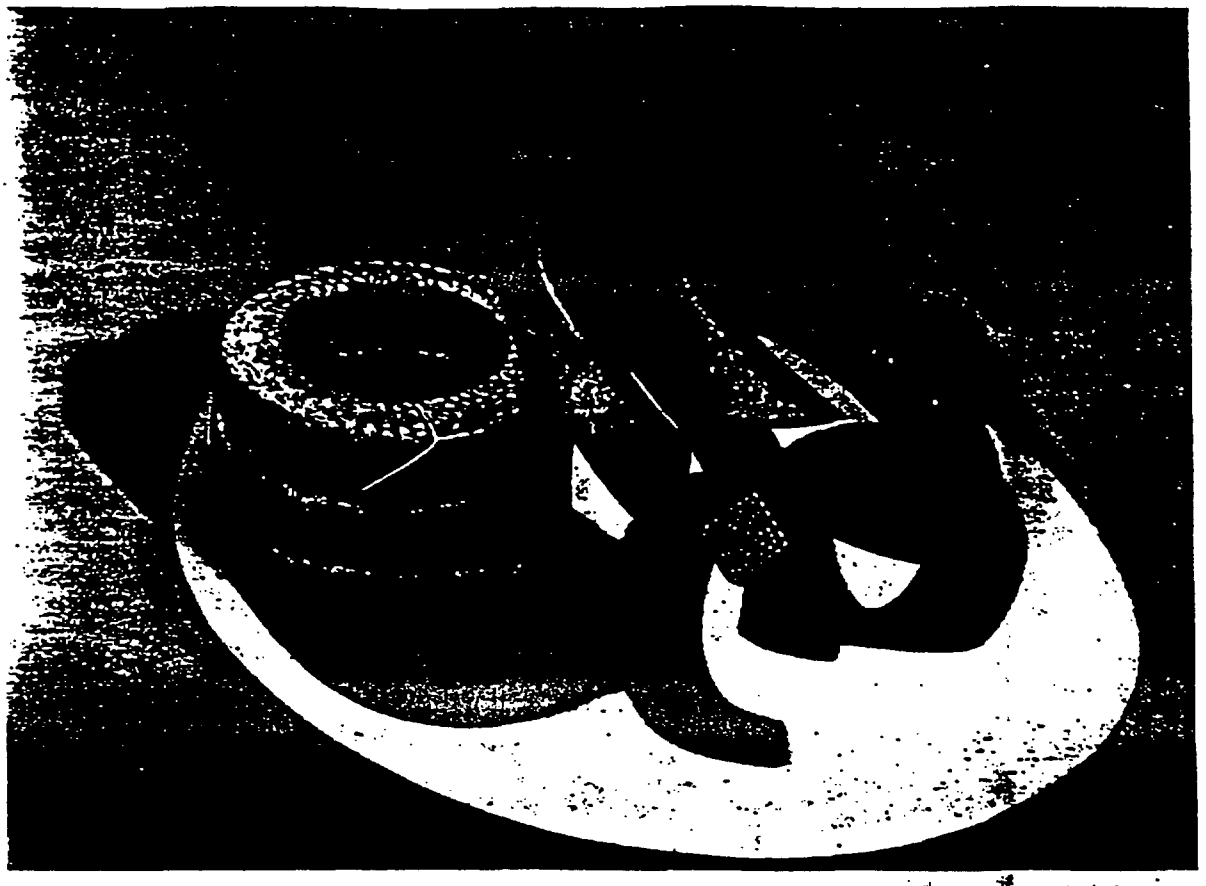
LOCOMOTIVE AIR PUMP PACKING

Construction — GARLOCK 2245 is a set packing composed of rings of braided asbestos construction. The inner braiding of these rings consists of brass wire inserted yarn, and the outer braid is woven from pure asbestos yarn. The lubricating and graphite treatment which this material receives results in a flexible packing capable of withstanding high temperatures.

Service — Recommended for service on either the air or steam end of Westinghouse and New York Air Pumps.

Form — GARLOCK 2245 is furnished in all standard sizes for Westinghouse and New York Air Pumps. In ordering GARLOCK 2245 for Westinghouse equipment, the size of the pump should be specified; for New York equipment, the number of the pump should be specified.

A package of GARLOCK 2245 contains sufficient packing for one stuffing box only. When ordering for a complete pump installation, it, therefore, is necessary to indicate that a complete set is desired.



GARLOCK 1225

POWER REVERSE GEAR PISTON ROD PACKING

Construction — GARLOCK 1225 is a combination packing consisting of GARLOCK 222 Asbestos Compressor Ring Packing and GARLOCK 235 Asbestos Square Derby Packing put up in sets.

Service — This combination is particularly designed and recommended for use on the piston rods of locomotive power reverse gears.

Form — GARLOCK 1225 is furnished in any required size to fit rod and stuffing box dimensions.

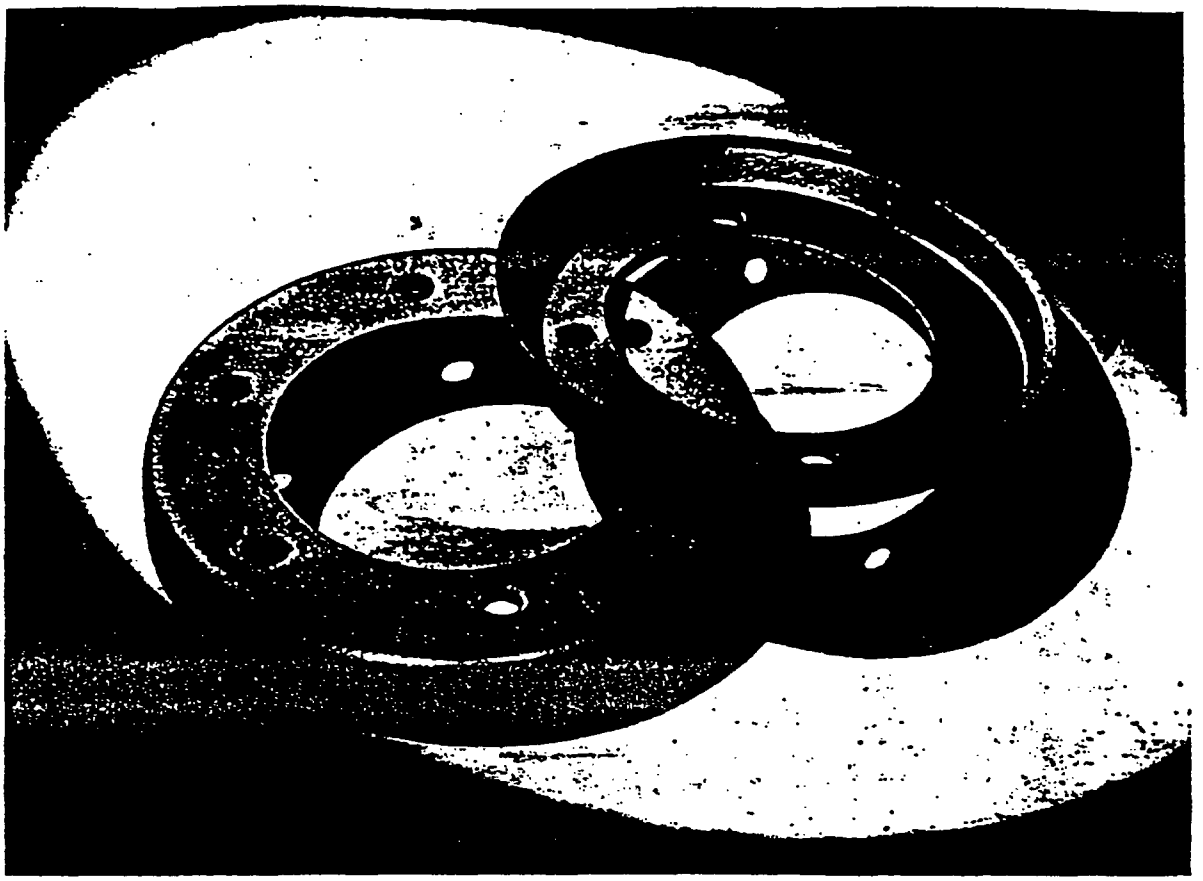
POWER REVERSE GEAR CYLINDER PACKING

GARLOCK 1200

Construction — GARLOCK 1200 is a braided asbestos packing molded rectangular in cross section and lubricated with a heat resisting compound and graphite.

Service — Recommended for the pistons of locomotive power reverse gears.

Form — GARLOCK 1200 is furnished in ring form, molded to proper sizes to fit reverse gear cylinders. It can be obtained either in single rings, or in sets to the proper depth.



GARLOCK 813-A

POWER REVERSE GEAR CUPS

Construction — GARLOCK 813-A Cups are manufactured from GARLOCK asbestos cloth, frictioned with a high grade heat and oil resistant compound. They are molded to the desired size and shape.

Service — Recommended for service on all types of reverse gear pistons.

Form — GARLOCK Power Reverse Gear Cups are furnished in a complete range of sizes to fit all reverse gears, including Ragonnet, Precision, Alco and Lewis.

When ordering, the size of cylinder and make of the reverse gear should be specified.

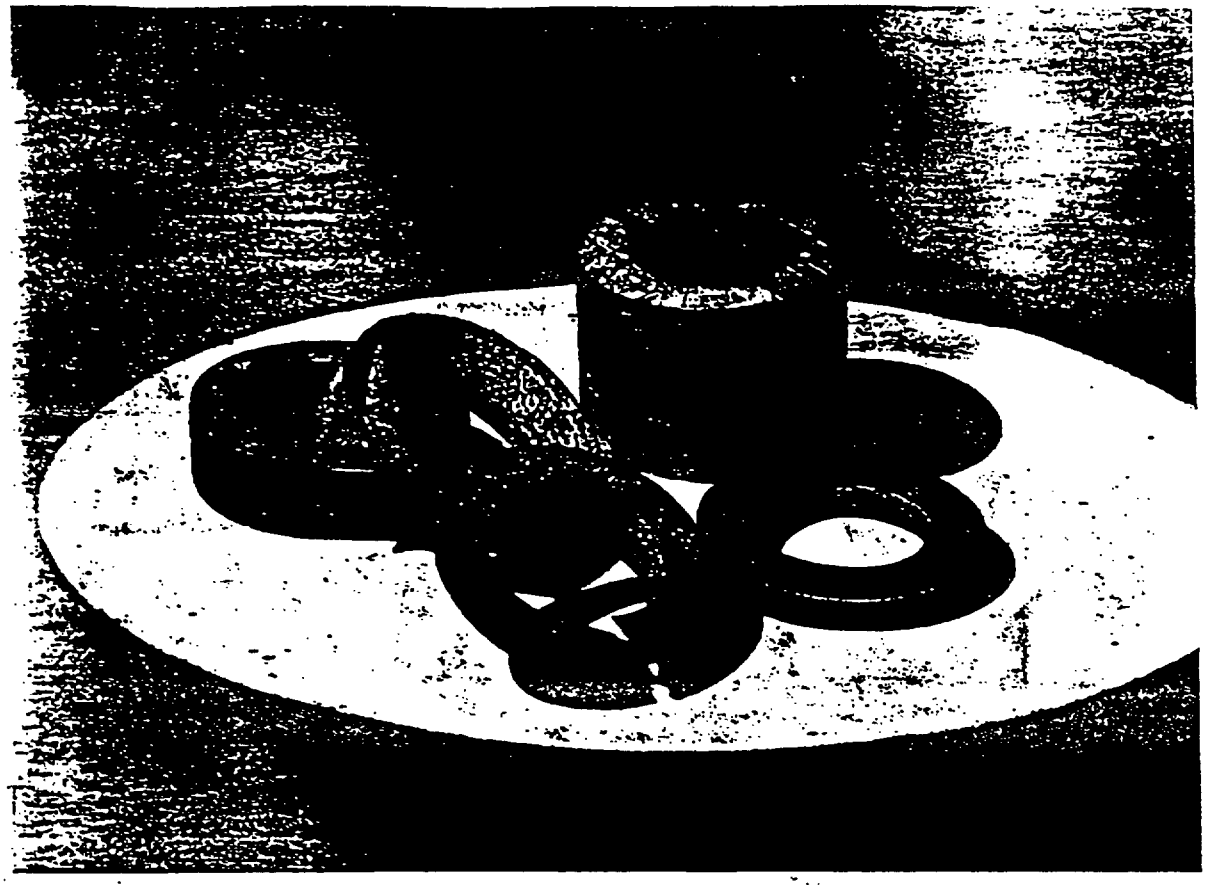
POWER REVERSE GEAR CYLINDER PACKING

GARLOCK 812

Construction — GARLOCK 812 is a duck and rubber packing constructed with diagonal plies and molded rectangular in cross section. It is lubricated and graphited.

Service — Recommended for the pistons of locomotive power reverse gears.

Form — GARLOCK 812 is furnished in ring form, molded to proper sizes to fit reverse gear cylinders. It is obtainable either in single rings or in sets to the proper depth.



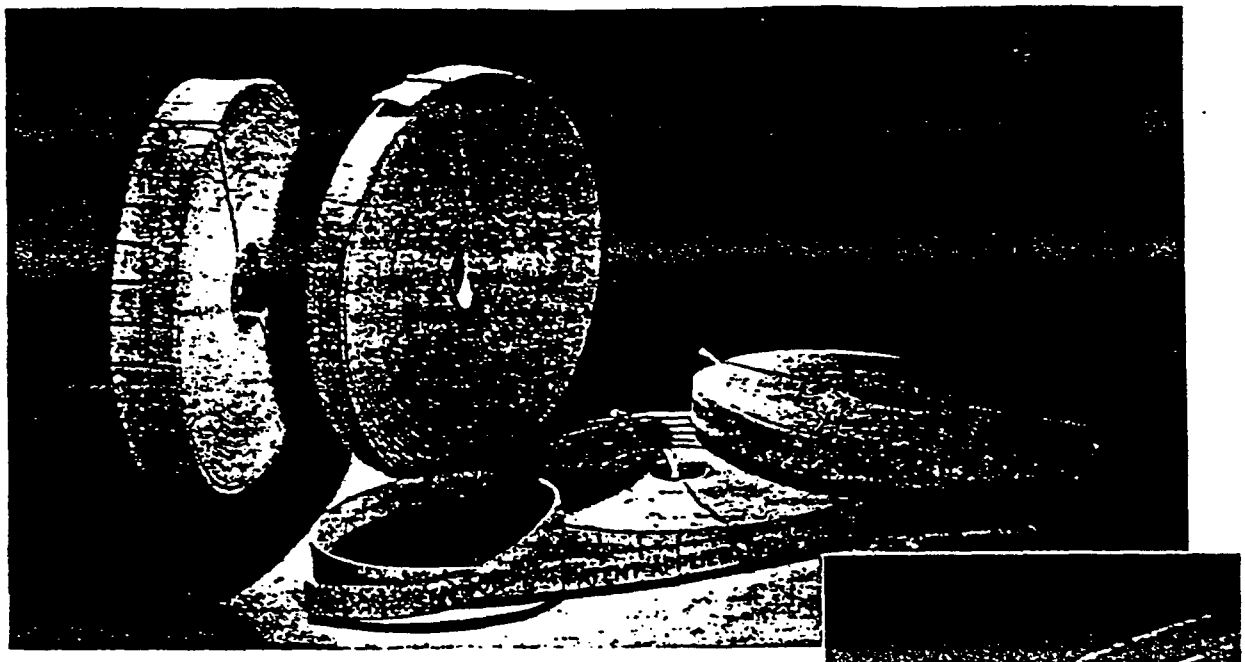
GARLOCK 449-S

POWER REVERSE GEAR PACKING

Construction — GARLOCK 449-S is a combination packing consisting of GARLOCK 333 duck and rubber rings and GARLOCK 550 diagonal cut duck and rubber rings.

Service — Recommended and specially designed for application in the stuffing boxes of Alco power reverse gears.

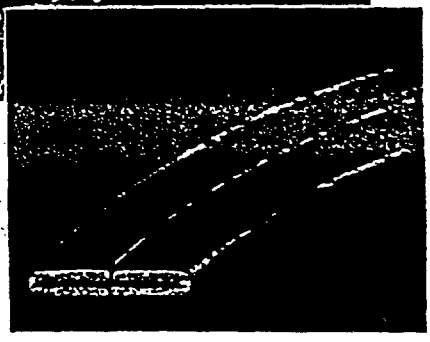
Form — Supplied in standard sizes to fit Alco power reverse gear stuffing boxes. Packaged in individual boxes, each box containing a complete installation for one stuffing box.



GARLOCK 616

BUTTON HOLE TAPE

(Patent Applied For)



Construction — GARLOCK 616 Button Hole Tape is constructed of two parallel courses of folded, GARLOCK wire inserted asbestos cloth joined together by a single ply of bonding fabric. It is treated with a high grade, heat resisting compound.

Service — Particularly recommended for service on front ends of locomotives and on flanged tanks of large diameters against high temperatures and pressures.

Form — GARLOCK 616 Button Hole Tape is furnished in practically any width and thickness desired. It is obtainable in continuous lengths. When ordering, specify length or amount of tape in addition to the width and thickness dimensions.

TANK HOSE GASKETS

GARLOCK 122

GARLOCK 122 Gaskets, for service on tank hose connections between tender and locomotive, are furnished in a wide range of sizes. They are highly recommended for this service.

The material used in these gaskets is the same as described on page 91.

PISTON PACKING
FOR
WORTHINGTON FEED WATER HEATERS

GARLOCK 33 SPECIAL ROCK HARD

Construction — GARLOCK 33 Special Rock Hard is a hydraulic packing constructed of a special type of duck and a tenacious rubber friction.

Service — GARLOCK 33 Special Rock Hard was developed for use on the pistons of Worthington Feed Water Heaters. The methods and materials used in the manufacture of this packing result in a product having a minimum amount of expansion in service.

Form — GARLOCK 33 Special Rock Hard is regularly furnished approximately square in cross section, in sizes from ⅛" to 1¼".

It is obtainable in ring, coil or spiral form; standard length of coil or spiral is 15 feet.

GARLOCK 108 RINGS

Construction — GARLOCK 108 Rings are very hard, glassy, black rubber rings molded to exact sizes.

Service — GARLOCK 108 Rings are specially recommended for service on pistons of Worthington Feed Water Heaters.

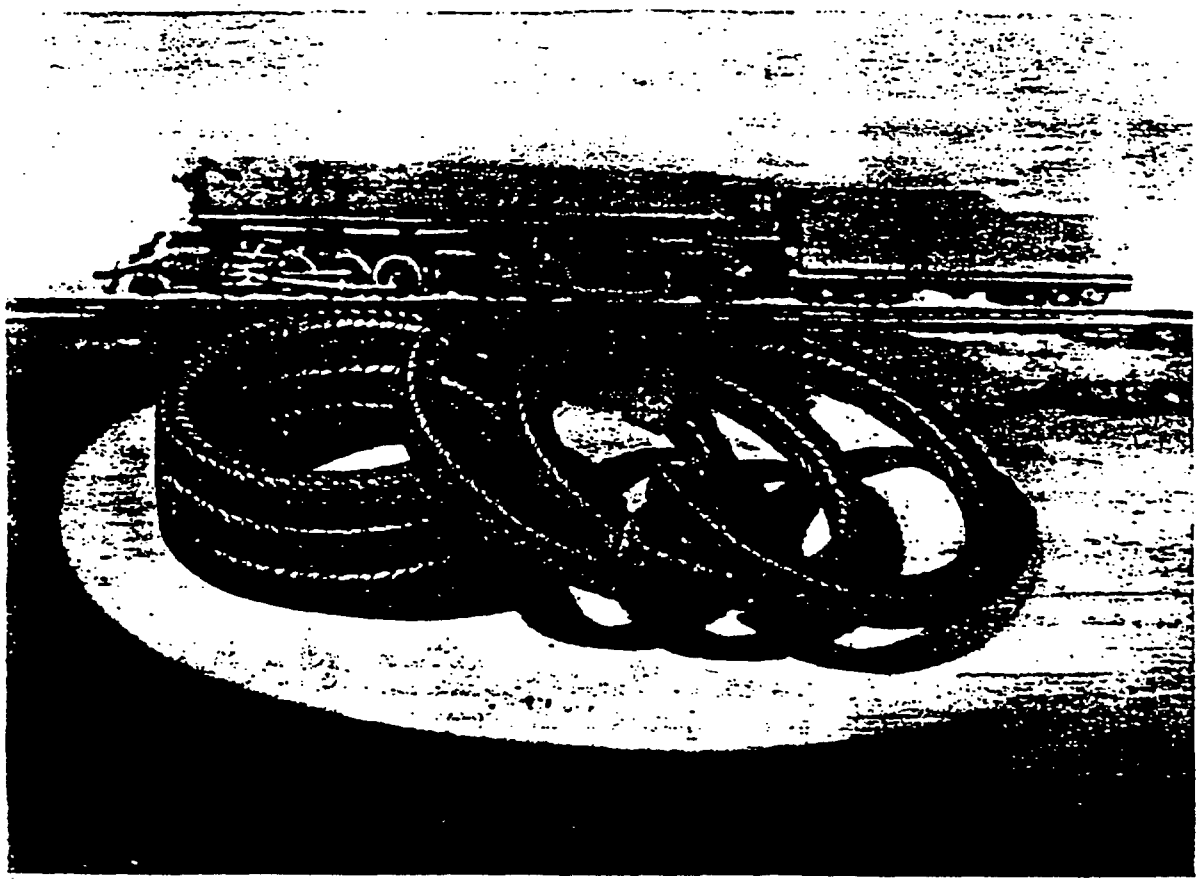
PISTON ROD PACKING
FOR
WORTHINGTON FEED WATER HEATERS

GARLOCK 7091

Construction — GARLOCK 7091 is constructed of a round core of resilient red rubber wrapped with plies of frictioned duck. The packing is formed square in cross section and is furnished with a lubrication and graphite treatment.

Service — Recommended for service on the piston rods of Worthington Feed Water Heaters.

Form — GARLOCK 7091 is obtainable in three forms — Coil, Spiral and Ring. GARLOCK 7091 Rings are cut and formed in any specified size to fit rod and stuffing box dimensions. GARLOCK 7091 Coil and 7091 Spiral are furnished in standard 12½ foot lengths and are manufactured in all packing sizes necessary for application to the stuffing boxes of Worthington Feed Water Heaters.



GARLOCK 1005

LOCOMOTIVE EXPANSION JOINT PACKING

Construction — GARLOCK Locomotive Expansion Joint Packing is a wire inserted asbestos packing, braided square like flax, with a very hard braid. It is furnished lubricated and graphited or with an external graphite treatment only.

Service — This material was specially developed for use on the slip joints of mallet locomotives. It is also recommended for old type ball joints, and for application to any expansion joint operating against steam or oil.

Form — Expansion Joint Packing is furnished either in coil or ring form, designated as follows:

GARLOCK 1005 Ring — Unlubricated, but externally graphited.

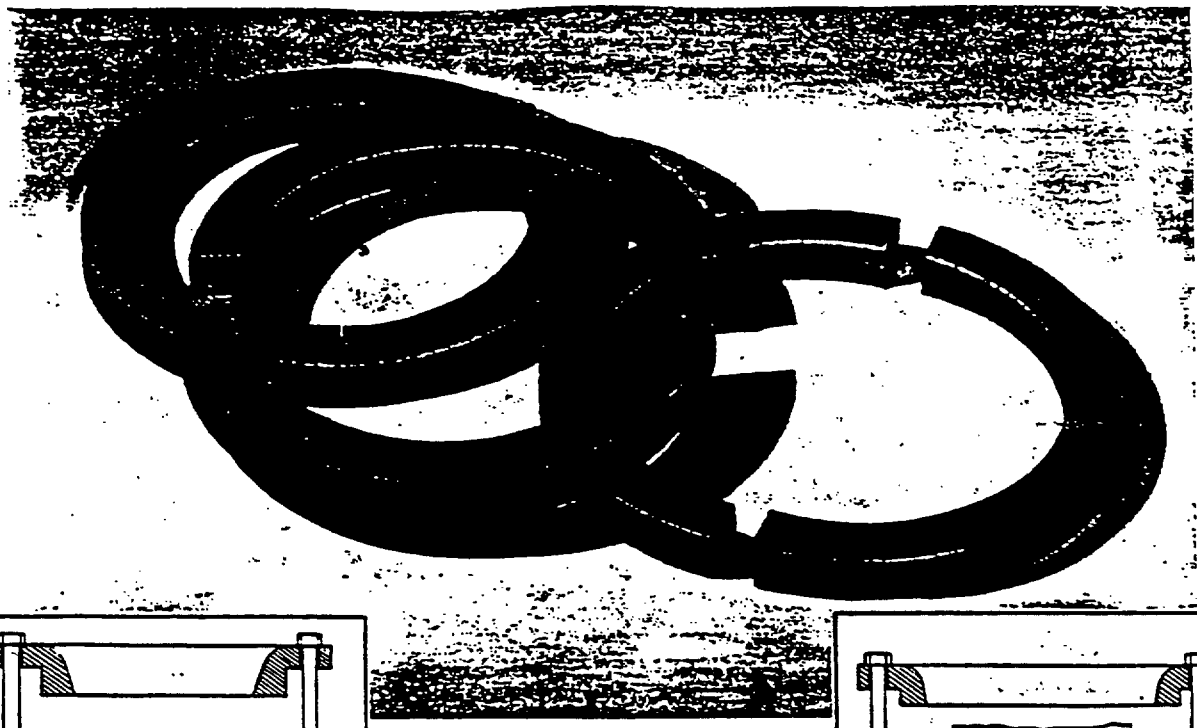
GARLOCK 1015 Coil — Unlubricated, but externally graphited.

GARLOCK 1005-A Ring — Lubricated and graphited.

GARLOCK 1015-A Coil — Lubricated and graphited.

GARLOCK 1015 Coil and GARLOCK 1015-A Coil are furnished in sizes from ⅛" to 1¼", advancing by sixteenths. Regularly packaged in boxes of approximately 10 pounds net weight. Can also be furnished in continuous lengths on reels.

GARLOCK 1005 Rings and GARLOCK 1005-A Rings are furnished in any specified sizes.



GARLOCK 1010 RINGS

LOCOMOTIVE BALL JOINT PACKING

Construction — GARLOCK Locomotive Ball Joint Packing is a special packing made of asbestos cloth folded and formed square in cross section. It receives an external treatment of lubrication and graphite.

Service — This material was specially designed for service on the new type ball joints of mallet locomotives, as indicated in the sketches above. For that service it is furnished in molded ring form to the proper diameters and thickness. It is also recommended for service on the ball joints of booster engines; for piston rings in steam hammers; and for other general steam service.

Form — GARLOCK Locomotive Ball Joint Packing is furnished in two forms — GARLOCK 1010 Ring and GARLOCK 1020 Coil.

GARLOCK 1010 Rings are cut from GARLOCK 1020 Coil. For ball joint service these rings are furnished molded to exact sizes.

GARLOCK 1020 Coil is manufactured in all packing sizes above ½" and in any desired length. The coil form of this material is not recommended for ball joint service.

LOCOMOTIVE EXPANSION JOINT PACKING

GARLOCK 5250

Construction — GARLOCK 5250 is constructed of brass wire inserted asbestos yarn braided very hard in a square cross section by the lamination or braid over braid method. It receives an oil lubrication treatment and a thorough graphiting between each braid.

Service — Recommended for locomotive expansion joint service.

Form — GARLOCK 5250 is obtainable in two forms — Coil and Ring.

GARLOCK 5250 Rings are cut from GARLOCK 5250 Coil in any specified size.

GARLOCK 5250 Coil is manufactured in all packing sizes from ¼" to 1¼," advancing by sixteenths.

GARLOCK 5270

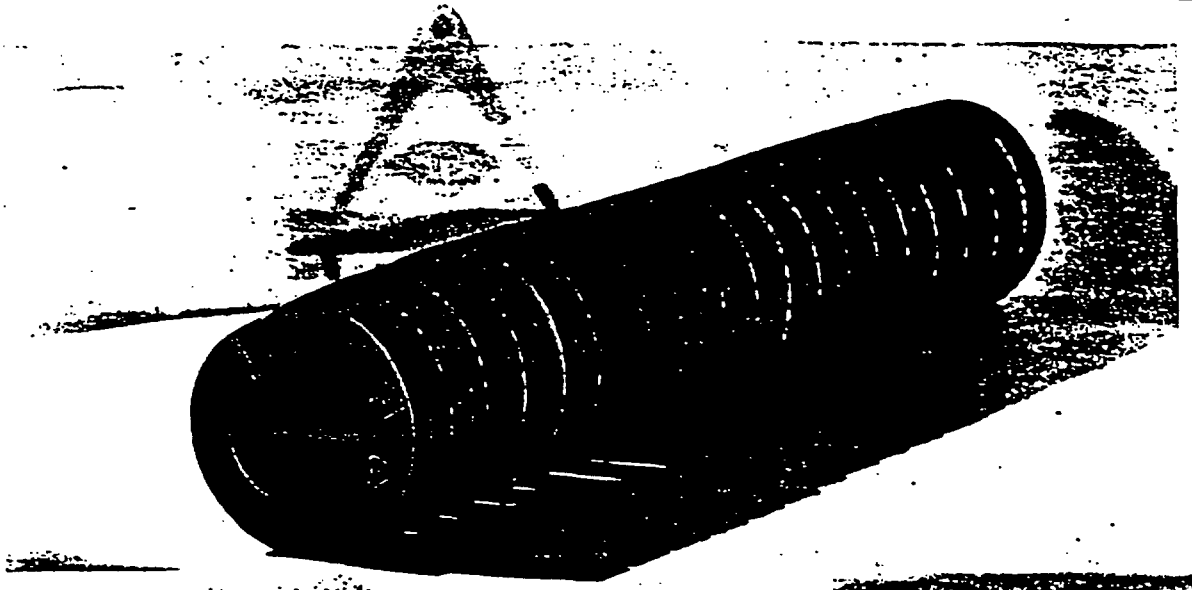
Construction — GARLOCK 5270 is manufactured from brass wire inserted asbestos yarn and is braided very hard in a square cross section by the same method as used in producing flax packing. It receives a lubrication and a very heavy graphite treatment which is impregnated into every strand of the material.

Service — Recommended for locomotive expansion joint service.

Form — GARLOCK 5270 is obtainable in two forms — Coil and Ring.

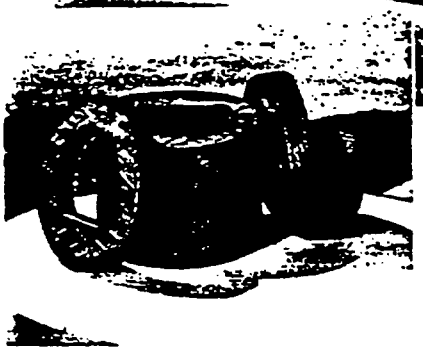
GARLOCK 5270 Rings are cut from GARLOCK 5270 Coil in any specified size.

GARLOCK 5270 Coil is manufactured in all packing sizes from ⅛" to 1¼," advancing by sixteenths.

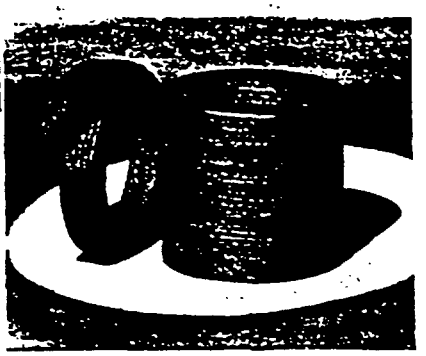


GARLOCK 777 SPIRAL (*Steam*)
GARLOCK 778 SPIRAL (*Ammonia*)

LOW PRESSURE PACKING



GARLOCK 339 RINGS (*Odd Shape*)



GARLOCK 333 RINGS (*Steam*)
GARLOCK 334 RINGS (*Ammonia*)

Construction — GARLOCK Extra Spiral and Ring Packing is constructed of plies of closely woven duck, frictioned with a high grade rubber compound, and finished with thick rubber covers. Although regularly lubricated and graphited, it is also furnished unlubricated and ungraphited when so specified.

Service — GARLOCK 777 Spiral, GARLOCK 333 Ring and GARLOCK 339 Ring are recommended for hot or cold water service; for steam service on piston and valve rods of engines, and for steam piston rods of pumps at pressures of 100 pounds per square inch, or less. GARLOCK 778 Spiral and GARLOCK 334 Ring are specially treated for ammonia service.

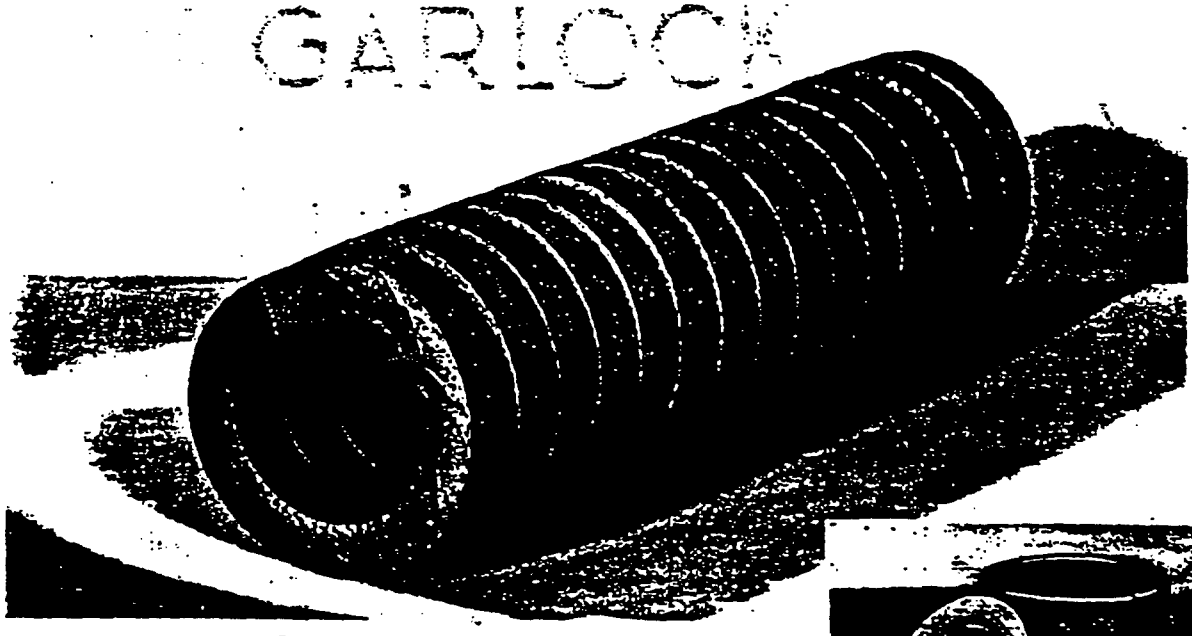
Form — This packing is regularly furnished either in spiral form — GARLOCK 777 and GARLOCK 778 — or in ring form — GARLOCK 333 and GARLOCK 334. Odd shape rings, for application on rods with flat sides, are styled GARLOCK 339.

Ring forms of this packing are furnished to fit any specified rod and stuffing box size. Spiral forms of this packing are furnished in standard 12½ foot lengths and in standard thicknesses from ¼" to 1", advancing by eighths.

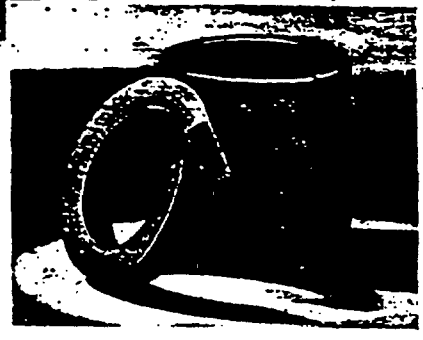
Footage and approximate weights per box of both dry and lubricated material are shown below:

GARLOCK 777 Spiral — GARLOCK 778 Spiral

Lubricated and Graphited			Unlubricated and Ungraphited		
Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
¼"	12½ ft.	¾ lbs.	¼"	12½ ft.	¾ lbs.
⅜"	12½ ft.	1¼ lbs.	⅜"	12½ ft.	1⅞ lbs.
½"	12½ ft.	2 lbs.	½"	12½ ft.	1¾ lbs.
⅝"	12½ ft.	3⅛ lbs.	⅝"	12½ ft.	2¾ lbs.
¾"	12½ ft.	4⅜ lbs.	¾"	12½ ft.	3⅞ lbs.
⅞"	12½ ft.	6½ lbs.	⅞"	12½ ft.	5¼ lbs.
1"	12½ ft.	8½ lbs.	1"	12½ ft.	6¾ lbs.



GARLOCK 711 SPIRAL



GARLOCK 712 RINGS

"Z" SPIRAL PACKING

Construction — GARLOCK "Z" Spiral Packing is constructed of diagonal plies of closely woven duck, frictioned with a specially compounded rubber.

Service — The diagonal ply construction of GARLOCK "Z" Spiral Packing results in a material of an unusually expansive nature. It is recommended for service against medium pressure steam, hot water and ammonia, particularly on equipment having rods or plungers out of line or subject to a lateral motion.

Form — This material is supplied in two forms, GARLOCK 711 Spiral and GARLOCK 712 Ring. GARLOCK 712 Rings are cut from GARLOCK 711 Spiral and are furnished to fit any rod and stuffing box dimensions.

GARLOCK 711 Spiral is furnished in standard 12½ foot lengths and in all packing sizes from ¼" to 1½", advancing by sixteenths.

Listed below is footage and approximate weight on a few standard sizes:

GARLOCK 711 Spiral

Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
¼"	12½ ft.	⅝ lbs.	¾"	12½ ft.	4 $\frac{9}{16}$ lbs.
⅜"	12½ ft.	1¼ lbs.	⅞"	12½ ft.	6⅝ lbs.
½"	12½ ft.	2 $\frac{1}{16}$ lbs.	1"	12½ ft.	8 lbs.
⅝"	12½ ft.	3⅜ lbs.			

METAL INSERTION EXTRA RING PACKING

GARLOCK 313 RING (*Steam*)
GARLOCK 314 RING (*Ammonia*)
GARLOCK 316 RING—SECTIONAL CUT (*Steam*)
GARLOCK 317 RING—SECTIONAL CUT (*Ammonia*)

Construction — GARLOCK Metal Insertion Extra Ring Packing is constructed of plies of duck and rubber with a soft metal insertion, and finished with thick rubber covers.

Service — GARLOCK 313 and GARLOCK 316 Rings are recommended for service against low pressure steam, hot or cold water.

GARLOCK 314 and GARLOCK 317 Rings are recommended for service against ammonia.

Form — GARLOCK Metal Insertion Extra Ring Packing is supplied in ring form only, to any specified rod and stuffing box sizes. Standard thicknesses are approximately 3/8" and 1/2".

As indicated above, either plain or sectional cut rings, with regular lubrication for steam service, and with special treatment for ammonia service, are manufactured.

METAL WEDGE RING PACKING

GARLOCK 216 INNER WEDGE
GARLOCK 217 OUTER WEDGE

Construction — GARLOCK Metal Wedge Ring Packing is manufactured from high grade duck and rubber slab stock with a triangular, soft metal wedge insert.

Service — Recommended for hydraulic service, particularly in combination with other hydraulic packings.

Form — Furnished in practically any diameters required, and in thicknesses approximating 1/2", 5/8", 3/4", 7/8" and 1". Minimum packing space, or width of packing, is 3/8".

GARLOCK Metal Wedge Packing is manufactured in two types, designated as follows:

GARLOCK 216 Inner Wedge has the metal wedge inserted on the inner wearing surface of the ring. This type is designed for service on outside packed plungers.

GARLOCK 217 Outer Wedge has the metal wedge on the outer wearing surface of the ring. This type is designed for service on inside packed plungers.

RUBBER INSERTION EXTRA RING PACKING

GARLOCK 285 RING
GARLOCK 286 SECTIONAL RING

Construction — Rubber Insertion Extra Ring Packing consists of plies of duck and rubber with one or more central cushions of resilient rubber. Regularly furnished lubricated and graphited.

Service — Recommended for use as an ammonia rod packing.

Form — GARLOCK Rubber Insertion Extra Ring Packing is produced in standard thicknesses of approximately 3/8", 1/2", and 5/8". It is supplied in the two types indicated above — GARLOCK 285 Rings and GARLOCK 286 Sectional Rings.

GARLOCK 286 Sectional Rings are usually combined alternately in sets with GARLOCK 285.

CUSHION CENTER HYDRAULIC PACKING

GARLOCK 273 COIL
GARLOCK 274 SPIRAL
GARLOCK 275 RING

Construction — GARLOCK Cushion Center Hydraulic Packing consists of a central soft rubber cushion placed between plies of duck and rubber laid parallel with the rod. Regularly supplied lubricated and graphited.

Service — Recommended for service on elevator plungers and on vertical hydraulic plungers having a lateral motion.

Form — GARLOCK Cushion Center Hydraulic Packing is furnished approximately square in cross section and is obtainable in three forms — GARLOCK 273 Coil, GARLOCK 274 Spiral and GARLOCK 275 Ring.

GARLOCK 275 Rings are furnished cut to any specified size to fit rod and stuffing box dimensions.

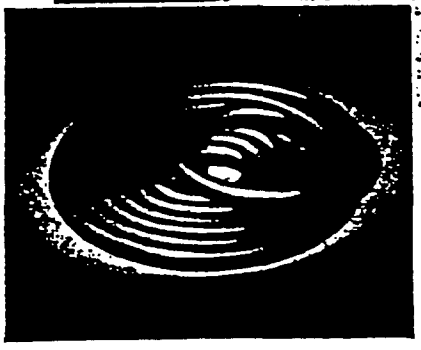
GARLOCK 273 Coil and GARLOCK 274 Spiral are furnished in standard 12½ foot lengths and are manufactured in sizes from 1/4" to 1", advancing by thirty-seconds.

Approximate footage and approximate weight per box of a few standard sizes are shown below:

GARLOCK 273 Coil			GARLOCK 274 Spiral		
Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
1/4"	50 ft.	1¾ lbs.	1/4"	12½ ft.	7/8 lbs.
3/8"	50 ft.	6¾ lbs.	3/8"	12½ ft.	1 11/16 lbs.
1/2"	50 ft.	11 lbs.	1/2"	12½ ft.	2¾ lbs.
5/8"	37½ ft.	11¾ lbs.	5/8"	12½ ft.	3 11/16 lbs.
3/4"	25 ft.	11½ lbs.	3/4"	12½ ft.	5¾ lbs.
7/8"	25 ft.	15⅜ lbs.	7/8"	12½ ft.	7 11/16 lbs.
1"	12½ ft.	10 11/16 lbs.	1"	12½ ft.	10 11/16 lbs.

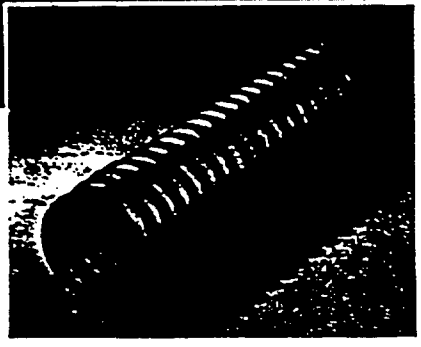


GARLOCK 255 RINGS



GARLOCK 253 COIL

IDEAL PACKING



GARLOCK 254 SPIRAL

Construction — GARLOCK Ideal Packing consists of a round core of resilient red rubber wrapped with plies of frictioned duck. It is regularly supplied lubricated and graphited.

Service — Recommended for service on high speed engine pistons and valve stems. It is also an excellent material for use on oil or hot water pumps.

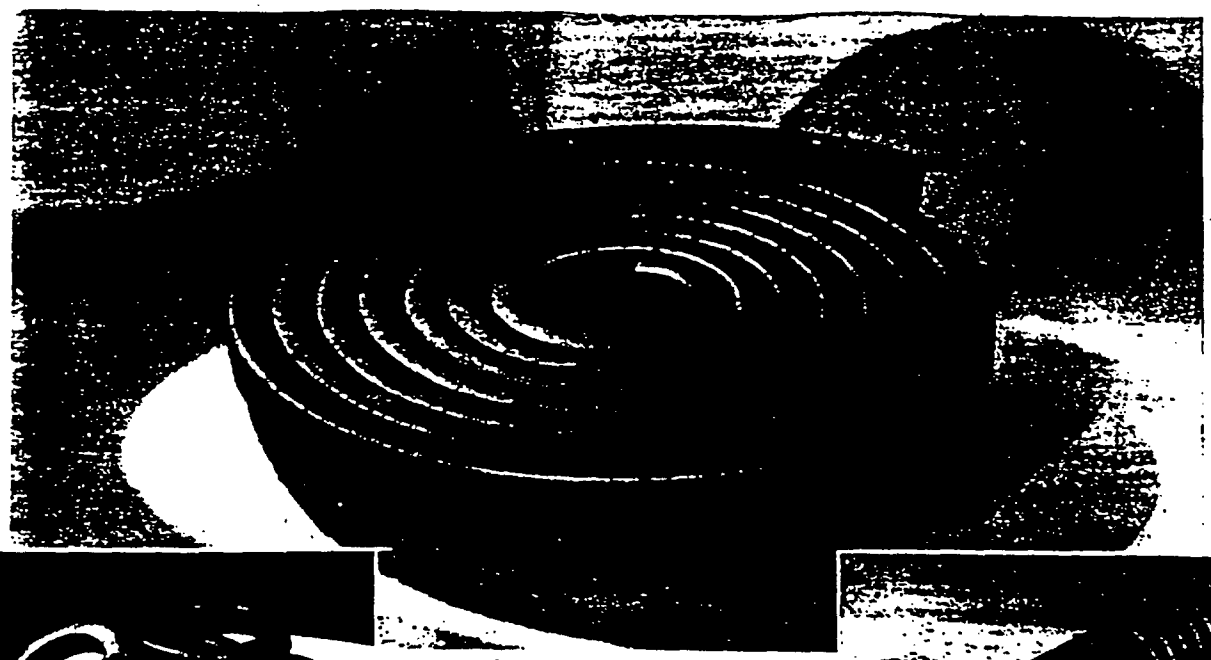
Form — GARLOCK Ideal Packing is obtainable in the three forms illustrated above — GARLOCK 253 Coil, GARLOCK 254 Spiral and GARLOCK 255 Ring.

GARLOCK 255 Rings are furnished cut and formed in any specified size to fit rod and stuffing box dimensions.

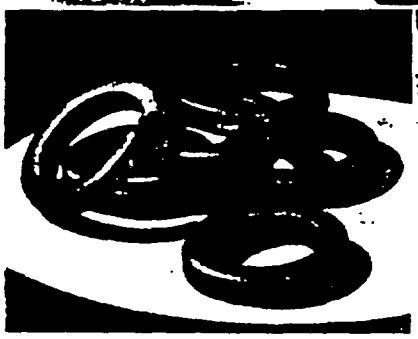
GARLOCK 253 Coil and GARLOCK 254 Spiral are furnished in standard 12½ foot lengths and are manufactured in all packing sizes from $\frac{3}{16}$" to 1½", advancing by sixteenths.

The table below indicates the number of feet per box and approximate weight per box of a few standard sizes:

GARLOCK 253 Coil			GARLOCK 254 Spiral		
Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
¼"	75 ft.	3⅜ lbs.	¼"	12½ ft.	$\frac{3}{16}$ lbs.
⅜"	50 ft.	4¼ lbs.	⅜"	12½ ft.	1$\frac{1}{16}$ lbs.
½"	50 ft.	8 lbs.	½"	12½ ft.	2 lbs.
⅝"	37½ ft.	8⅝ lbs.	⅝"	12½ ft.	2⅞ lbs.
¾"	25 ft.	8¾ lbs.	¾"	12½ ft.	4⅜ lbs.
⅞"	12½ ft.	6 lbs.	⅞"	12½ ft.	6 lbs.
1 "	12½ ft.	8$\frac{1}{16}$ lbs.	1 "	12½ ft.	8$\frac{1}{16}$ lbs.

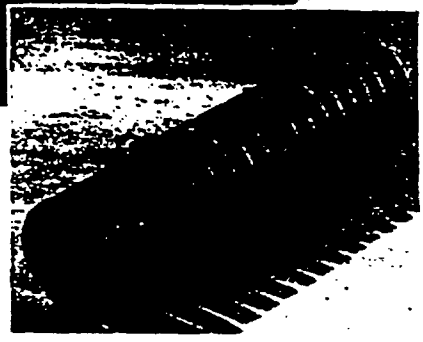


GARLOCK 366 COIL



GARLOCK 368 RINGS

"O" CENTER HYDRAULIC PACKING



GARLOCK 367 SPIRAL

Construction — GARLOCK "O" Center Hydraulic Packing is constructed of a high grade woven duck, frictioned with a tenacious rubber compound and formed with a hollow center. It is regularly treated with a high grade lubricant and a surface graphiting.

Service — Recommended for use on steam hammer pistons, elevator plungers, ammonia compressors and plungers of outside packed pumps, in hot or cold water service.

Form — GARLOCK "O" Center Hydraulic Packing is obtainable in the three forms illustrated above — GARLOCK 366 Coil, GARLOCK 367 Spiral and GARLOCK 368 Ring.

GARLOCK 368 Rings are furnished cut and formed in any specified size to fit rod and stuffing box dimensions.

GARLOCK 366 Coil and GARLOCK 367 Spiral are furnished in standard 12½ foot lengths and are manufactured in all packing sizes from ¼" to 1½", advancing by sixteenths.

Footage and approximate weight per box of a few standard sizes are indicated below:

GARLOCK 366 Coil			GARLOCK 367 Spiral		
Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
¼"	75 ft.	3¾ lbs.	¼"	12½ ft.	⅝ lbs.
⅜"	50 ft.	4¾ lbs.	⅜"	12½ ft.	1¼ lbs.
½"	50 ft.	7½ lbs.	½"	12½ ft.	1⅞ lbs.
⅝"	37½ ft.	9⅜ lbs.	⅝"	12½ ft.	3⅛ lbs.
¾"	25 ft.	8¼ lbs.	¾"	12½ ft.	4⅛ lbs.
⅞"	12½ ft.	6⅛ lbs.	⅞"	12½ ft.	6⅛ lbs.
1"	12½ ft.	8½ lbs.	1"	12½ ft.	8½ lbs.

RUBBER CUSHION ELEVATOR PACKING

GARLOCK 56 COIL
GARLOCK 54 RING

Construction — GARLOCK 56 is manufactured of plies of special duck cemented together with a high grade friction and combined with a rubber back.

Service — Particularly designed for service on hydraulic conditions of all kinds.

Form — Rubber Cushion Elevator Packing is approximately square in cross section; standard sizes 3/8" to 2", advancing by thirty-seconds. It is obtainable in two forms: GARLOCK 56 Coil and GARLOCK 54 Ring.

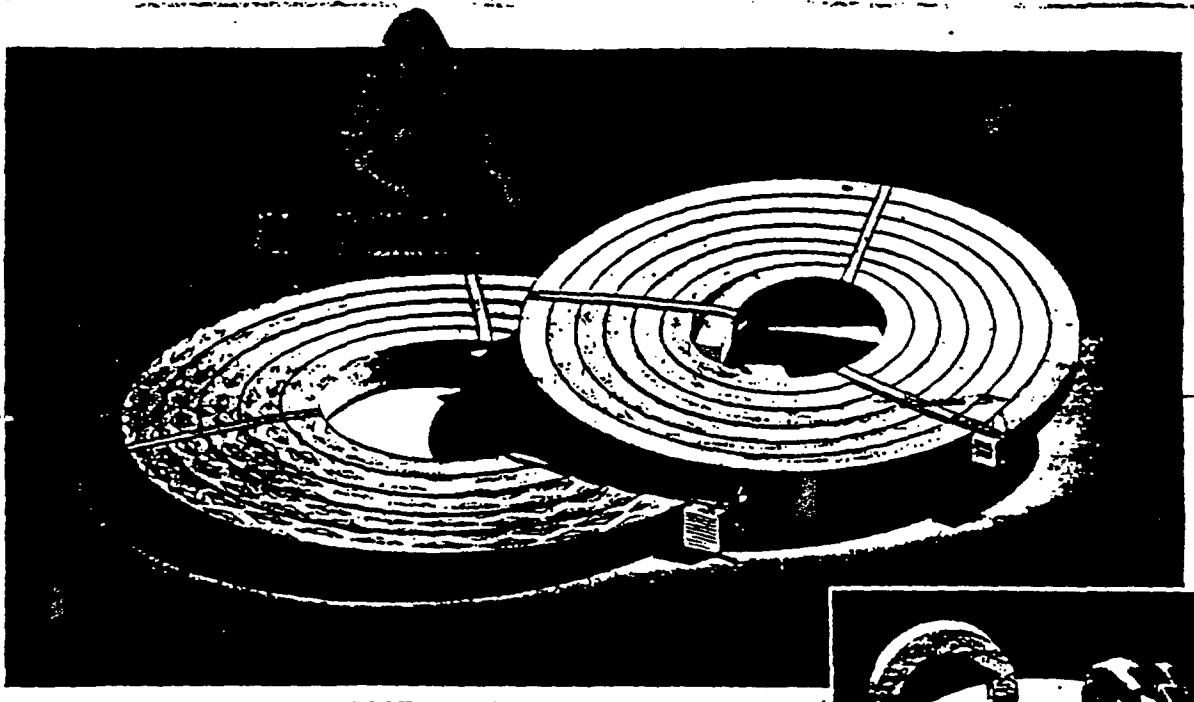
GARLOCK 56 Coil is furnished in standard lengths of 14½ feet.

GARLOCK 54 Rings, which are cut from GARLOCK 56 Coil, are furnished in any specified size.

Listed below are approximate weights of GARLOCK 56 in some stock sizes:

GARLOCK 56 Coil

Size	Coils per Box	Weight per Box	Size	Coils per Box	Weight per Box
3/8"	4	8 lbs.	3/4"	2	10¾ lbs.
1/2"	4	10¾ lbs.	7/8"	1	8⅛ lbs.
5/8"	2	8½ lbs.	1 "	1	10 lbs.



GARLOCK 262 COIL



GARLOCK 261 RINGS

SPECIAL HYDRAULIC PACKING

Construction — GARLOCK Special Hydraulic Packing is manufactured from a very fine cotton fabric, laid up with a high grade, white friction.

Service — Recommended for service on inside packed plungers of pumps handling either hot or cold water. It is also satisfactory for service against hot or cold oils.

Form — GARLOCK Special Hydraulic Packing is regularly furnished in two forms — GARLOCK 262 Coil and GARLOCK 261 Ring. Solid rings are styled GARLOCK 260. Both ring and coil forms are obtainable with either regular or rock hard cure.

GARLOCK 261 Rings are furnished cut and formed in any specified size. They are regularly furnished with a step joint as illustrated above. Can also be furnished with a butt or beveled joint.

GARLOCK 260 Rings are furnished solid, and in any outside diameter up to 21". Can be furnished in thicknesses of ¼", ⅜", ½" and ⅝" only.

GARLOCK 262 Coil is furnished in standard 15 foot lengths, and is manufactured in sizes from ⅛" to 1¼", advancing by thirty-seconds.

Number of coils and approximate weight per box of a few standard sizes are indicated below:

GARLOCK 262 Coil

Size	Coils per Box	Weight per Box	Size	Coils per Box	Weight per Box
¼"	4	2¾ lbs.	¾"	2	12⅜ lbs.
⅜"	3	4¼ lbs.	⅞"	1	8¼ lbs.
½"	2	5¾ lbs.	1"	1	11 lbs.
⅝"	2	8⅜ lbs.			

REGULAR HYDRAULIC COIL PACKING

GARLOCK 33 COIL

Construction — GARLOCK 33 Coil is a good grade hydraulic packing of duck and rubber construction.

Service — GARLOCK 33 Coil is intended particularly for use on pistons of inside packed pumps handling hot or cold water.

Form — GARLOCK 33 Coil is regularly furnished approximately square in cross section, in sizes from 1/8" to 1 1/4"; standard length of coil is 15 feet.

It is obtainable with either regular or rock hard cure.

BLACK FRICTION HYDRAULIC COIL PACKING

GARLOCK 38 COIL

Construction — GARLOCK 38 Coil is a high grade hydraulic packing, made up of plies of good quality duck and a black rubber friction.

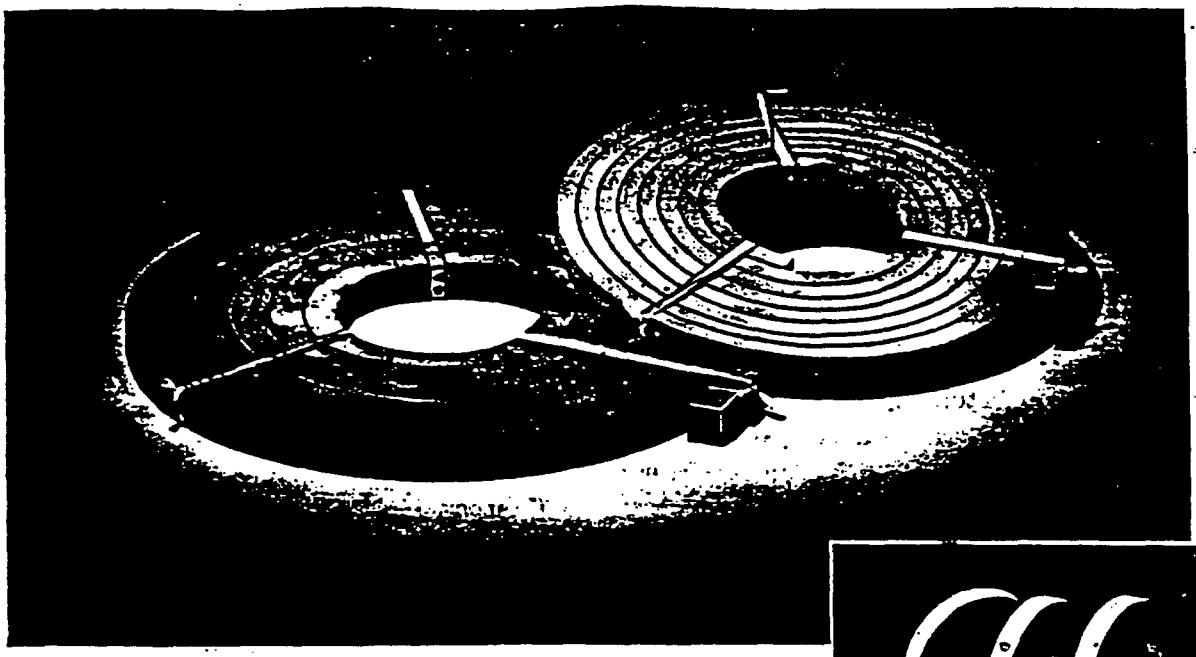
Service — GARLOCK 38 Coil is recommended for service against cold water on the pistons of inside packed pumps.

Form — GARLOCK 38 Coil is regularly furnished approximately square in cross section, in sizes 1/8" to 1 1/4"; standard length of coil is 15 feet. It is obtainable with either regular or rock hard cure.

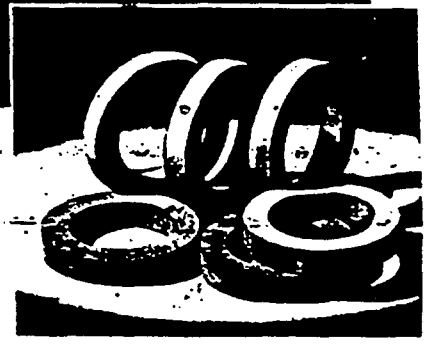
In the following table, the number of coils and approximate weight per box of a few standard sizes are shown:

GARLOCK 38 Coil

Size	Coils per Box	Weight per Box	Size	Coils per Box	Weight per Box
1/4"	4	2 lbs.	3/4"	2	10 3/4 lbs.
3/8"	3	4 1/8 lbs.	7/8"	1	6 3/4 lbs.
1/2"	2	4 1/2 lbs.	1"	1	10 1/8 lbs.
5/8"	2	7 1/2 lbs.			



GARLOCK 94 COIL



GARLOCK 95 RINGS

SQUARE GRAY RUBBER PACKING

Construction — GARLOCK Square Gray Rubber Packing is a medium soft gray rubber stock containing a high percentage of rubber. Outstanding characteristics are its toughness and lasting resiliency, either in service or in stock.

Service — GARLOCK 94 Coil will give excellent service as a packing wherever a medium soft, square rubber strip is required. It is widely used in the marine trade as a port hole rubber. In ring form, it is particularly recommended as a wiper ring in sets of ammonia packing.

Form — GARLOCK 94 Coil packing is regularly supplied square in sizes ¼" to 1¼". Can also be furnished in round, rectangular or irregular cross sections. Standard length of coils is 12½ feet; can be furnished in continuous lengths if desired.

GARLOCK 95 Ring can be supplied in practically any size desired. Is regularly furnished solid but will be cut open when so specified.

The table below indicates the number of 12½ foot coils and the approximate weight per box of a few standard sizes:

GARLOCK 94 Coil

Size	Coils per Box	Weight per Box	Size	Coils per Box	Weight per Box
¼"	6	4⅛ lbs.	¾"	2	11¼ lbs.
⅜"	4	6 lbs.	⅞"	1	8⅛ lbs.
½"	3	7⅞ lbs.	1"	1	10⅝ lbs.
⅝"	2	8¼ lbs.			

SPECIAL CYLINDER PACKING

GARLOCK 45 COIL
GARLOCK 65 RING

Construction — GARLOCK 45 is a tubular material manufactured from a high grade, soft gray rubber compound. With each box of GARLOCK 45, connecting leads and friction tape for use in forming rings or gaskets are furnished.

Service — GARLOCK 45 is designed for use in combination with other of our hydraulic packings, or for gasket service.

Form — GARLOCK 45 Coil is regularly furnished in 12½ foot lengths; it can also be supplied in continuous lengths on reels. Standard sizes ¼" to 1", advancing by sixteenths. GARLOCK 65 Rings, which are formed from GARLOCK 45 Coil, are furnished in any specified size.

Listed below is approximate weight information applying to standard boxes of GARLOCK 45 in the stock sizes:

Size	Coils per Box	Connections per Box	Weight per Box
3/8"	4	30	4¾ lbs.
1/2"	3	20	6 1/16 lbs.
5/8"	2	15	6¾ lbs.
3/4"	2	12	9¼ lbs.

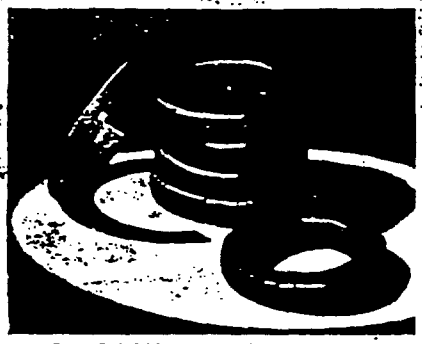
GARLOCK GAUGE GLASS WASHERS

GARLOCK Gauge Glass Washers are manufactured from a high grade rubber stock specially compounded to obtain long life and lasting resiliency.

The design of these washers enables easy application. They also reduce breakage of the glasses and keep the connections from sputtering and leaking.

GARLOCK Gauge Glass Washers are furnished in standard sizes for ½", ⅝", ¾" and 1" gauge glasses.

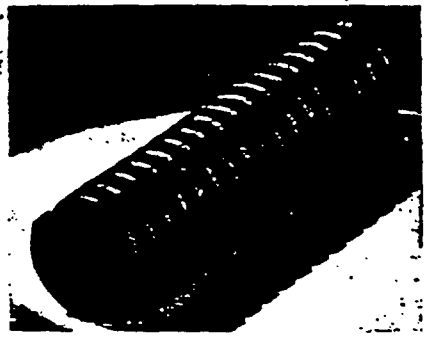




GARLOCK 99 RINGS (*Regular*)
GARLOCK 99-S RINGS (*Soft*)
GARLOCK 99-VS RINGS (*Very Soft*)

GARLOCK 90 COIL (*Regular*)
GARLOCK 90-S COIL (*Soft*)
GARLOCK 90-VS COIL (*Very Soft*)

WATERPROOF HYDRAULIC FLAX PACKING



GARLOCK 92 SPIRAL (*Regular*)
GARLOCK 92-S SPIRAL (*Soft*)
GARLOCK 92-VS SPIRAL (*Very Soft*)

Construction — GARLOCK Waterproof Hydraulic Flax Packing is manufactured from the longest fibre, imported roving, sorted and graded by flax experts. It is free from tow, coarse or short fibres. Extreme care in braiding produces an even and uniform material. The packing is thoroughly impregnated with a special graphite waterproof lubricant.

Service — This material is recommended for use on heavy hydraulic duty such as rams, accumulators, hydraulic pumps, elevator plungers or outside packed pumps handling cold water or cold oil.

Form — GARLOCK Waterproof Hydraulic Flax Packing is regularly braided square and is produced in three densities, designated—Regular, Soft and Very Soft. It is furnished in coil, spiral or ring form.

Coil Form is furnished in sizes ⅛" to 3" and is boxed in the manner indicated in the table below. May also be produced in continuous length on reels.

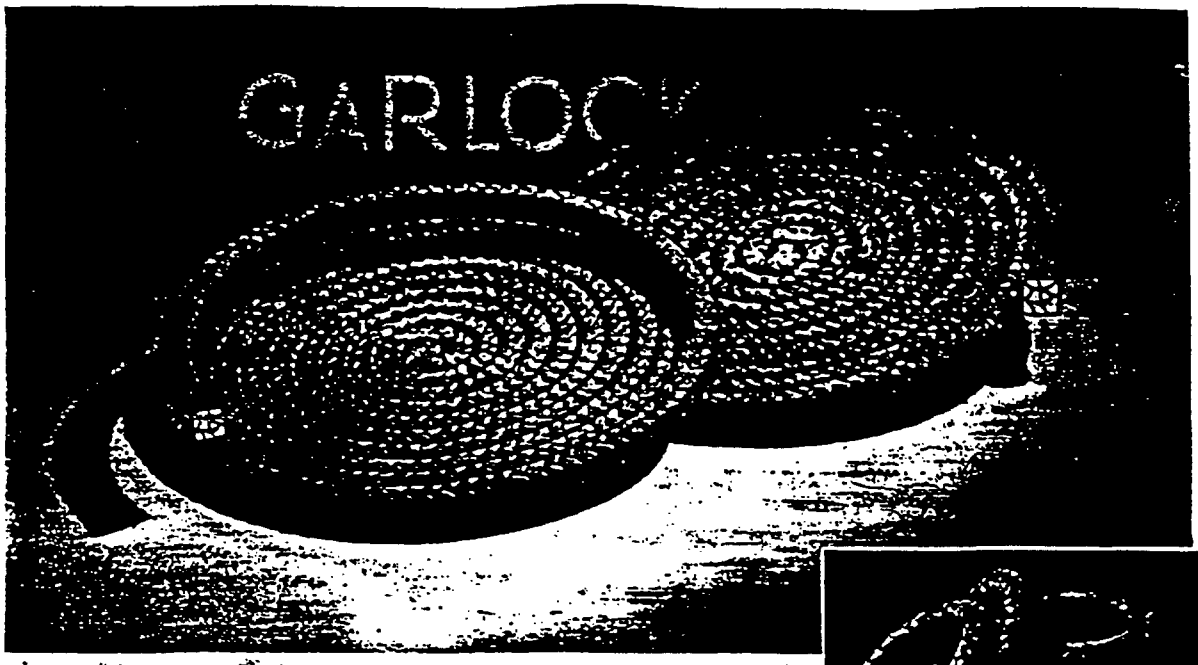
Spiral Form is furnished in sizes ⅛" to 3". It is packaged one spiral length per box.

Ring Form — Rings of GARLOCK Waterproof Hydraulic Packing are furnished cut and formed in any specified size to fit rod and stuffing box dimensions.

Listed below are approximate footage and weights on some standard sizes of GARLOCK 90 Coil.

GARLOCK 90 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	4	164 ft.	6 lbs.
⅜"	4	120 ft.	8⅝ lbs.
½"	4	88 ft.	11¾ lbs.
⅝"	1	34 ft.	7 lbs.
¾"	1	26 ft.	8 lbs.
⅞"	1	23 ft.	9 lbs.
1"	1	19 ft.	9½ lbs.





GARLOCK 25 COIL (*Hard*)
GARLOCK 26 COIL (*Regular*)
GARLOCK 27 COIL (*Very Soft*)
GARLOCK 36 COIL (*Graphited*)

GOLD BRAND SQUARE FLAX PACKING

Construction — GARLOCK Gold Brand Flax Packing is manufactured from the longest fibre, imported roving, sorted and graded by flax experts. It is free from tow, coarse or short fibres. Extreme care in braiding produces an even and uniform material. Gold Brand Flax is the highest grade flax packing.

Service — Gold Brand Flax Packing will give satisfactory service on heavy hydraulic duty and all cold water installations.

Form — This grade of flax is regularly braided square in sizes 1/8" to 3" and is furnished either in coil or ring form. It is obtainable with four different lubrication treatments, as follows:

GARLOCK 25 Coil is treated with a hard grease lubricant which gives a relatively firm density.

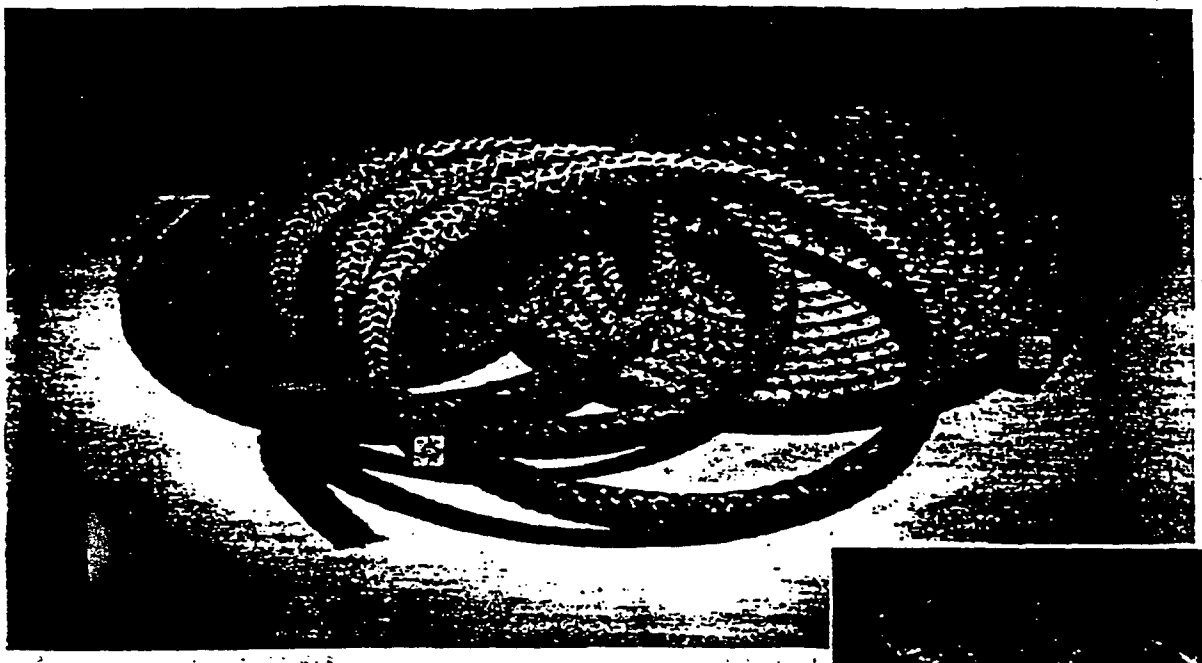
GARLOCK 26 Coil is treated with our regular flax lubricant and has a medium density.

GARLOCK 27 Coil has a heavier lubrication treatment resulting in a very soft material.

GARLOCK 36 Coil is treated with our regular flax lubricant and graphited.

Listed below are footage and approximate weights of some standard sizes:

GARLOCK 25 Coil (*Hard*) GARLOCK 26 Coil (*Regular*) GARLOCK 27 Coil (*Very Soft*)			
Size	Coils per Box	Feet per Box	Weight per Box
1/4"	7	280 ft.	9 1/16 lbs.
3/8"	5	150 ft.	9 1/16 lbs.
1/2"	4	80 ft.	9 3/4 lbs.
5/8"	3	51 ft.	9 5/8 lbs.
3/4"	3	42 ft.	11 3/8 lbs.
7/8"	3	36 ft.	12 7/8 lbs.
1 "	1	19 ft.	9 7/16 lbs.



GARLOCK 30 COIL (*Hard*)
GARLOCK 31 COIL (*Regular*)
GARLOCK 32 COIL (*Very Soft*)
GARLOCK 131 COIL (*Graphited*)



SILVER BRAND SQUARE FLAX PACKING

Construction — GARLOCK Silver Brand Flax Packing is manufactured from good grade, long fibre flax roving. Extreme care in braiding produces an even and uniform material.

Service — Silver Brand Flax Packing will give excellent service on hydraulic and cold water conditions.

Form — Silver Brand Flax Packing is regularly braided square in sizes ⅛" to 3" and is furnished either in coil or ring form. It is obtainable with four different lubrication treatments as follows:

GARLOCK 30 Coil is treated with a hard grease lubricant which gives a relatively firm density.

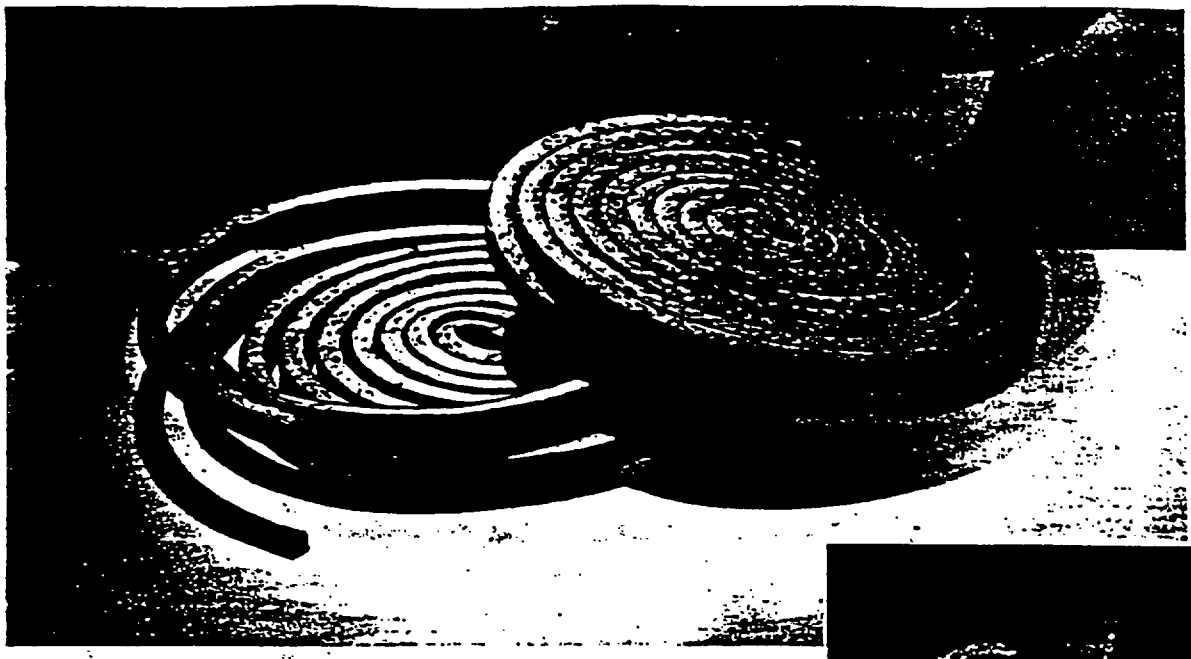
GARLOCK 31 Coil is treated with our regular flax lubricant and has a medium density.

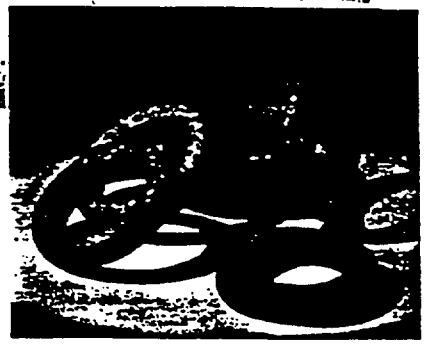
GARLOCK 32 Coil has a heavier lubricant treatment resulting in a very soft material.

GARLOCK 131 Coil is treated with our regular flax lubricant and graphited.

Listed below are footage and approximate weights of some standard sizes:

GARLOCK 30 Coil (*Hard*) GARLOCK 31 Coil (*Regular*) GARLOCK 32 Coil (*Very Soft*)			
Size	Coils per Box	Feet per Box	Weight per Box
¼"	7	280 ft.	9 1/16 lbs.
⅜"	5	150 ft.	9 1/16 lbs.
½"	4	80 ft.	9¾ lbs.
⅝"	3	51 ft.	9⅝ lbs.
¾"	3	42 ft.	11⅜ lbs.
⅞"	3	36 ft.	12⅞ lbs.
1"	1	19 ft.	9 7/16 lbs.





GARLOCK 50

HIGH PRESSURE FLAX COIL PACKING

Construction — GARLOCK 50 is manufactured from the longest fibre, imported roving, sorted and graded by flax experts. It is free from tow, coarse or short fibres. Extreme care in braiding produces an even and uniform material. GARLOCK 50 is processed with a special waterproof lubricant.

Service — GARLOCK 50 is recommended for heavy hydraulic duty and all cold water installations. Because it will not discolor liquids or solutions, it is also particularly suitable for dairy and paper mill service.

Form — GARLOCK 50 is regularly braided square in sizes ⅛" to 3" and is furnished either in coil or ring form.

Listed below are footage and approximate weights of some standard sizes:

Size	Coils per Box	Feet per Box	Weight per Box
¼"	4	164 ft.	6 lbs.
⅜"	4	120 ft.	8⅜ lbs.
½"	4	88 ft.	11¾ lbs.
⅝"	1	34 ft.	7 lbs.
¾"	1	26 ft.	7½ lbs.
⅞"	1	23 ft.	9 lbs.
1"	1	19 ft.	9½ lbs.

OCEAN BRAND BLENDED FLAX PACKING

GARLOCK 42 COIL *(Very Soft)*
GARLOCK 43 COIL *(Regular)*
GARLOCK 53 COIL *(Graphited)*

Construction—GARLOCK Ocean Brand Blended Flax Packing is manufactured from a medium grade of flax roving. The same care in braiding is used as in the manufacture of our highest grade flax packings insuring even and uniform material.

Service—GARLOCK Ocean Brand Blended Flax Packing is designed for service in ordinary hydraulic conditions.

Form — Ocean Brand Blended Flax Packing is regularly braided square in sizes 1/8" to 3" and is furnished either in coil or ring form. It is obtainable with three different lubrication treatments as follows:

GARLOCK 42 Coil has a heavy treatment of our regular flax lubricant resulting in a very soft material.

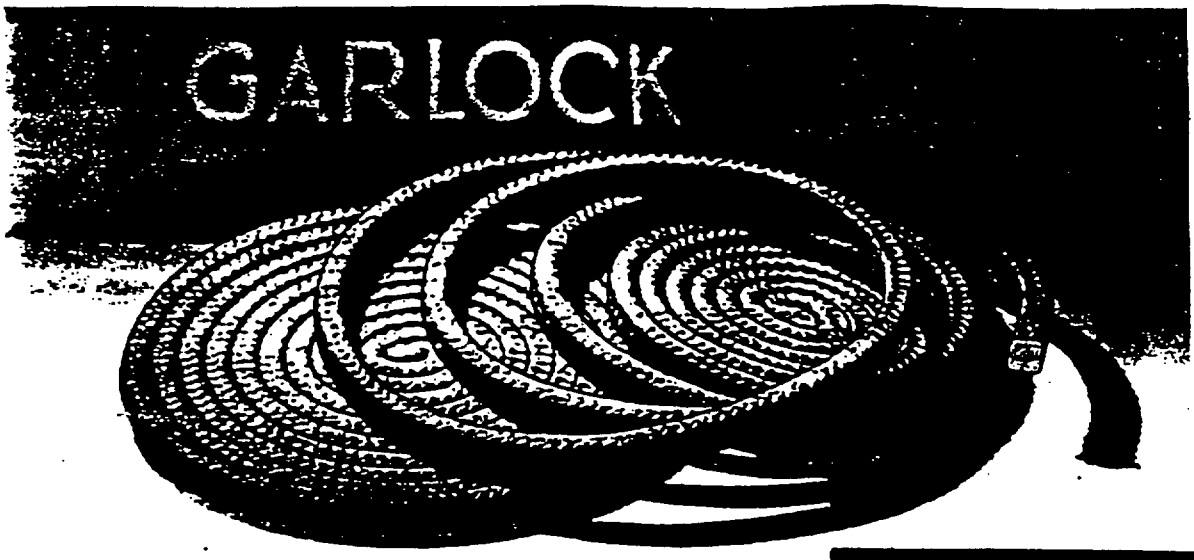
GARLOCK 43 Coil is treated with our regular flax lubricant and has a medium density.

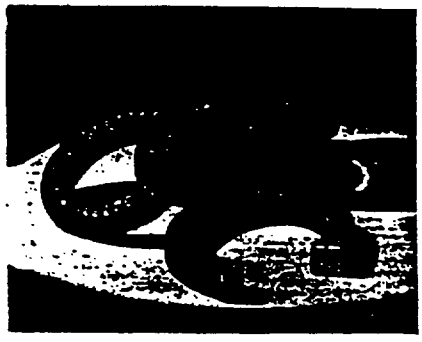
GARLOCK 53 Coil is treated with our regular flax lubricant and graphited.

Listed below are footage and approximate weights of some standard sizes:

GARLOCK 42 COIL *(Very Soft)*
GARLOCK 43 COIL *(Regular)*

Size	Coils per Box	Feet per Box	Weight per Box
1/4"	7	287 ft.	11 lbs.
3/8"	5	150 ft.	11 lbs.
1/2"	4	80 ft.	11 lbs.
5/8"	3	51 ft.	10 lbs.
3/4"	3	42 ft.	12¼ lbs.
7/8"	3	36 ft.	12½ lbs.
1 "	1	19 ft.	10 lbs.





GARLOCK 34 COIL (*Hard*) GARLOCK 535 COIL (*Very Soft*)
GARLOCK 35 COIL (*Regular*) GARLOCK 52 COIL (*Graphited*)

LAKE BRAND SQUARE JUTE PACKING

Construction — GARLOCK Lake Brand Jute Packing is manufactured from all fine white India jute, sorted and graded carefully as to length of fibre. The same careful braiding process is used as in the manufacture of our flax packings insuring an even and uniform material.

Service — GARLOCK Lake Brand Jute Packing will give satisfactory service on all hydraulic and cold water conditions where a jute packing generally is used.

Form — Lake Brand Jute Packing is regularly braided square in sizes ⅛" to 3" and is furnished either in coil or ring form. It is obtainable with four different lubrication treatments as follows:

GARLOCK 34 Coil is treated with a wax lubricant which gives a relatively firm density.

GARLOCK 35 Coil is treated with our regular flax lubricant and has a medium density.

GARLOCK 535 Coil has a heavier lubrication treatment resulting in a very soft material.

GARLOCK 52 Coil is treated with our regular flax lubricant and graphited.

Listed below are footage and approximate weights of some standard sizes:

GARLOCK 34 Coil (*Hard*) GARLOCK 35 Coil (*Regular*) GARLOCK 535 Coil (*Very Soft*)

Size	Coils per Box	Feet per Box	Weight per Box
¼"	7	287 ft.	10 lbs.
⅜"	5	150 ft.	10 lbs.
½"	4	80 ft.	10 lbs.
⅝"	4	68 ft.	10 lbs.
¾"	3	42 ft.	11 lbs.
⅞"	3	36 ft.	14 lbs.
1"	1	27 ft.	14 lbs.

BRAIDED COTTON COIL PACKING

GARLOCK 66

Construction — GARLOCK 66 is manufactured of high grade cotton carefully braided to produce an even and uniform material. It is thoroughly impregnated with lubrication and graphite.

Service — Particularly adapted for service on centrifugal and reciprocating pumps handling cold oil or water.

Form — This braided cotton packing is approximately square in cross section. It is furnished in sizes 1/8" to 3" in coil form, or in cut rings.

RUBBER BACK FLAX PACKING

GARLOCK 83 WATERPROOF HYDRAULIC COIL
GARLOCK 183 WATERPROOF HYDRAULIC RING
GARLOCK 93 UNTREATED COIL
GARLOCK 193 UNTREATED RING

Construction — GARLOCK Rubber Back Packing is a braided flax packing, manufactured from the longest fibre, imported flax roving, to which is vulcanized a good grade rubber cushion.

Service — Particularly recommended for service on cold water rods that are out of line.

Form — GARLOCK Rubber Back Flax Packing is approximately square in cross section; standard sizes 1/4" to 3". It is furnished in coil or ring form, lubricated or unlubricated under the following style designations:

GARLOCK 83 Coil is treated with a waterproof hydraulic compound. Standard length of coil is 14 feet.

GARLOCK 183 Ring is treated with a waterproof hydraulic compound. Can be furnished in any specified sizes.

GARLOCK 93 Coil is untreated. Standard length of coil is 14 feet.

GARLOCK 193 Ring is untreated. Can be furnished in any specified sizes.

Listed below are footage and approximate weights on some standard sizes of GARLOCK 83 Coil and GARLOCK 93 Coil.

GARLOCK 83 Coil			GARLOCK 93 Coil		
Size	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
1/4"	84 ft.	4 1/4 lbs.	1/4"	98 ft.	4 lbs.
3/8"	56 ft.	5 1/2 lbs.	3/8"	70 ft.	4 3/8 lbs.
1/2"	56 ft.	8 lbs.	1/2"	56 ft.	6 1/4 lbs.
5/8"	42 ft.	9 3/4 lbs.	5/8"	42 ft.	7 1/8 lbs.
3/4"	28 ft.	10 7/8 lbs.	3/4"	28 ft.	8 1/8 lbs.
7/8"	14 ft.	7 2/16 lbs.	7/8"	14 ft.	6 2/16 lbs.
1"	14 ft.	8 11/16 lbs.	1"	14 ft.	7 1/4 lbs.

prix des anneaux Séparés
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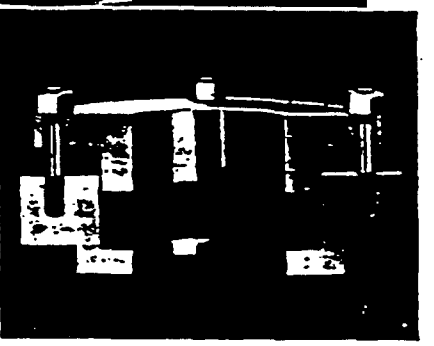


GARLOCK 430

CHEVRON HYDRAULIC PACKING

(Patented)

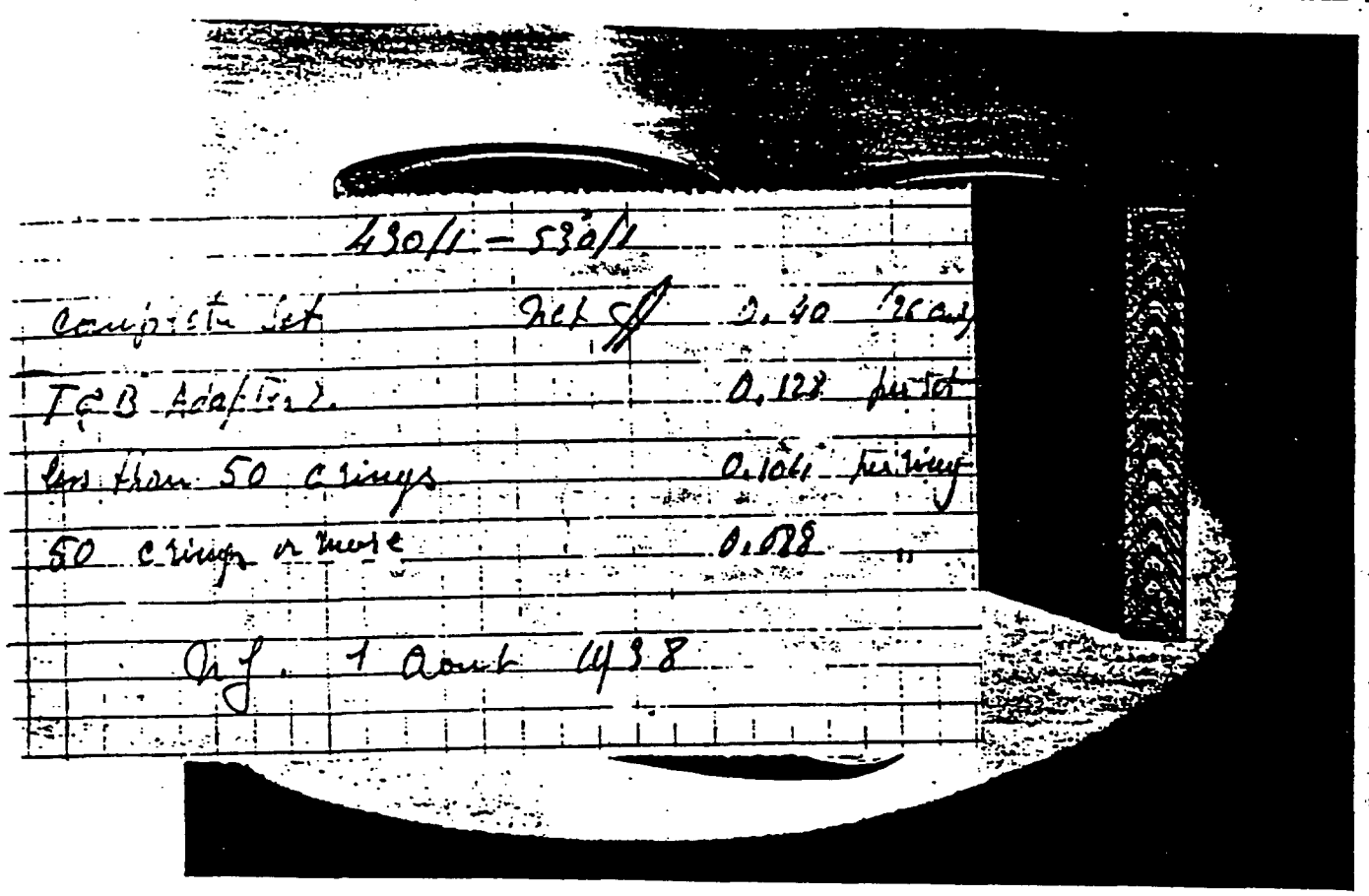
Construction — GARLOCK Chevron Packing is a patented packing material manufactured only by The GARLOCK Packing Company. The special duck cloth and rubber compound from which it is manufactured, are combined and molded into rings having the unique and exclusive Chevron design illustrated. The hinge-like cross sectional shape of the Chevron rings permits easy expansion and contraction with changing pressures. This action is entirely automatic.

Service — GARLOCK 430 Chevron Packing is recommended for service on presses, accumulators, outside packed pumps, triplex pumps or other rams or plungers against hot or cold water, or heavy hydraulic pressures. The design of Chevron rings which allows the use of a plurality of rings in a limited packing depth, adapts this material for use in shallow stuffing boxes to replace "U" type packings.

Form — GARLOCK Chevron Packing is furnished in ring form only, molded to practically any rod and stuffing box size. A set of this material consists of one GARLOCK 430-T Top Adapter Ring; one GARLOCK 430-B Bottom Adapter Ring; and sufficient GARLOCK 430 Chevron Rings to produce the desired depth of the set. Adapter rings will be furnished to fit the bevel of gland or stuffing box when so specified.

Application — Inasmuch as GARLOCK 430 Chevron Packing is entirely automatic in action and is very sensitive to pressure changes, very little gland pressure should be applied. Care should be taken to adjust the gland loosely so that the packing can operate properly. When this is done there will be no leakage on the power stroke and no gripping of the rod or plunger on the return stroke.

Prix minimum p. 21 au dessous de 26 CM



GARLOCK 530

CHEVRON HIGH TEMPERATURE PACKING

(Patented)

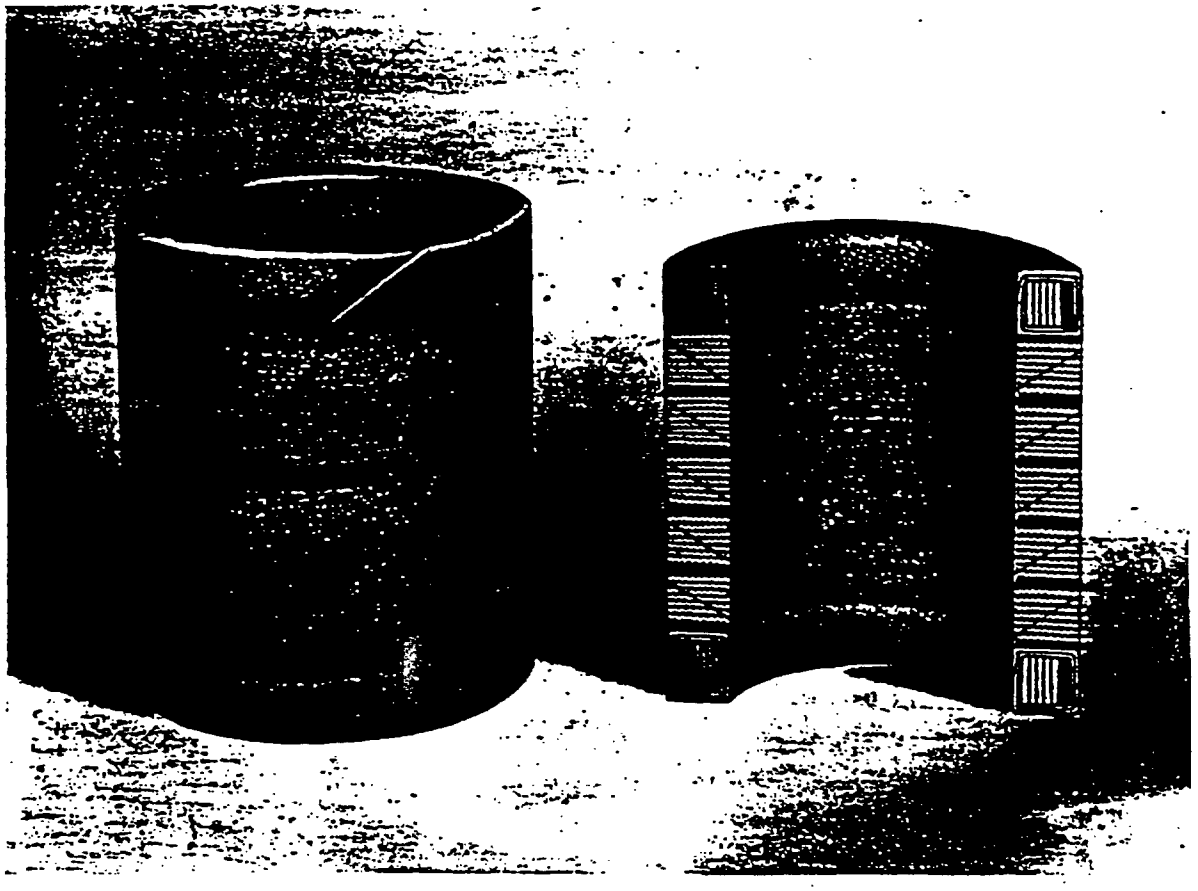
Construction—GARLOCK 530 Chevron is a patented packing manufactured only by The GARLOCK Packing Company. The special GARLOCK asbestos cloth and rubber cement used in its manufacture are molded into rings having the unique and exclusive Chevron shape illustrated. The hinge-like design of these rings results in easy expansion and contraction as the pressure varies. This action in Chevron is entirely automatic.

Service—GARLOCK 530 Chevron Packing is recommended for service on piston rods, plungers, or centrifugal shafts operating against steam, air, gas or oil at high temperatures and pressures. It has been particularly successful as a packing for locomotive throttle stems.

Form—Chevron Packing is furnished in ring form only, molded to fit exactly almost any rod and stuffing box size. A set of this material consists of one GARLOCK 530–T Top Adapter Ring; one GARLOCK 530-B Bottom Adapter Ring; and a sufficient number of GARLOCK 530 Chevron Rings to produce a set of the desired depth. Top and bottom adapter rings will be furnished to fit the bevel of the gland and stuffing box when so specified.

Application—Inasmuch as GARLOCK 530 Chevron Packing is entirely automatic in action and is unusually sensitive to pressure changes, very little gland pressure should be applied. Care should be taken to adjust the gland loosely so that the packing can operate properly. When this is done there will be no leakage on the power stroke and no gripping of the rod or plunger on the return stroke.

air compressor 530



GARLOCK 446

STEAM DUO PACKING

Construction — GARLOCK 446 is a combination packing consisting of end rings of GARLOCK 200 high pressure asbestos packing and center rings of GARLOCK 550 diagonal cut duck and rubber steam packing.

Service — Recommended for service on piston rods of steam engines working against pressures up to 125 pounds per square inch; also for the intermediate and low pressure piston rods of triple expansion marine engines.

Form — GARLOCK 446 is furnished in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.



GARLOCK 449

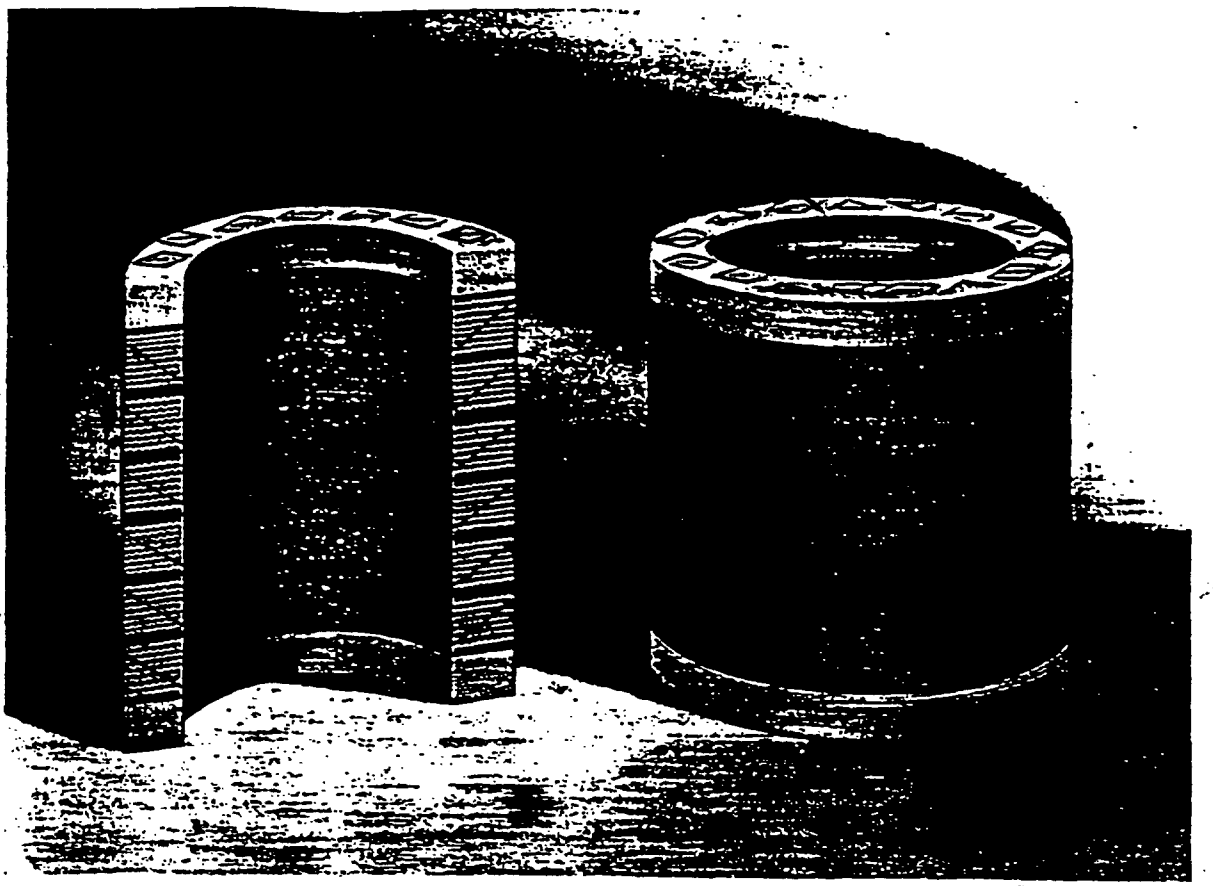
STEAM HAMMER DUO PACKING

Construction — GARLOCK 449 is a combination packing consisting of end rings of GARLOCK 333 duck and rubber steam packing and center rings of GARLOCK 550 diagonal cut duck and rubber steam packing.

Service — Recommended for service on piston rods of steam hammers at steam pressures up to 100 pounds per square inch. It is particularly recommended for use on worn or scored rods; also on rods having considerable vibration or sway.

Form — GARLOCK 449 is furnished in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.



GARLOCK 440

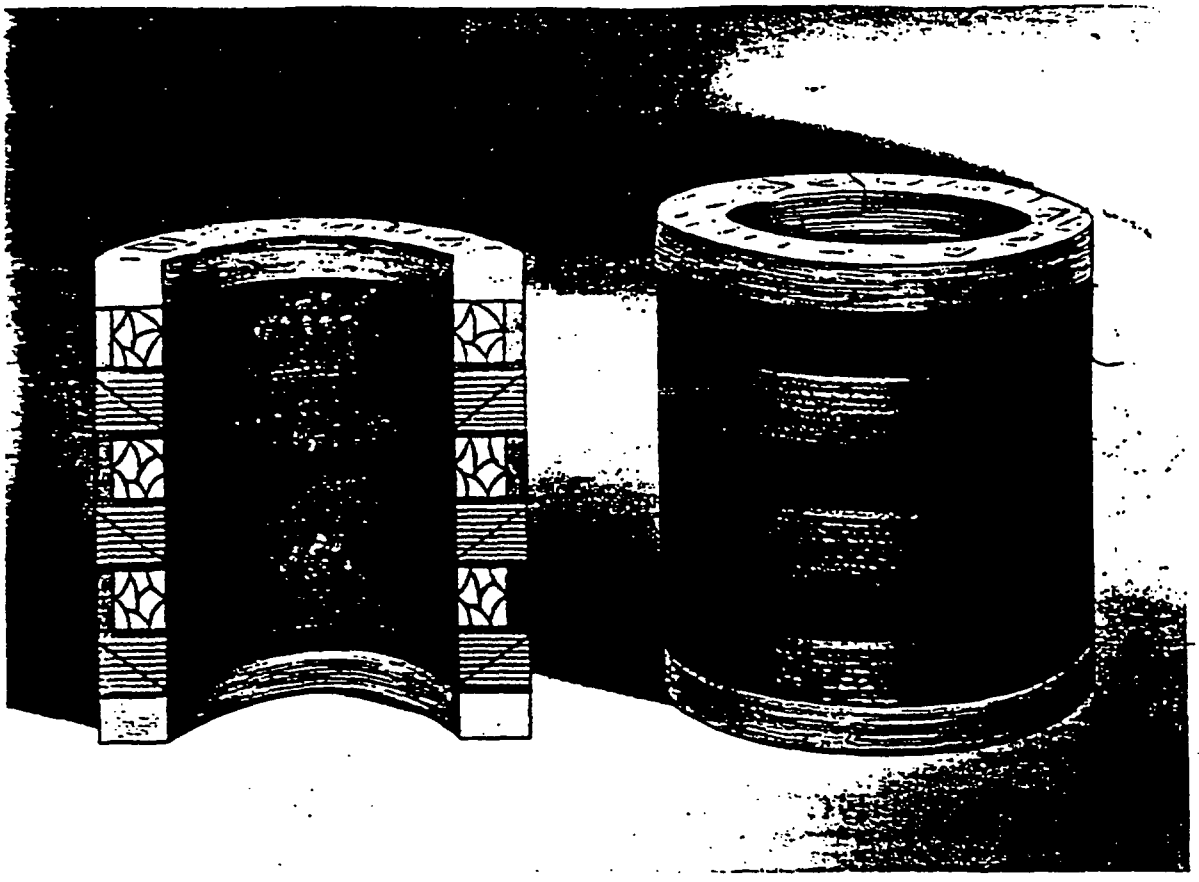
HOT OR COLD WATER DUO PACKING

Construction — GARLOCK 440 is a combination packing consisting of end rings of GARLOCK 261 special hydraulic and center rings of GARLOCK 550 diagonal cut duck and rubber steam packing.

Service — Recommended for hot or cold water service on outside packed plunger pumps. Particularly serviceable on worn or scored plungers.

Form — GARLOCK 440 is obtainable in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.



GARLOCK 443

HOT WATER DUO PACKING

Construction — GARLOCK 443 is a combination packing consisting of end rings of GARLOCK 261 special hydraulic, and alternated center rings of GARLOCK 193 rubber back waterproof hydraulic packing and GARLOCK 550 diagonal cut duck and rubber steam packing.

Service — Recommended for service on the plungers of outside packed pumps handling hot water.

Form — GARLOCK 443 is obtainable in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.

HOT WATER DUO PACKING

GARLOCK 1900

Construction — GARLOCK 1900 is a combination packing consisting of end rings of GARLOCK 261 hydraulic packing and center rings of specially constructed duck and rubber. The plies of the special center rings run horizontal with the rod.

Service — Recommended for service on outside packed pumps conveying hot water.

Form — Sets of GARLOCK 1900 are furnished in any required sizes to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and the depth of the stuffing box should be given.

HOT WATER DUO PACKING

GARLOCK 1907

Construction — GARLOCK 1907 is a combination packing consisting of end rings of GARLOCK 261 special hydraulic packing and alternating center rings of GARLOCK 275 cushion center duck and rubber packing and GARLOCK 550 diagonal cut duck and rubber packing.

Service — Recommended for service on outside packed plunger pumps working against hot water at high temperatures and high pressures.

Form — GARLOCK 1907 is furnished in any required size to fit plunger and stuffing box dimensions.

In ordering, the diameter of the plunger, the inside diameter of the stuffing box and depth of stuffing box should be given.

HOT WATER DUO PACKING

GARLOCK 1906

Construction — GARLOCK 1906 is a combination packing consisting of end rings of GARLOCK 333 duck and rubber packing and alternating center rings of GARLOCK 275 cushion center duck and rubber packing, and GARLOCK 550 diagonal cut duck and rubber packing.

Service — Recommended for hot water service on the plungers of outside packed pumps at high temperatures and medium pressures.

Form — GARLOCK 1906 is furnished in any required size to fit plunger and stuffing box dimensions.

In ordering, the diameter of the plunger, the inside diameter of the stuffing box and depth of stuffing box should be given.

HYDRAULIC DUO PACKING

GARLOCK 980

Construction — GARLOCK 980 is a combination packing consisting of end rings of GARLOCK 99 waterproof hydraulic packing and center rings of GARLOCK 550 diagonal cut duck and rubber packing.

Service — Recommended for cold water service on the plungers of outside packed pumps.

Form — GARLOCK 980 is furnished in any required size to fit plunger and stuffing box dimensions.

In ordering, the diameter of the plunger, the inside diameter of the stuffing box and depth of stuffing box should be given.

HYDRAULIC DUO PACKING

GARLOCK 960

Construction — GARLOCK 960 is a combination packing consisting of end rings of GARLOCK 346 braided copper wire packing and alternated center rings of GARLOCK 216 metal inner wedge duck and rubber packing, and GARLOCK 99 waterproof hydraulic packing.

Service — Recommended for extremely high pressure hydraulic service on rams or plungers of presses, accumulators, and hydraulic pumps.

Form — GARLOCK 960 is furnished in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.

HYDROSTATIC DUO PACKING

GARLOCK 965

Construction — GARLOCK 965 is a combination packing consisting of soft metal rings, GARLOCK 346 braided copper wire rings, and GARLOCK 99 waterproof hydraulic rings.

Service — GARLOCK 965 is designed to hold the heaviest hydraulic pressures and is recommended for service on heavy duty rams or plungers of presses, accumulators and outside packed hydraulic pumps.

Form — GARLOCK 965 is furnished in any required size to fit rod and stuffing box dimensions.

In ordering, the diameter of the rod, the inside diameter of the stuffing box and depth of stuffing box should be given.

SLUSH PUMP PACKING

GARLOCK 400

Construction — GARLOCK 400 is a combination set packing, consisting of center rings of GARLOCK 67 diagonal packing and end rings of GARLOCK 353 oil resistant rubber.

Service — GARLOCK 400 is recommended for service on piston rods of slush pumps used extensively in the oil fields. It is recommended for service in the most severe conditions.

Form — GARLOCK 400 is furnished in sizes to fit all standard slush pump equipment. In ordering, indicate the diameter of piston rod, inside diameter of stuffing box and depth of stuffing box.

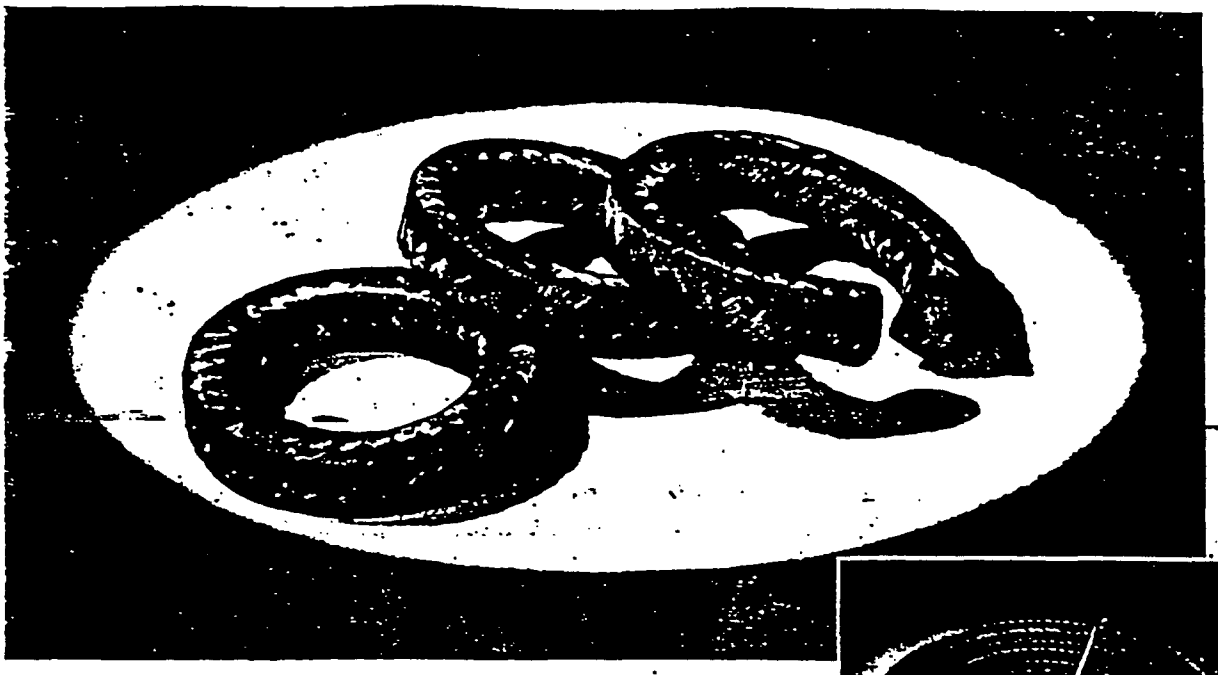
SLUSH PUMP PACKING

GARLOCK 405

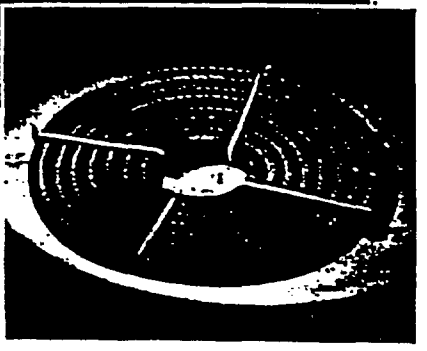
Construction — GARLOCK 405 is a combination set packing, consisting of center rings of a good grade diagonal packing and GARLOCK 151 gray rubber end rings.

Service — GARLOCK 405 is recommended for service on piston rods of slush pumps where service conditions are not extremely severe.

Form — GARLOCK 405 is furnished in sizes to fit all standard slush pump equipment. In ordering, indicate the diameter of piston rod, inside diameter of stuffing box and depth of stuffing box.



GARLOCK 346 RINGS



GARLOCK 344 COIL

BRAIDED COPPER WIRE PACKING

Construction — GARLOCK Braided Copper Wire Packing is manufactured from fine strand copper wire braided approximately square in cross section.

Service — Recommended as an end ring in the bottom of stuffing boxes against heavy hydraulic duty. Also used on both ends of packing sets on heavy horizontal plungers, in which service the packing frequently bears a portion of the weight of the plunger.

Form — This material is supplied in two forms, GARLOCK 344 Coil and GARLOCK 346 Ring.

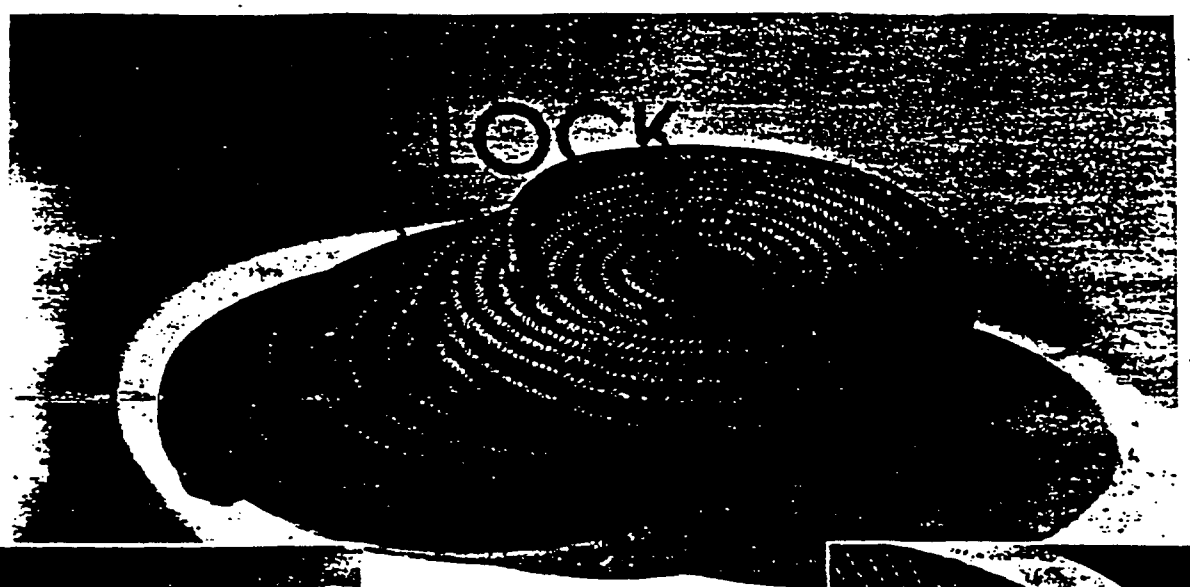
GARLOCK 346 Rings are cut from GARLOCK 344 Coil and are furnished to fit any rod and stuffing box dimensions.

GARLOCK 344 Coil is manufactured in all packing sizes from $\frac{1}{16}$" to 1¼", advancing by sixteenths. It is regularly boxed in the manner indicated below, but can also be furnished in continuous length on reels.

The following table lists footage and approximate weights on some standard sizes of GARLOCK 344 Coil.

GARLOCK 344 Coil

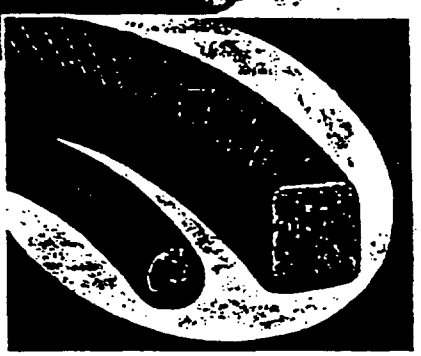
Size	Coils per Box	Feet per Box	Weight per Box
¼"	2	78 ft.	11 lbs.
⅜"	1	28 ft.	10 lbs.
½"	1	18 ft.	10 lbs.
⅝"	1	16 ft.	14 lbs.
¾"	1	13 ft.	20 lbs.
⅞"	1	11 ft.	20 lbs.
1"	1	17½ ft.	41 lbs.





GARLOCK 926 COIL

PLASTALLIC PACKING



LOOSE FORM

Construction — GARLOCK 926 Plastallic is a plastic packing, compounded of pure asbestos fibre, shreds of soft metal, graphite, and heat resisting lubricant.

Service — Recommended for service against water, steam, air and heavy oils at temperatures not in excess of 550°. It is equally serviceable on reciprocating and centrifugal equipment.

Form — GARLOCK 926 is produced in three forms — loose or bulk form, coil and ring.

GARLOCK 926 bulk is regularly packaged in tin cans of 2½ pounds net weight. Each package of GARLOCK 926 in this form contains a coil of shredded metal packing for use as a bottom ring in the stuffing box.

GARLOCK 926 Rings are formed to any specified rod and stuffing box dimensions.

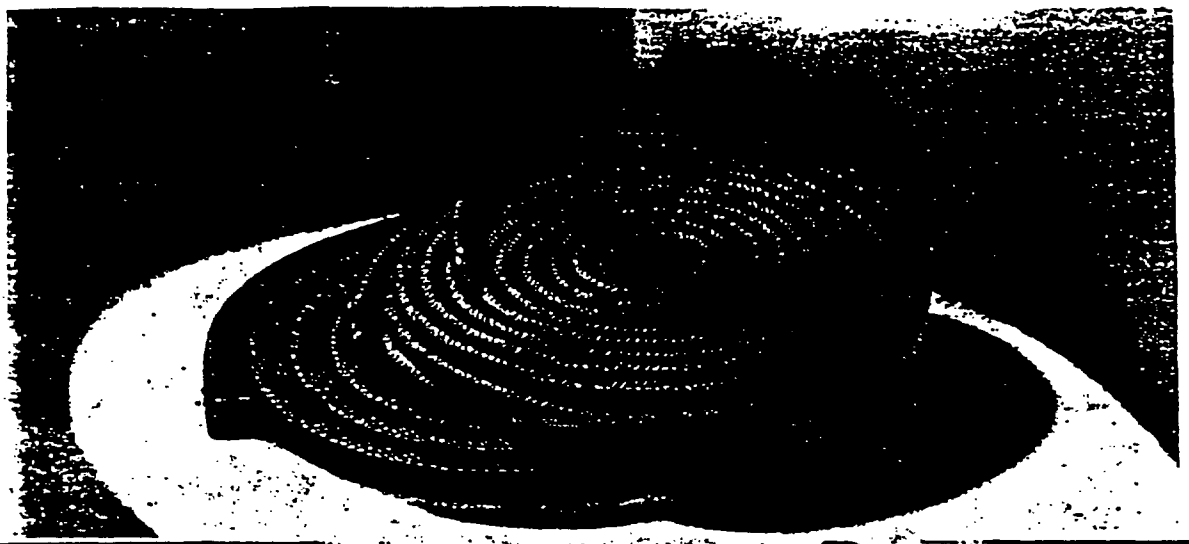
GARLOCK 926 Coil is regularly furnished either round or square in cross section. It may be identified by the open braid cover of red and yellow yarn.

Size designations and approximate weights are shown below:

For Packing Spaces Measuring	Specify Garlock 926 Coil	Approximate Footage per Box		Approximate Weight per Box	
		Round	Square	Round	Square
Below ¼" and up to $\frac{1}{16}$" inclusive	Size X	56 ft.	60 ft.	5 lbs.*	5 lbs.*
$\frac{3}{16}$" to $\frac{1}{8}$" inclusive	Size 3-8-X	40 ft.	28 ft.	5 lbs.*	5 lbs.*
½" to $\frac{11}{16}$" inclusive	Size 2-X	51 ft.	51 ft.	12½ lbs.	14½ lbs.
$\frac{3}{4}$" to $\frac{15}{16}$" inclusive	Size 3-X	26 ft.	26 ft.	14 lbs.	17 lbs.
1" and above	Size 4-X	20 ft.	20 ft.	20 lbs.	22 lbs.

*On spool.

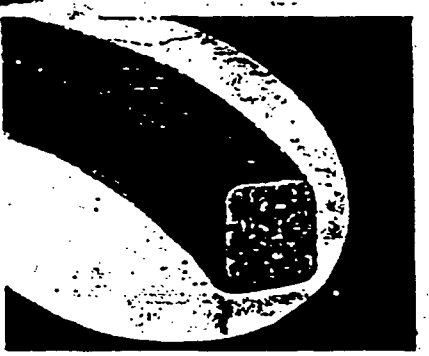
Note: Specify whether Round or Square Coil is desired.





GARLOCK 927 COIL

PLASTALLIC PACKING



LOOSE FORM

Construction — GARLOCK 927 Plastallic is a plastic packing, compounded of pure asbestos fibre, shreds of soft metal, graphite and a special lubricant.

Service — Recommended for use against gasoline, kerosene, oils, ether, carbon tetrachloride, butane gas, methyl chloride, SO_2 and all other similar and allied liquids.

Form — GARLOCK 927 is produced in three forms — loose or bulk form, coil and ring.

GARLOCK 927 bulk is regularly packaged in tin cans of 2½ pounds net weight. Each package of GARLOCK 927 in this form contains a coil of shredded metal packing for use as a bottom ring in the stuffing box.

GARLOCK 927 Rings are formed to any specified rod and stuffing box dimensions.

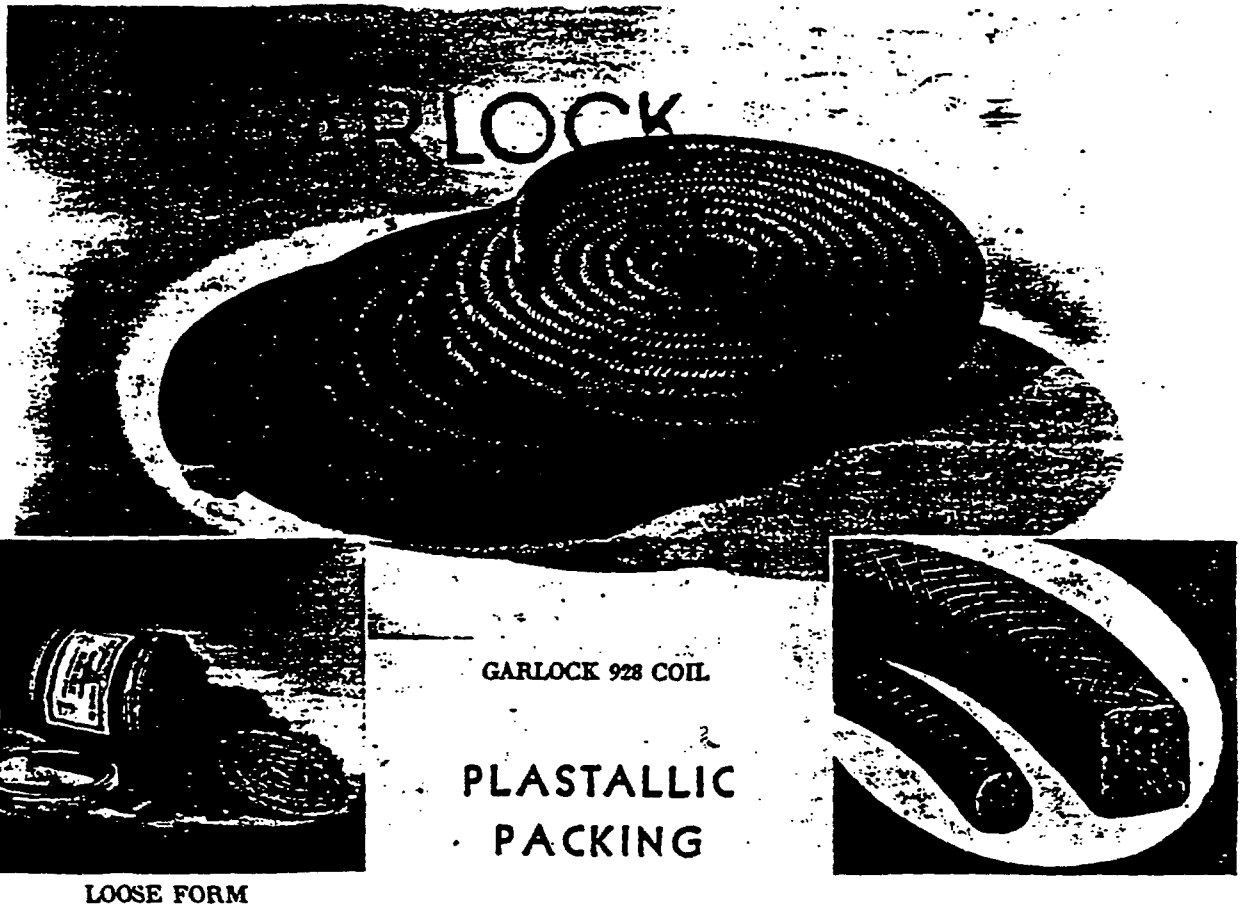
GARLOCK 927 Coil is regularly furnished either round or square in cross section. It may be identified by the open braid cover of red yarn.

Size designations and approximate weights are shown below:

For Packing Spaces Measuring	Specify Garlock 927 Coil	Approximate Footage per Box		Approximate Weight per Box	
		Round	Square	Round	Square
Below 1/8" and up to 1/16" inclusive	Size X	56 ft.	60 ft.	5 lbs.*	5 lbs.*
3/8" to 1/16" inclusive	Size 3-8-X	40 ft.	28 ft.	5 lbs.*	5 lbs.*
1/2" to 1 1/16" inclusive	Size 2-X	51 ft.	51 ft.	12½ lbs.	14½ lbs.
3/4" to 1 1/16" inclusive	Size 3-X	26 ft.	26 ft.	14 lbs.	17 lbs.
1" and above	Size 4-X	20 ft.	20 ft.	20 lbs.	20 lbs.

*On spool.

Note: Specify whether Round or Square Coil is desired.



PLASTALLIC PACKING

LOOSE FORM

Construction — GARLOCK 928 Plastallic is a plastic packing, compounded of strands of heat resisting metal, pure asbestos fibre, graphite and a special lubricant.

Service — Recommended for steam and hot oil service where temperatures exceed 600 degrees Fahrenheit.

Form — GARLOCK 928 is produced in three forms — loose or bulk form, coil and ring.

GARLOCK 928 bulk is regularly packaged in tin cans of 2 pounds net weight.

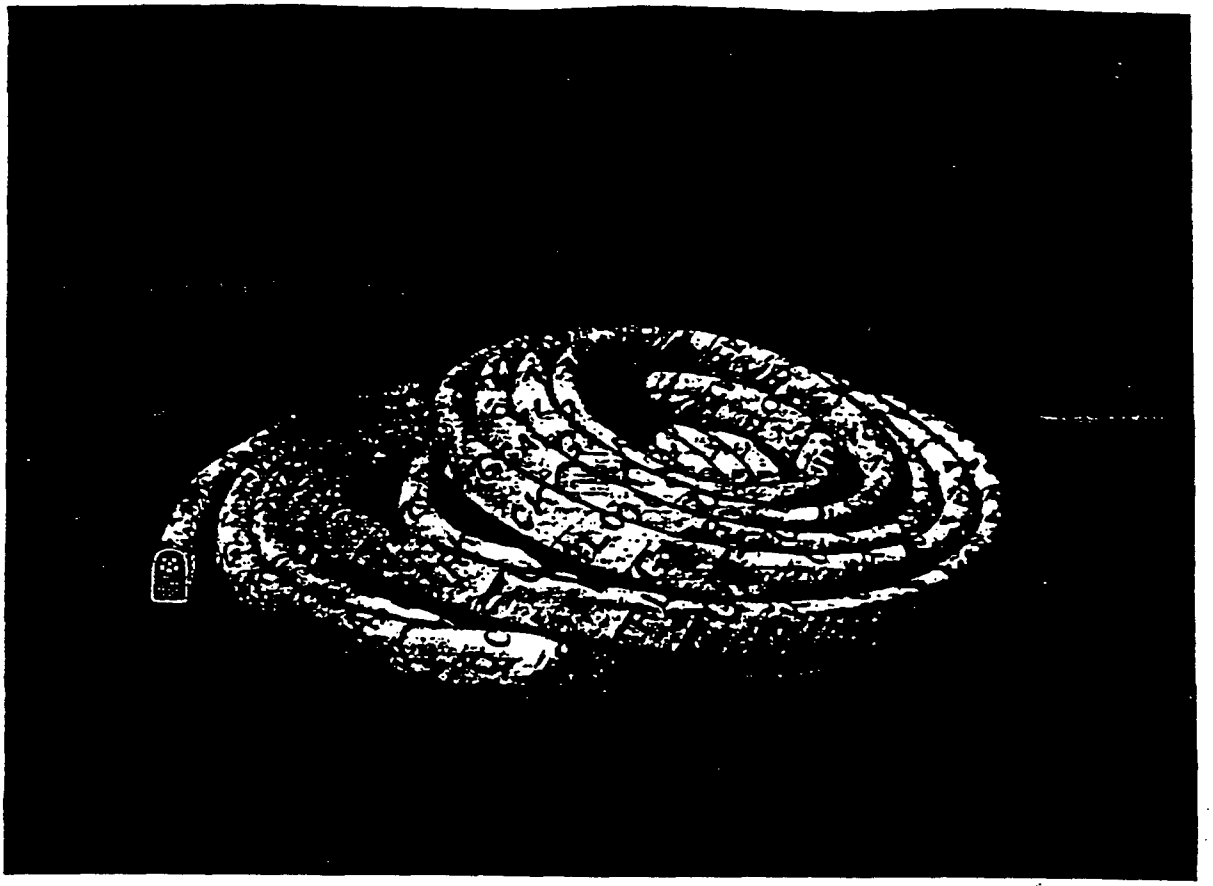
GARLOCK 928 Rings are formed to any specified rod and stuffing box dimensions.

GARLOCK 928 Coil is regularly furnished either round or square in cross section and to the following size designations:

For Packing Spaces Measuring	Specify Garlock 928 Coil	Approximate Footage per Box		Approximate Weight per Box	
		Round	Square	Round	Square
Below ¼" and up to $\frac{7}{16}$" inclusive	Size X	67 ft.	72 ft.	5 lbs.*	5 lbs.*
⅜" to $\frac{7}{16}$" inclusive	Size 3-8-X	48 ft.	33 ft.	5 lbs.*	5 lbs.*
½" to $\frac{11}{16}$" inclusive	Size 2-X	51 ft.	51 ft.	10 lbs.	11 lbs.
¾" to $\frac{11}{16}$" inclusive	Size 3-X	26 ft.	26 ft.	11¼ lbs.	14 lbs.
1" and above	Size 4-X	20 ft.	20 ft.	16 lbs.	19 lbs.

*On spool.

Note: Specify whether Round or Square Coil is desired.



GARLOCK 107

HIGH PRESSURE DIAGONAL COIL PACKING

Construction — GARLOCK 107 is a diagonal packing having a cushion of twisted, long fibre asbestos yarn combined with diagonal wedges of special quality duck and rubber. These parts are held in place with a braided cotton cover. The packing is given a special lubrication treatment. For protection in handling and shipping, GARLOCK 107 is provided with a muslin cover. This should be removed before the packing is used.

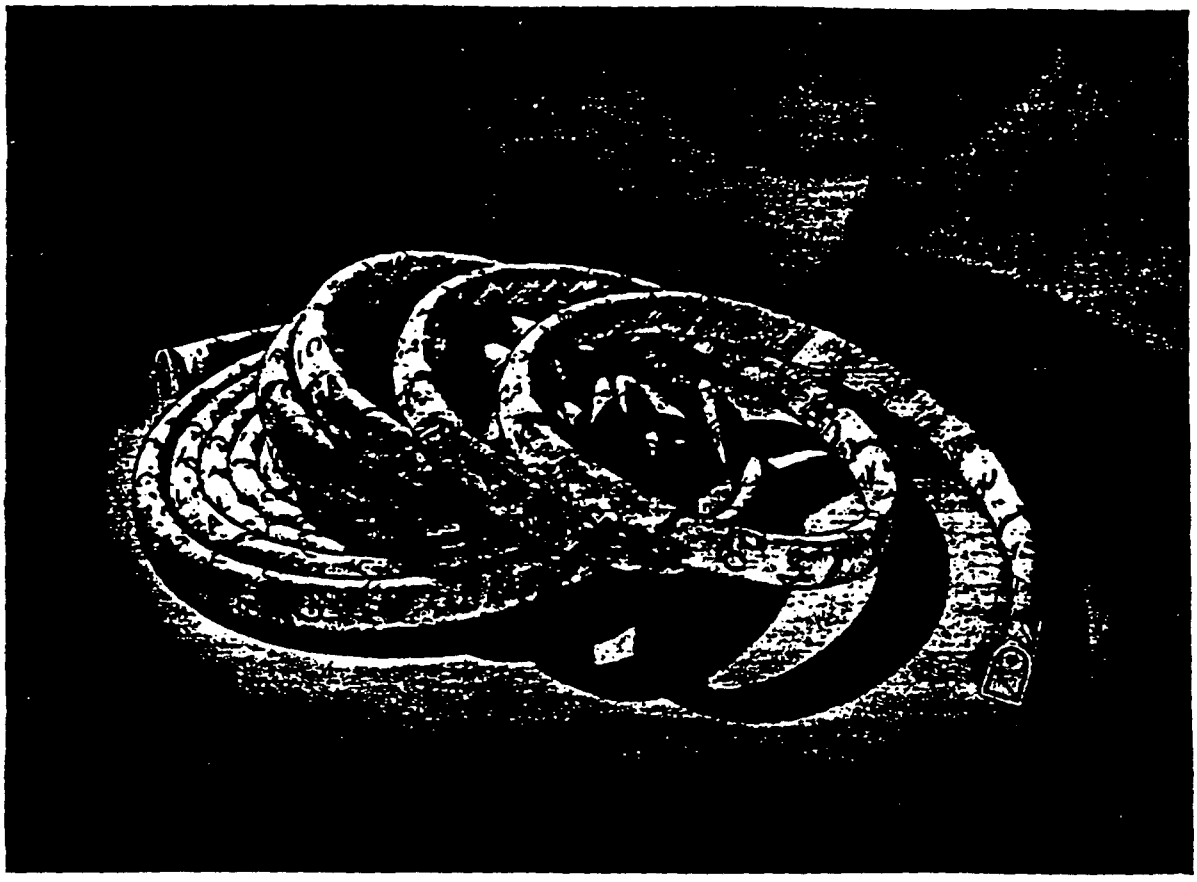
Service — Recommended for service against high pressure steam. It is particularly effective on equipment having rods slightly worn or out of alignment.

Form — GARLOCK 107 has straight sides and bottom and a rounding top, the thickness being approximately double the packing space. It is furnished in coil form in sizes ¼" to 1½", or in cut rings.

Listed below are footage and approximate weight on some standard sizes:

GARLOCK 107 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	105 ft.	10 lbs.
⅜"	3	63 ft.	10 lbs.
½"	3	40 ft.	10 lbs.
⅝"	2	25 ft.	10 lbs.
¾"	3	25 ft.	14½ lbs.
⅞"	4	25 ft.	22¼ lbs.
1"	3	25 ft.	29¾ lbs.



GARLOCK 87

EXTRA DIAGONAL COIL PACKING

Construction — GARLOCK 87 is a diagonal packing having a duck wrapped, rubber cushion combined with diagonal wedges of first grade duck and rubber. The component parts are held together with a braided cotton cover. Packing is processed with a special lubricant. For protection in handling and shipping, GARLOCK 87 is provided with a muslin cover. This should be removed before the packing is used.

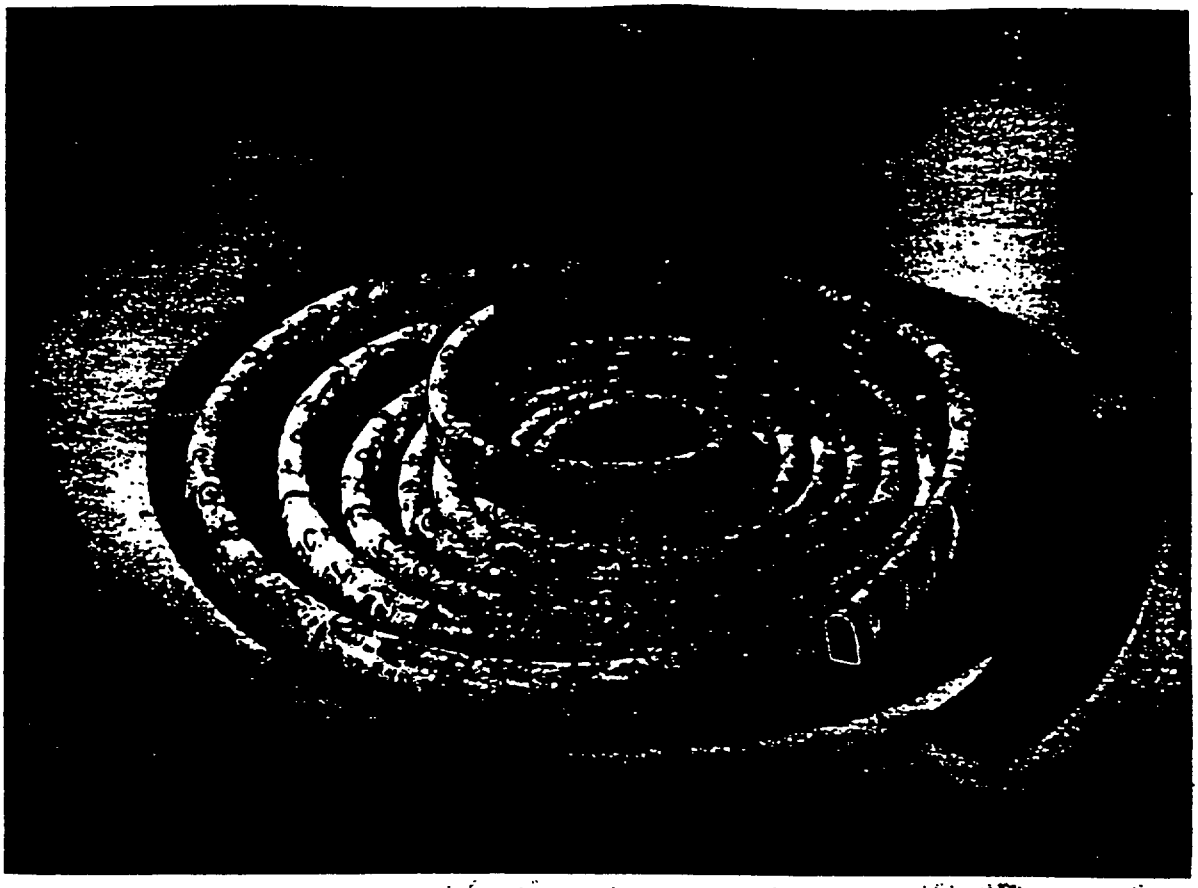
Service — Recommended for service against medium pressure steam, hot, or cold water. It is particularly effective on equipment having rods slightly worn or out of alignment.

Form — GARLOCK 87 has straight sides and bottom and a rounding top, the thickness being approximately double the packing space. It is furnished in coil form in sizes ¼" to 1½", or in cut rings.

Listed below are footage and approximate weight on some standard sizes:

GARLOCK 87 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	160 ft.	10 lbs.
⅜"	3	63 ft.	10 lbs.
½"	3	40½ ft.	10 lbs.
⅝"	2	25 ft.	10 lbs.
¾"	3	25 ft.	15 lbs.
⅞"	4	25 ft.	20 lbs.
1"	3	25 ft.	26½ lbs.



GARLOCK 67

STAR DIAGONAL COIL PACKING

Construction — GARLOCK 67 is a diagonal packing having a fibrous cushion combined with diagonal wedges of duck and rubber. The component parts are held together with a braided cotton cover. It is thoroughly lubricated. For protection in handling and shipping, GARLOCK 67 is provided with a muslin cover. This should be removed before the packing is used.

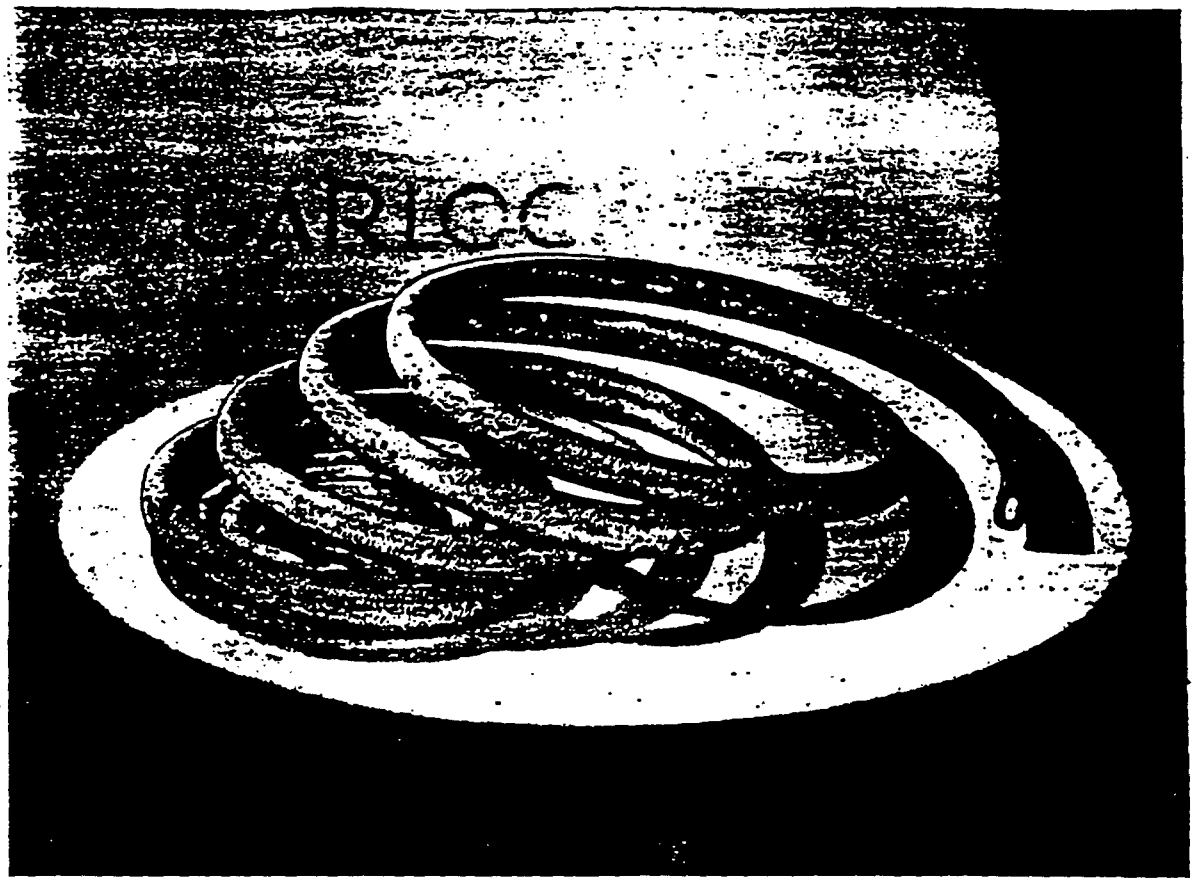
Service — Recommended for service against cold water and low pressure steam. It is particularly effective on old equipment with worn rods.

Form — GARLOCK 67 has straight sides and bottom and a rounding top, the thickness being approximately double the packing space. It is furnished in coil form in sizes ¼" to 1½", or in cut rings.

Listed below are footage and approximate weight on some standard sizes:

GARLOCK 67 Coil

Size	Coils per Box	Feet per Box	Weight per Box
¼"	5	160 ft.	10 lbs.
⅜"	3	81 ft.	10 lbs.
½"	3	45 ft.	10 lbs.
⅝"	2	25 ft.	10¼ lbs.
¾"	3	25 ft.	15 lbs.
⅞"	4	25 ft.	20¼ lbs.
1"	3	25 ft.	26½ lbs.



GARLOCK 80 COIL *(Oval)*
GARLOCK 81 COIL *(Round)*

MAJESTIC GUM CORE PACKING

Construction — Majestic Gum Core Packing consists of a core of high grade rubber encased in a woven cover of specially processed and lubricated flax.

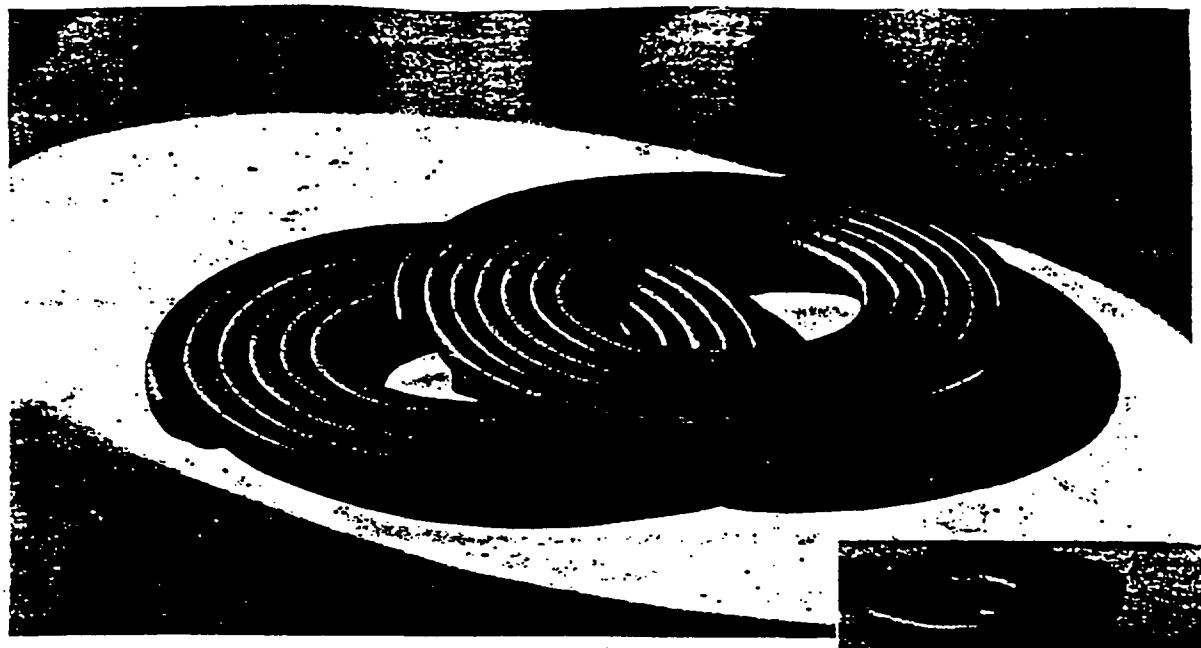
Service — Majestic Gum Core Packing is recommended for service on pumps working against low pressure steam and cold water.

Form — GARLOCK 80 Coil, oval in cross section, is regularly furnished in sizes ¼" to 1¼".

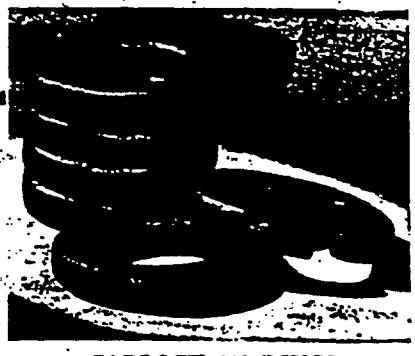
GARLOCK 81 Coil, round in cross section, is regularly furnished in sizes ¼" to 1". Either style is obtainable in ring form.

The table below shows footage and approximate weight of some standard sizes of both styles. Approximate thickness of GARLOCK 80 (oval) is also indicated

GARLOCK 80 Coil				GARLOCK 81 Coil		
Size	Thickness	Feet per Box	Weight per Box	Size	Feet per Box	Weight per Box
¼"	11/32"	232 ft.	10 lbs.	¼"	355 ft.	10 lbs.
3/8"	½"	106 ft.	10 lbs.	3/8"	166 ft.	10 lbs.
½"	¾"	53 ft.	10 lbs.	½"	99 ft.	10 lbs.
5/8"	7/8"	40 ft.	10 lbs.	5/8"	59 ft.	10 lbs.
¾"	1"	27 ft.	10 lbs.	¾"	44 ft.	10 lbs.
7/8"	1¼"	23 ft.	10 lbs.	7/8"	30 ft.	10 lbs.
1"	1½"	16 ft.	10 lbs.	1"	24 ft.	10 lbs.



GARLOCK 981 COIL



GARLOCK 991 RINGS

FLEXOMET PACKING

Construction — GARLOCK Flexomet Packing is manufactured of soft metal strands twisted to size and covered with a thin braided fibrous cover. This braided jacket serves to keep the packing in proper condition during shipment, handling and installation. It wears away immediately on application leaving the metal bearing on the rod.

Service — Recommended for service against steam, water and many acid and chemical solutions on rotary rods and plungers of outside packed pumps.

Form — This material is supplied in two forms, GARLOCK 981 Coil and GARLOCK 991 Ring.

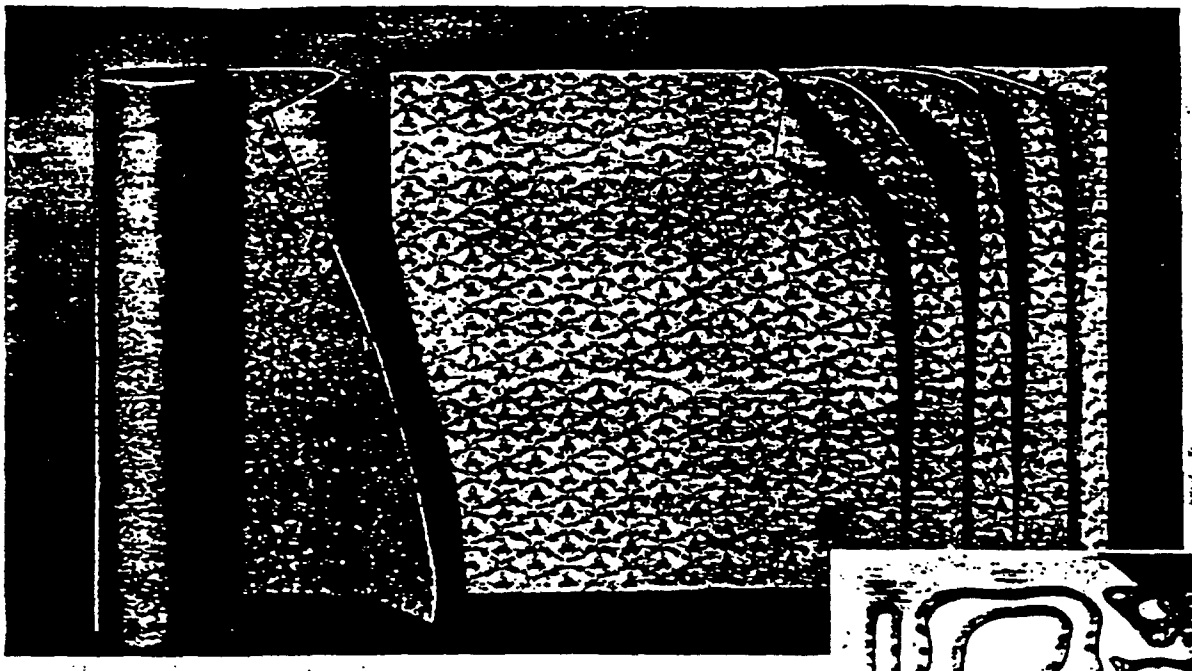
GARLOCK 991 Rings are cut from GARLOCK 981 Coil and are furnished to fit any rod and stuffing box dimensions.

GARLOCK 981 Coil is manufactured in all packing sizes from 1/8" to 1", advancing by sixteenths.

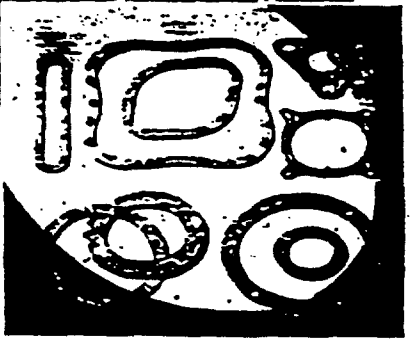
The following table lists footage and approximate weight on some standard sizes of GARLOCK 981 Coil:

GARLOCK 981

Size	Coils per Box	Feet per Coil	Weight per Box
1/8"	1 (on spool)	30 ft.	1 1/2 lbs.
1/4"	2	15 ft.	3 7/8 lbs.
3/8"	2	15 ft.	10 lbs.
1/2"	2	15 ft.	16 3/4 lbs.
5/8"	1	15 ft.	13 5/8 lbs.
3/4"	1	15 ft.	17 3/4 lbs.
7/8"	1	10 ft.	21 1/4 lbs.



GARLOCK 900 SHEET
GARLOCK 901 SHEET (*Graphited*)



GARLOCK 950 GASKETS
GARLOCK 951 GASKETS (*Graphited*)

COMPRESSED ASBESTOS FIBRE SHEET PACKING

Construction — GARLOCK 900 Compressed Asbestos Fibre Sheet Packing is made of Canadian asbestos fibre, scientifically blended with superheat resisting compounds. It is bonded under tremendous pressure, resulting in a pliable sheet with high tensile strength.

Service — Recommended for use against superheated or saturated steam, air, gas, ammonia and most chemical solutions.

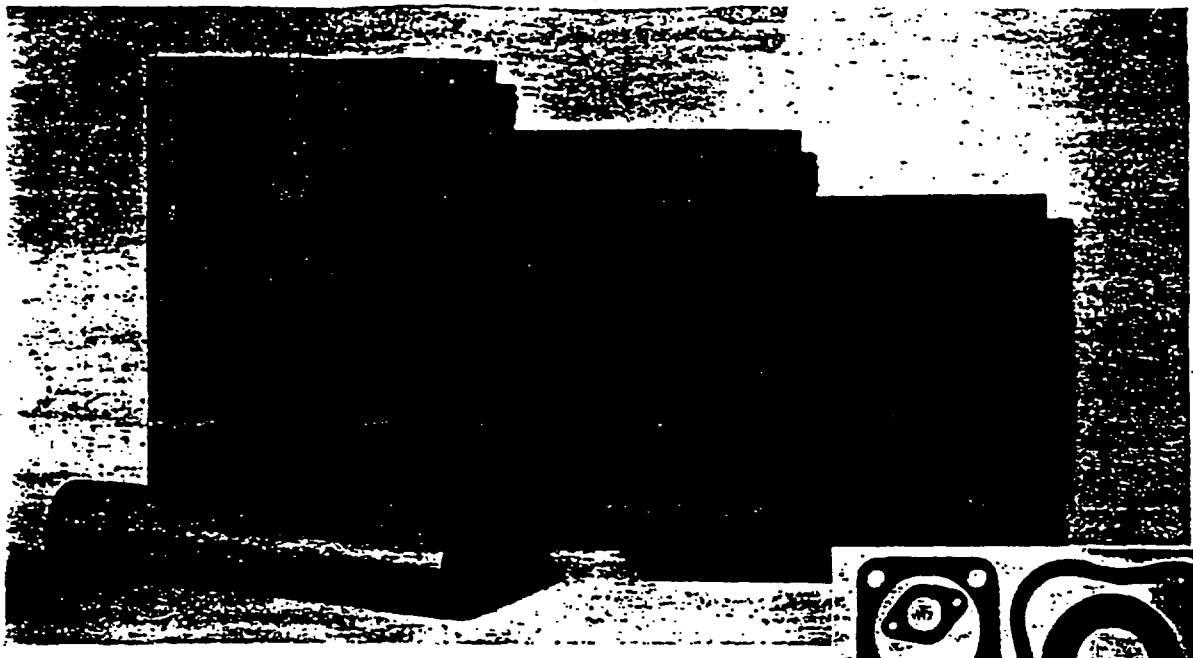
Form — GARLOCK Compressed Asbestos Fibre Packing is furnished in two forms, GARLOCK 900 Sheet and GARLOCK 950 Gaskets.

GARLOCK 950 Gaskets are cut from GARLOCK 900 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired. This material can be furnished with a graphite finish — styled GARLOCK 901 Sheet and GARLOCK 951 Gaskets.

Listed below are standard thicknesses and sheet sizes applying to GARLOCK 900 and GARLOCK 901 Sheet:

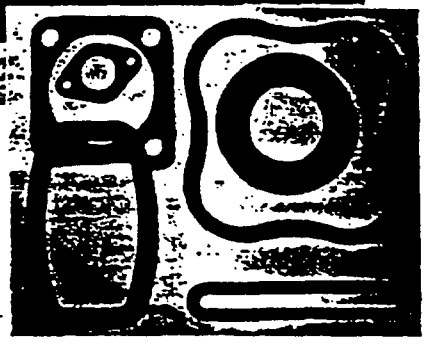
GARLOCK 900 Sheet
GARLOCK 901 Sheet (*Graphited*)

Standard Thicknesses		Standard Sheet Sizes	
1/64"	1/8"	40" x 40"	60" x 80"
1/32"	3/16"	40" x 60"	60" x 120"
1/16"	1/4"	40" x 80"	80" x 80"
3/32"		40" x 120"	80" x 120"
		60" x 60"	120" x 120"



GARLOCK 7021 SHEET

HOT OIL ASBESTOS SHEET PACKING



GARLOCK 7022 GASKETS

Construction — GARLOCK 7021 Sheet Packing is made of Canadian asbestos fibre scientifically blended with heat and oil resisting compounds and bonded into sheet under tremendous pressure.

Service — Recommended for use against all oil conditions, particularly light oil at high temperatures, as on cracking stills and other oil and gasoline refinery equipment.

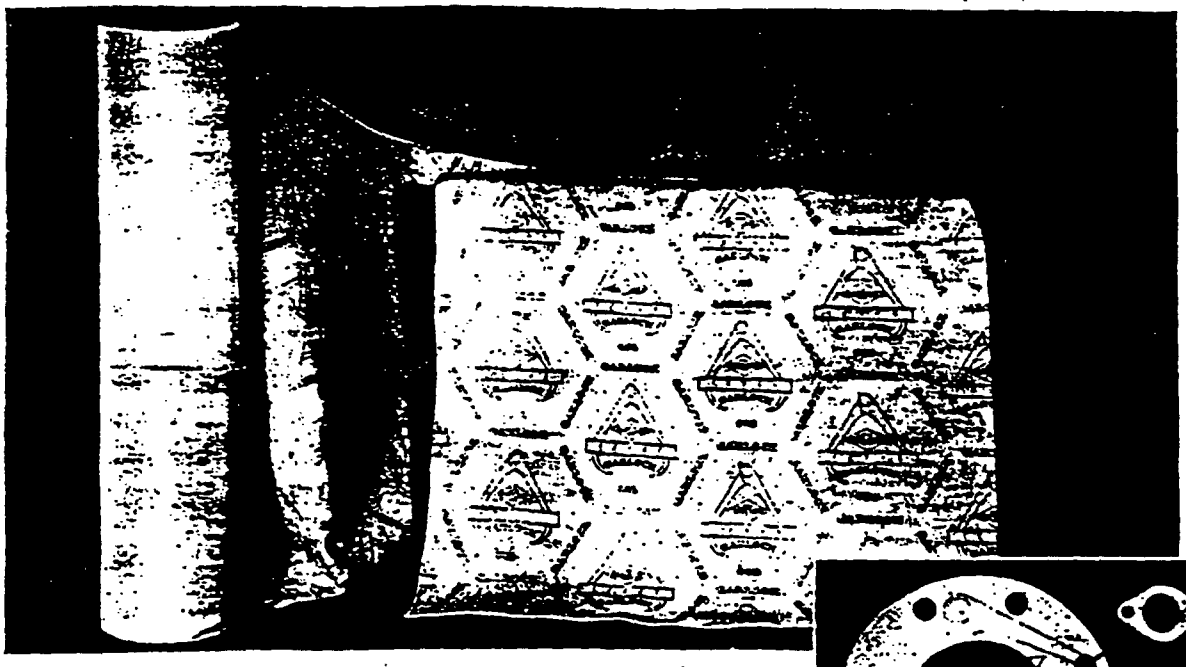
Form — This compressed asbestos fibre packing is furnished in two forms — GARLOCK 7021 Sheet and GARLOCK 7022 Gaskets.

GARLOCK 7022 Gaskets are cut from GARLOCK 7021 Sheet. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

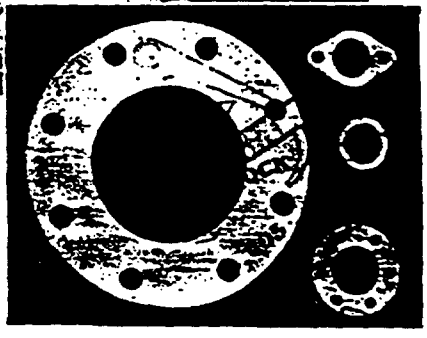
GARLOCK 7021 Sheet is furnished in the thicknesses and sheet sizes specified below:

GARLOCK 7021 Sheet

Standard Thicknesses		Standard Sheet Sizes	
1/32"	1/8"	40" x 40"	60" x 80"
1/16"	1/4"	40" x 60"	60" x 120"
3/32"		40" x 80"	80" x 80"
		40" x 120"	80" x 120"
		60" x 60"	120" x 120"



GARLOCK 605 SHEET



GARLOCK 607 GASKETS

HIGH PRESSURE WIRE INSERTION ASBESTOS PACKING

Construction — GARLOCK High Pressure Wire Insertion Asbestos Packing is produced from specially treated, heat resisting asbestos cloth, woven from fine brass wire inserted, long fibre asbestos yarn.

Service — Recommended as a flange or cylinder head gasket in contact with high pressure steam. Particularly suited, due to its woven construction, for service on narrow flanges and cylinder heads having many ports and bolt holes for which an ordinary gasket is not suitable.

Form — GARLOCK 605 Sheet is regularly supplied in thicknesses of $\frac{1}{32}$", $\frac{1}{16}$" and $\frac{1}{8}$"; standard width 48".

GARLOCK 607 Gaskets are cut from GARLOCK 605 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

Approximate length and weight of rolls of GARLOCK 605 Sheet in standard thicknesses are listed below:

GARLOCK 605 Sheet

Thickness	Plies	Length per Roll	Weight per Roll	Width.
$\frac{1}{32}$"	1	20 yds.	100 lbs.	48"
$\frac{1}{16}$"	1	30 yds.	200 lbs.	48"
$\frac{1}{8}$"	2	15 yds.	200 lbs.	48"

OIL RESISTING COMPRESSED ASBESTOS FIBRE SHEET PACKING

GARLOCK 902 SHEET
GARLOCK 952 GASKET

Construction — GARLOCK 902 Sheet Packing is made of Canadian asbestos fibre scientifically blended with superheat resisting compounds and bonded into sheet under tremendous pressure, and specially processed.

Service — Recommended for service against steam and oil; also methyl chloride, SO_2 and other refrigerants.

Form — This compressed asbestos fibre packing is furnished in two forms — GARLOCK 902 Sheet and GARLOCK 952 Gaskets. Either sheet or gaskets can be furnished with a graphite finish when specified. In addition to the usual round and oval shapes, gaskets can be supplied in any odd or special shape desired.

AUTOLINE SHEET PACKING

GARLOCK 625 SHEET
GARLOCK 627 GASKET

Construction — GARLOCK Autoline Sheet Packing is a woven, high pressure, wire inserted asbestos sheet packing treated with a red compound on one side and black on the other.

Service — Recommended for use on internal combustion engines.

Form — GARLOCK 625 Sheet is regularly supplied in thicknesses of $\frac{1}{32}$", $\frac{1}{16}$" and $\frac{1}{8}$"; standard width, 48".

GARLOCK 627 Gaskets are cut from GARLOCK 625 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

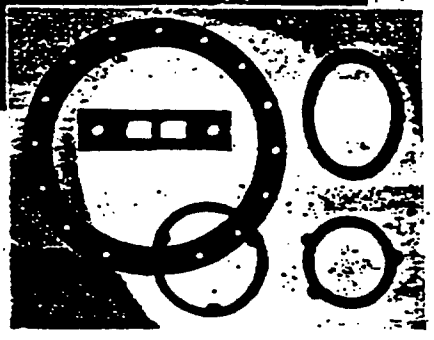
Approximate length and weight of rolls of GARLOCK 625 Sheet in standard thicknesses are listed below:

GARLOCK 625 Sheet

Thickness	Plies	Length per Roll	Weight per Roll	Width
$\frac{1}{32}$"	1	20 yds.	100 lbs.	48"
$\frac{1}{16}$"	1	30 yds.	200 lbs.	48"
$\frac{1}{8}$"	2	15 yds.	200 lbs.	48"



GARLOCK 22 SHEET



GARLOCK 122 GASKETS

RED SHEET PACKING

Construction — GARLOCK 22 is a high grade red rubber sheet, scientifically compounded from the best materials.

Service — GARLOCK Red Sheet Packing gives universal satisfaction in any service on which a high quality rubber gasketing material is required. It is particularly recommended for use on hot or cold water and saturated steam joints at pressures up to 150 lbs. per square inch.

Form — GARLOCK 22 Sheet is regularly supplied in thicknesses from $\frac{1}{32}$" up to, and including ¼"; standard width, 40".

GARLOCK 122 Gaskets are cut from GARLOCK 22 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

Approximate length and weight of rolls of GARLOCK 22 Sheet in various thicknesses are listed below:

GARLOCK 22 Sheet

Thickness	Length per Roll	Weight per Roll	Width
$\frac{1}{32}$"	32 yds.	100 lbs.	40"
$\frac{1}{16}$"	32 yds.	200 lbs.	40"
$\frac{1}{32}$"	22 yds.	200 lbs.	40"
⅛"	16 yds.	200 lbs.	40"
$\frac{3}{16}$"	11 yds.	200 lbs.	40"
¼"	8 yds.	200 lbs.	40"

peut être livré avec largeur de 58" maximum en rouleau

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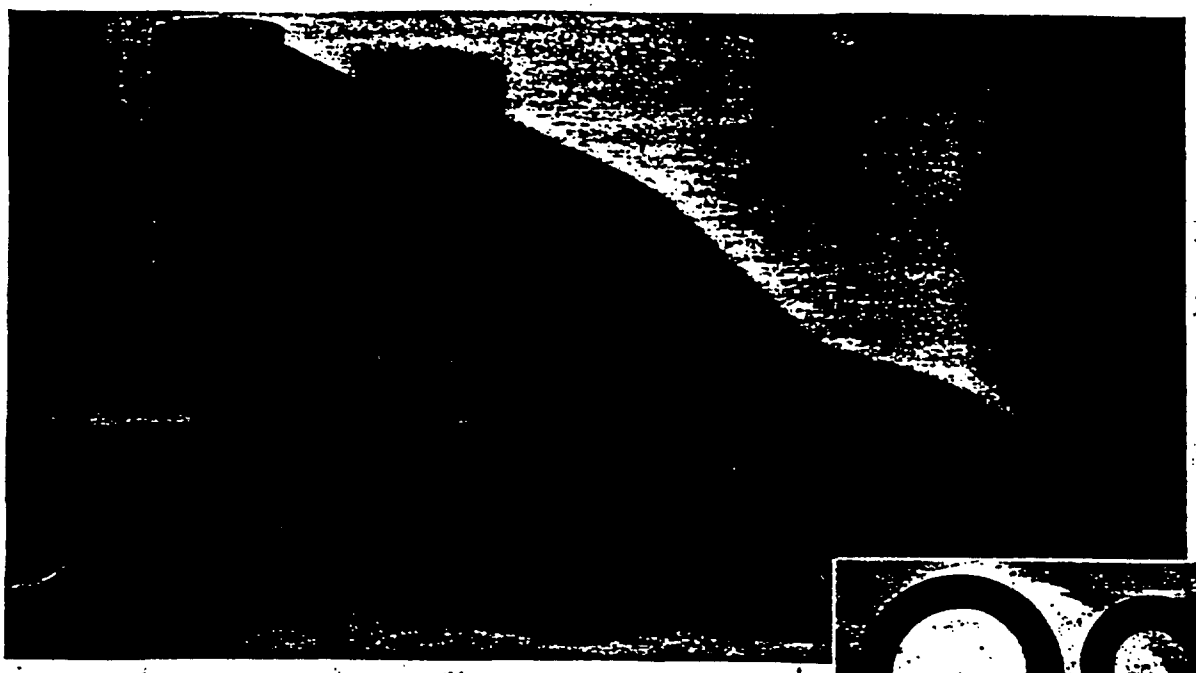
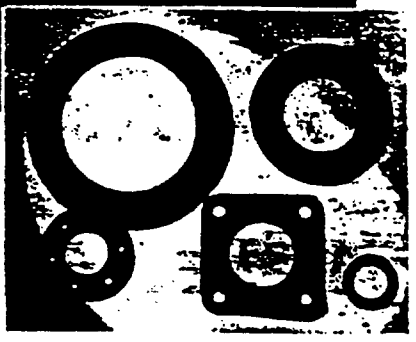


GARLOCK 24 SHEET

WIRE INSERTION RED RUBBER SHEET PACKING



GARLOCK 124 GASKETS

Construction — GARLOCK 24 is made from the same high grade red rubber compound used in the manufacture of GARLOCK 22 Red Sheet, reinforced with woven brass wire. This wire is made to our specifications and is specially treated to eliminate oxidation usually present in untreated brass, iron or copper wire.

Service — GARLOCK 24 Wire Insertion Red Sheet is recommended for service on hot or cold water or saturated steam lines. It is particularly useful where gaskets with narrow flanges are required or on pipe lines having considerable vibration.

Form — GARLOCK 24 Sheet is obtainable in any thickness from $\frac{1}{32}$" to $\frac{3}{8}$". Standard width of sheet, 40".

GARLOCK 124 Gaskets are cut from GARLOCK 24 Sheet Packing. In addition to the usual round or oval shapes, they are supplied in any odd or special shapes desired.

Approximate length and weight of rolls of GARLOCK 24 Sheet in the various stock thicknesses are listed below:

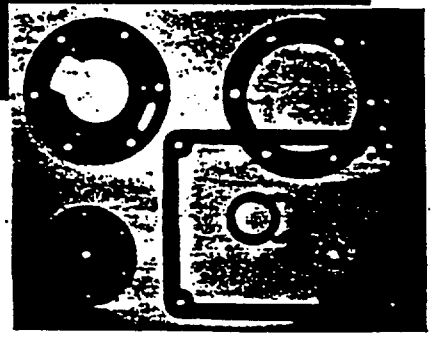
GARLOCK 24 Sheet

Thickness	Length per Roll	Weight per Roll	Width
$\frac{1}{32}$"	10 yds.	50 lbs.	40"
$\frac{1}{16}$"	30 yds.	200 lbs.	40"
$\frac{1}{8}$"	15 yds.	200 lbs.	40"



GARLOCK 353 SHEET

OILBLACK RUBBER SHEET PACKING



GARLOCK 953 GASKETS

Construction — GARLOCK 353 is a high grade black rubber sheet, scientifically compounded to resist the deteriorating action of oils.

Service — Recommended for service against heavy or light oil, hot or cold water, steam, ammonia or alkali solutions.

Form — GARLOCK 353 Sheet is regularly supplied in thicknesses from 1/32" up to and including 1/4"; standard width, 40".

GARLOCK 953 Gaskets are cut from GARLOCK 353 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

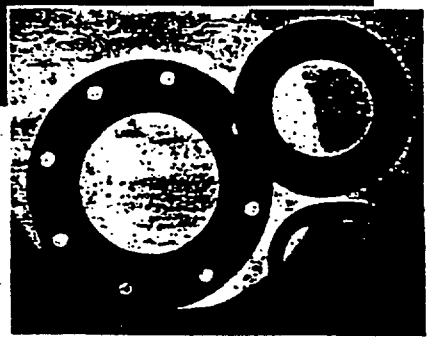
Approximate length and weight of rolls of GARLOCK 353 Sheet, in various thicknesses, are listed below:

GARLOCK 353 Sheet

Thickness	Length per Roll	Weight per Roll	Width
1/32"	40 yds.	100 lbs.	40"
1/16"	40 yds.	200 lbs.	40"
3/32"	30 yds.	200 lbs.	40"
1/8"	20 yds.	200 lbs.	40"
5/32"	13 yds.	200 lbs.	40"
1/4"	10 yds.	200 lbs.	40"



GARLOCK 19 SHEET



GARLOCK 219 GASKETS

SPECIAL DUCK INSERTION RUBBER SHEET PACKING

Construction — GARLOCK 19 is manufactured from heavy weight, high tensile duck, with covers of strong high grade rubber. Outstanding characteristics of this sheet are long life and lasting resiliency either in service or in stock.

Service — Particularly recommended as a gasket material for heavy hydraulic work as it will not creep in the flanges. Also very often used as door stripping on street cars and as apron cloths in paper mills.

Form — This material is obtainable in the two forms illustrated above—GARLOCK 19 Sheet and GARLOCK 219 Gaskets.

GARLOCK 19 Sheet is regularly furnished in thicknesses from $\frac{1}{32}$" up to, and including $\frac{1}{4}$"; standard width, 40".

GARLOCK 219 Gaskets are cut from GARLOCK 19 Sheet either in round or oval shapes or in special odd shapes to meet particular requirements.

Standard ply construction, and approximate length and weight of rolls of GARLOCK 19 Sheet are shown below:

GARLOCK 19 Sheet

Thickness	Number of Plies	Length per Roll	Weight per Roll	Width
$\frac{1}{32}$"	1	34 yds.	100 lbs.	40"
$\frac{1}{16}$"	1	34 yds.	200 lbs.	40"
$\frac{3}{32}$"	2	22 yds.	200 lbs.	40"
$\frac{1}{8}$"	2	17 yds.	200 lbs.	40"
$\frac{3}{16}$"	3	10 yds.	200 lbs.	40"
$\frac{1}{4}$"	4	8 yds.	200 lbs.	40"

RESISTOIL SHEET PACKING

GARLOCK 681 SHEET
GARLOCK 691 GASKET

Construction — GARLOCK Resistoil Packing is a compressed, vegetable fibre sheet, impregnated with a special preservative compound.

Service — GARLOCK Resistoil Sheet Packing is impervious to the action of cold oils and water. It is particularly recommended for service against cold gasoline.

Form — GARLOCK 681 Sheet is regularly supplied in thicknesses from $\frac{1}{64}$" to $\frac{1}{8}$"; standard width, 40". All thicknesses are produced in sheets measuring 40" x 40", 40" x 80" and 40" x 120"; is also furnished in 100 yard rolls of $\frac{1}{64}$" and $\frac{1}{32}$" thicknesses and 50 yard rolls of $\frac{1}{16}$" thickness.

GARLOCK 691 Gaskets are cut from GARLOCK 681 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

GRAY RUBBER SHEET PACKING

GARLOCK 91 SHEET
GARLOCK 96 GASKET

Construction — GARLOCK 91 Sheet is a soft gray rubber sheet containing a high percentage of rubber. Outstanding characteristics are its toughness and its lasting resiliency, either in service or in stock.

Service — Particularly recommended for packing joints of all descriptions against cold water or other fluids. Is extensively used on joints in which one or both of the flanges are glass, such as peep sights on tanks, etc.

Form — GARLOCK 91 Sheet is regularly supplied in thicknesses from $\frac{1}{32}$" up to and including $\frac{1}{4}$"; standard width, 40".

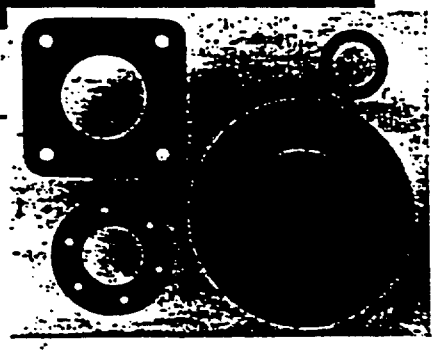
GARLOCK 96 Gaskets are cut from GARLOCK 91 Sheet Packing. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.



GARLOCK 660 SHEET

GARLOCK SIX-SIXTY SHEET PACKING

(Patent Applied For)



GARLOCK 661 GASKETS

Construction — GARLOCK 660 Sheet Packing is an entirely new product made by combining cork particles with paper-making fibre into compressed sheet form. The processes by which this material is made are protected by a patent application.

GARLOCK 660 Sheet Packing has much greater resiliency than the conventional treated paper sheet; it closely approaches cork in compressibility. The strength of GARLOCK 660 Sheet, however, is much greater than that of cork sheet, and is almost as great as the strength of treated paper.

Service — Recommended for service against gasoline, cold oil or cold water, or for any application on which either treated paper or cork usually is used.

Form — This material is furnished in two forms — GARLOCK 660 Sheet and GARLOCK 661 Gasket.

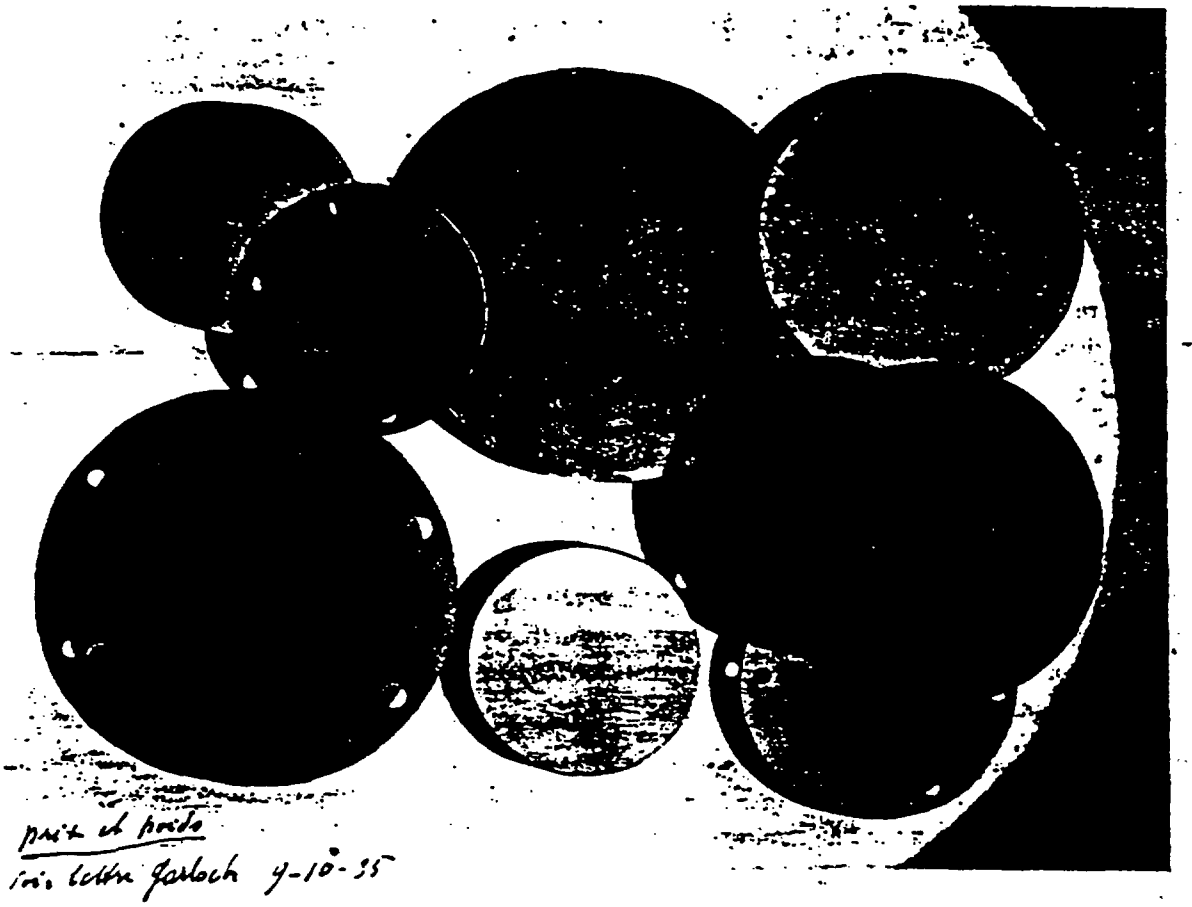
GARLOCK 661 Gaskets are cut from GARLOCK 660 Sheet. In addition to the usual round and oval shapes, they can be supplied in any odd or special shape desired.

GARLOCK 660 Sheet can be furnished in thicknesses from .010" to ½". Thicknesses up to ⅛" can be supplied in roll lots, 36" wide, as specified below. Thicknesses ⅛" and over are furnished in 36" square sheets.

Listed below are standard thicknesses up to ⅛" together with roll lot quantities and approximate weights per square yard:

GARLOCK 660

Thickness	Maximum Roll Length	Weight per Square Yard	Thickness	Maximum Roll Length	Weight per Square Yard
.010"	100 yds.	.44 lbs.	.047" (3/64")	50 yds.	1.74 lbs.
.015" (1/64")	50 yds.	.62 lbs.	.062" (1/16")	25 yds.	2.06 lbs.
.021"	50 yds.	.82 lbs.	.095" (3/32")	25 yds.	3.24 lbs.
.032" (1/32")	50 yds.	1.18 lbs.	.125" (⅛")	36"sq. sheets	4.12 lbs.



GARLOCK DIAPHRAGM SHEETS

A complete line of quality diaphragm stocks for a wide variety of service conditions and an extensive range of pressures is outlined in the following pages.

All weight and pressure data given has been predicated on a single ply insertion and a single standard thickness. In most instances, thicker sheets with additional cloth plies can be furnished; also, in some cases, sheets thinner than standard are produced.

The bursting strength test indicated on each style was conducted across a 2" circular opening and is intended only to show the comparative strength of the various stocks.

GARLOCK 7543

GARLOCK 7543 Diaphragm Sheet is constructed of a muslin insertion between covers of a very high grade, pure rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of $\frac{1}{32}$" and a standard width of 40". The approximate weight per square yard in this thickness is 23 ounces; the bursting strength across a 2" circular opening, approximately 55 pounds.

GARLOCK 7543 is recommended for low pressure service against dry natural gas, air or water. It is particularly suitable where a very sensitive diaphragm is required.

GARLOCK DIAPHRAGM SHEETS—CONTINUED

GARLOCK 7561

GARLOCK 7561 Diaphragm Sheet is constructed of a sheeting insertion between covers of a high grade rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/32" and a standard width of 40". The approximate weight per square yard in this thickness is 30 ounces; the bursting strength across a 2" circular opening, approximately 70 pounds.

GARLOCK 7561 is recommended for low pressure service against dry natural gas, air or water. It is less sensitive than GARLOCK 7543 but is somewhat stronger.

GARLOCK 7603

GARLOCK 7603 Diaphragm Sheet is constructed of a sheeting insertion between covers of GARLOCK Kolutol — a special Thiokol compound impervious to the action of cold oil.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/32" and a standard width of 40". The approximate weight per square yard in this thickness is 37 ounces; the bursting strength across a 2" circular opening, approximately 70 pounds.

GARLOCK 7603 is recommended for low pressure service against wet natural or manufactured gas, gasoline or oil at temperatures not exceeding 150° Fahrenheit.

GARLOCK 619

GARLOCK 619 Diaphragm Sheet is constructed of a duck insertion, between covers of a high grade rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/8" and a standard width of 40". The approximate weight per square yard in this thickness is 137 ounces; the bursting strength across a 2" circular opening, approximately 130 pounds.

GARLOCK 619 is recommended for medium pressure service against dry natural gas, air or water.

GARLOCK 7715

GARLOCK 7715 Diaphragm Sheet is constructed of a ply of open weave duck, between covers of a very high grade, pure rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/8" and a standard width of 40". The approximate weight per square yard in this thickness is 93 ounces; the bursting strength across a 2" circular opening, approximately 105 pounds.

GARLOCK 7715 is recommended for medium pressure service against dry natural gas, or water. It has extraordinary flexibility and is extremely sensitive to pressure changes.

GARLOCK DIAPHRAGM SHEETS—CONTINUED

GARLOCK 7598

GARLOCK 7598 Diaphragm Sheet is constructed of a high quality duck insertion between covers of GARLOCK Kolutol — a special Thiokol compound impervious to the action of cold oil.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/16" only and a standard width of 40". The approximate weight per square yard is 73 ounces; the bursting strength across a 2" circular opening, approximately 130 pounds.

GARLOCK 7598 is recommended for medium pressure service against wet natural or manufactured gas, gasoline or oil at temperatures not exceeding 150° Fahrenheit.

GARLOCK 7104

GARLOCK 7104 Diaphragm Sheet is constructed of a heavy duck insertion between covers of a high grade rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/8" and a standard width of 40". The approximate weight per square yard in this thickness is 135 ounces; the bursting strength across a 2" circular opening, approximately 220 pounds.

GARLOCK 7104 is recommended for high pressure service against dry natural gas, air or water.

GARLOCK 7548

GARLOCK 7548 Diaphragm Sheet is constructed of a heavy duck insertion between covers of oil resistant rubber.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/8" and a standard width of 40". The approximate weight per square yard in this thickness is 167 ounces; the bursting strength across a 2" circular opening, approximately 220 pounds.

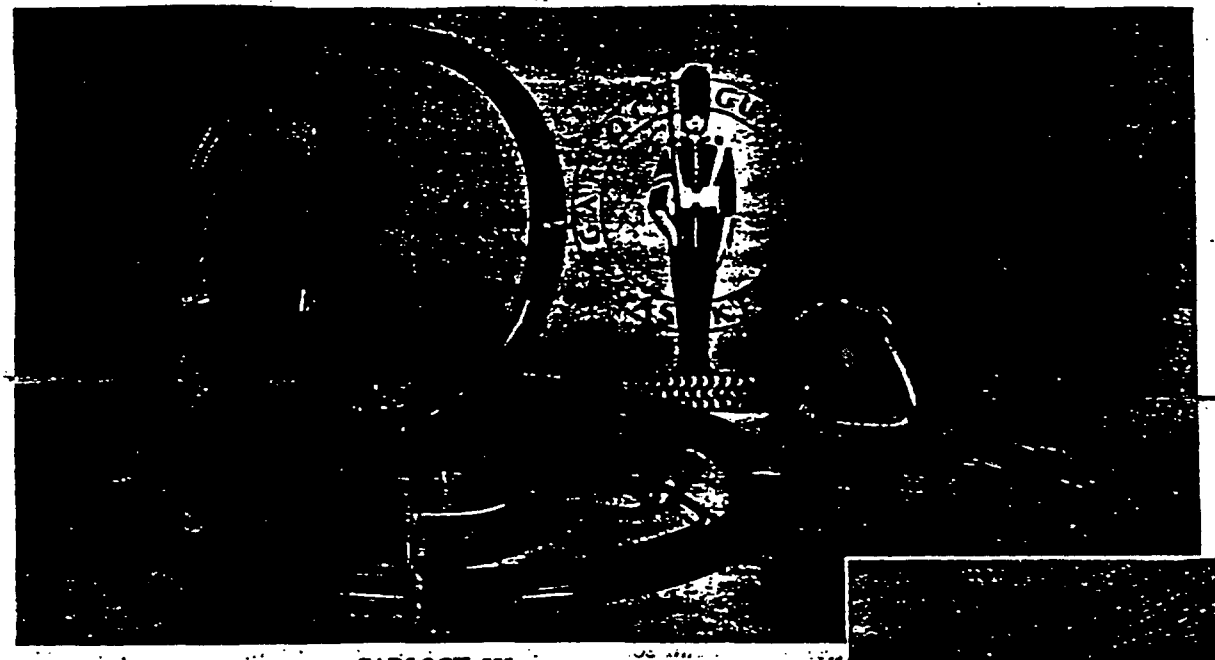
GARLOCK 7548 is recommended for high pressure service against air or ammonia vapor. It is effective on air compressor, refrigerating machine governors and similar services, where traces of oil are usually encountered.

GARLOCK 7677

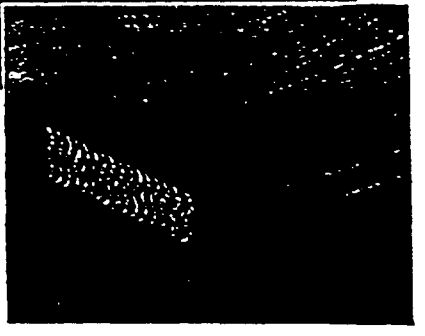
GARLOCK 7677 Diaphragm Sheet is constructed of an extra heavy duck insertion between covers of a high grade rubber compound.

It is regularly furnished with one ply of cloth insertion in a standard thickness of 1/8" and a standard width of 40". The approximate weight per square yard in this thickness is 132 ounces; the bursting strength across a 2" circular opening, approximately 310 pounds.

GARLOCK 7677 is recommended for service at the highest pressures against dry natural gas, air or water.



GARLOCK 555



GARLOCK GUARDIAN GASKETS

(Patent Applied For)

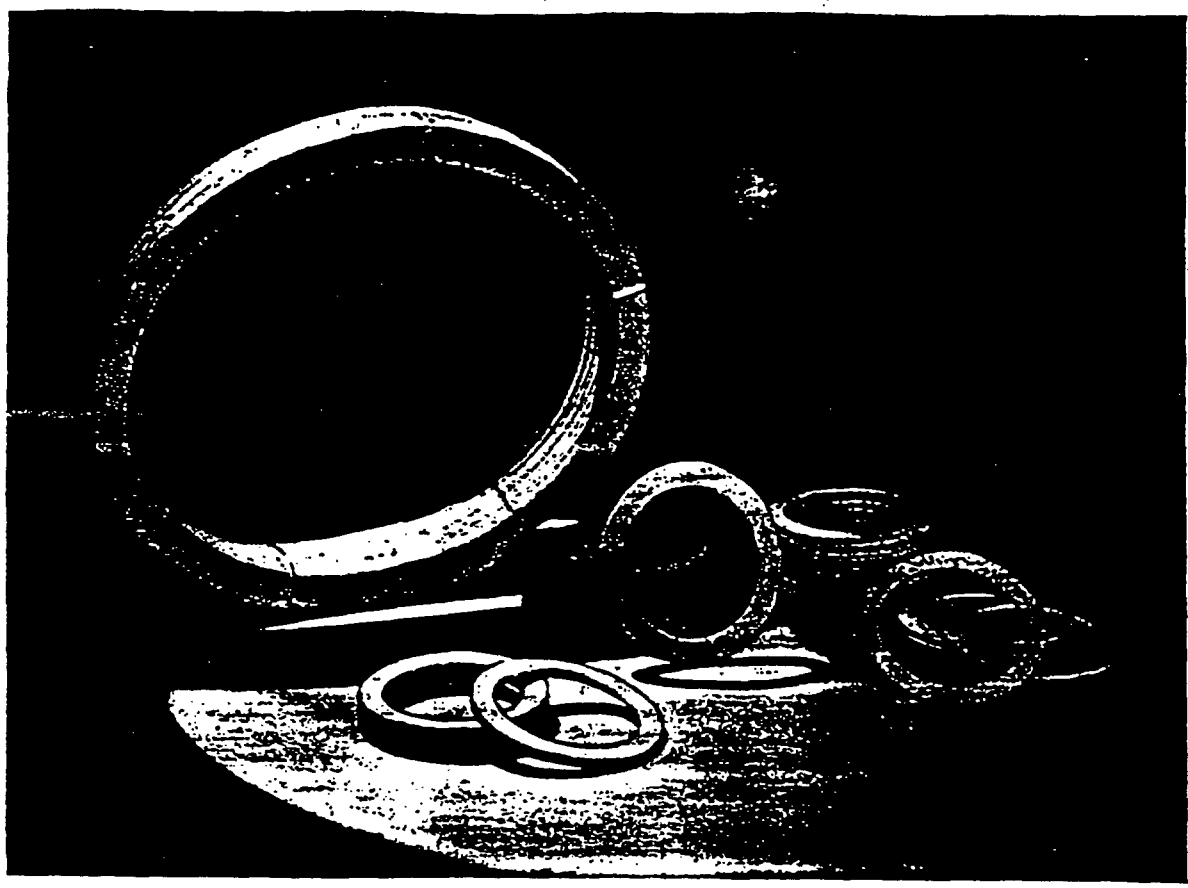
GARLOCK 555 Guardian Gaskets were designed and developed in the GARLOCK Factories, to meet the demand for a dependable gasket for use on severe service conditions.

GARLOCK Guardian Gaskets are constructed of metal and asbestos, combined in a manner which produces a gasket of great resiliency, exceptional rebound and unusual ruggedness. The metal strip used in these gaskets is formed into a shape resembling somewhat the letter M with rounded angles. This is a structural design found in no other gasket.

A double thickness of this metal strip protects and reinforces the inner edge of the gasket. The gasket is then built up to the desired flange width by winding continuous alternating layers of the metal strip and asbestos. A double thickness of metal reinforces the outer edge.

GARLOCK Guardian Gaskets are exceptionally serviceable against steam, gases, or liquids at high temperatures and high pressures. They are particularly recommended for use on pipe lines or on other equipment subject to frequent or extreme temperature changes with the resultant expansion and contraction of the metal parts. The exceptional compressibility and rebound qualities of the Guardian Gasket permit the maintenance of tight joints under such severe conditions.

GARLOCK 555 Guardian Gaskets are made in a standard $\frac{1}{16}$" thickness. They are produced in round, oval, square, diamond, pear and other shapes. Guardian Gaskets for most standard boiler tube, handhole and manhole plates, and for pipe flanges and fittings are carried in stock.



GARLOCK 604 GASKETS

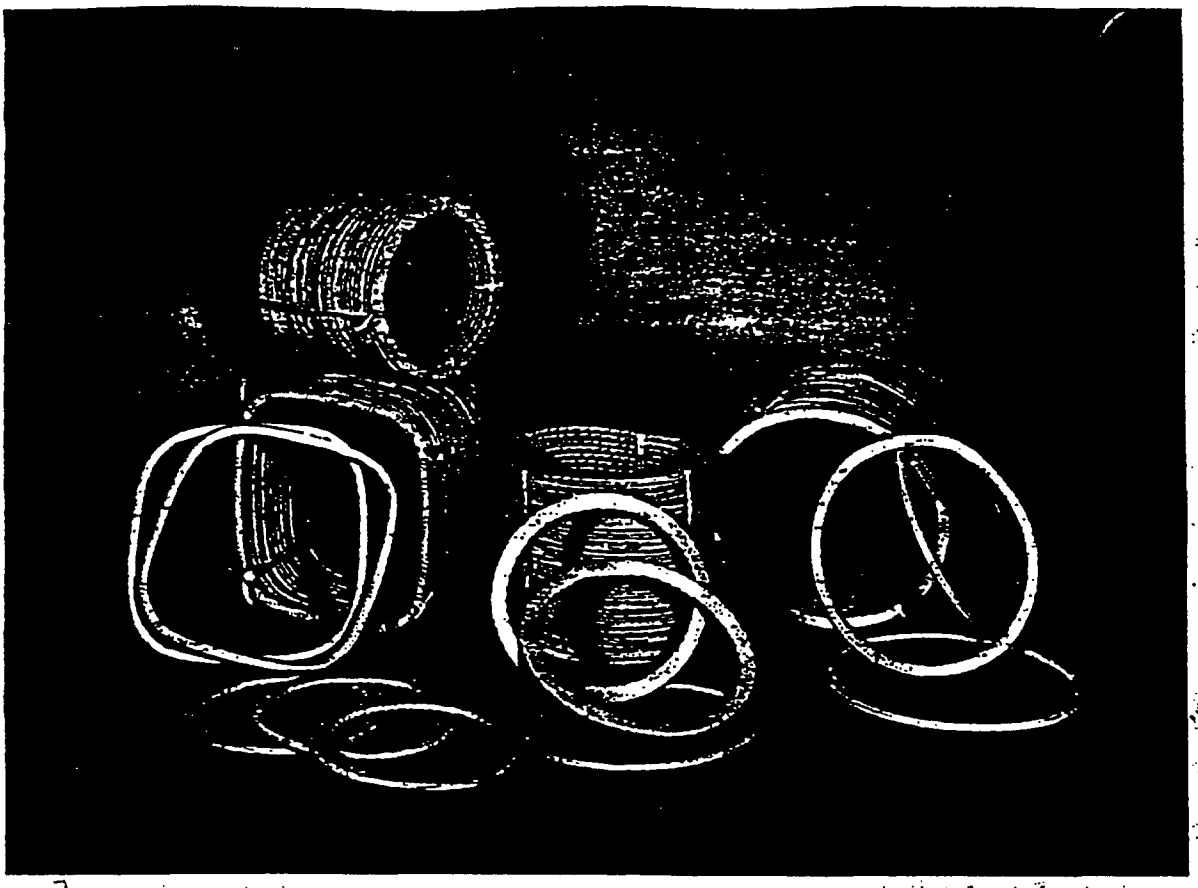
HIGH PRESSURE FOLDED ASBESTOS GASKETS

Construction — GARLOCK 604 Gaskets are manufactured of asbestos cloth woven from fine wire center, long fibre asbestos yarn. The cloth is treated with a heat resisting compound; it is then folded and pressed to required shape and size.

Service — Recommended for handholes and manholes of boilers, or for other steam service.

Form — GARLOCK 604 Gaskets are furnished in practically any size or shape desired.

When ordering gaskets, other than round or oval, a template, drawing or sample should be furnished and the required thickness designated.



TUBE PLATE GASKETS

GARLOCK HIGH PRESSURE FOLDED ASBESTOS GASKETS FOR WATER TUBE BOILERS

GARLOCK 601 ROUND (*Heine*)
GARLOCK 601 OVAL (*Heine*)
GARLOCK 602 OVAL (*B & W*)
GARLOCK 602 SQUARE (*B & W*)
GARLOCK 6007 OVAL (*Edgemoor*)

Construction — These gaskets are manufactured of GARLOCK Asbestos Cloth woven from fine wire center, long fibre asbestos yarn. The cloth is treated with a heat resisting compound: it is then folded and pressed to required shape and size.

Service — GARLOCK 601 Round Gaskets are recommended for service on round tube plates of Heine Water Tube Boilers.

GARLOCK 601 Oval Gaskets are recommended for service on oval tube plates of Heine Water Tube Boilers.

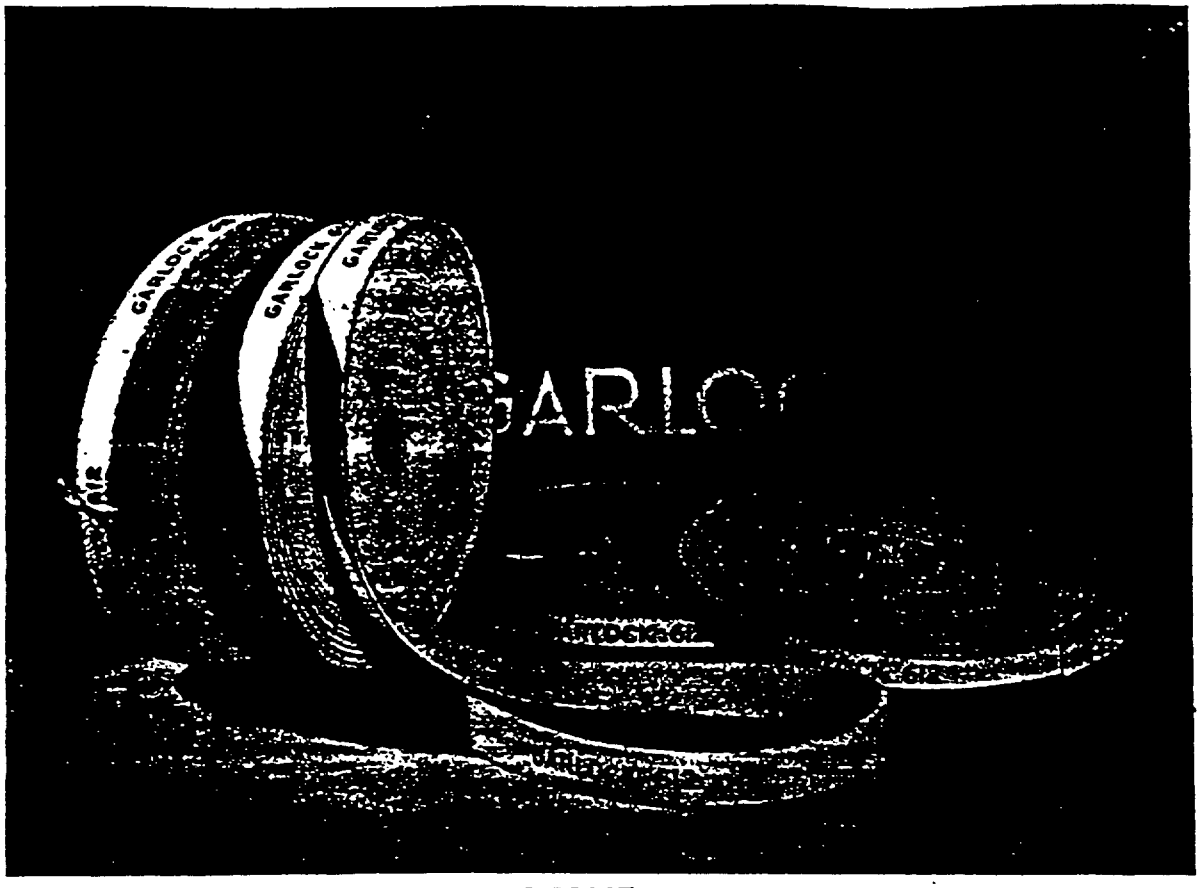
GARLOCK 602 Oval Gaskets are recommended for service on oval tube plates of B & W Water Tube Boilers.

GARLOCK 602 Square Gaskets are recommended for service on square tube plates of B & W Water Tube Boilers.

GARLOCK 6007 Oval Gaskets are recommended for service on the tube plates of Edgemoor Water Tube Boilers.

Form — Standard sizes are as follows:

601 Round — 3½ x 4¼ x ⅛ thick
601 Oval — 3½ x 4⅜ x ⅜ x ⅛ thick
602 Oval — 4⅜ x 5⅜ x $\frac{1}{16}$ x ⅛ thick
602 Square — 4¾ x 4⅞ x ¼ x ⅛ thick
6007 Oval — 4$\frac{1}{16}$ x 5⅛ x ½ x 4 ply thick



GARLOCK 612

ASBESTOS TAPE

Construction — GARLOCK 612 Asbestos Tape is a folded tape manufactured of wire inserted asbestos cloth treated with a heat resisting compound.

Service — Recommended for service against all steam pressures on cylinder heads, heater doors and other mechanical equipment where a heat resisting asbestos tape is required.

Form — GARLOCK 612 is furnished in practically any width and thickness desired. There is no standard length of coil or regular box quantity. In ordering, length or amount of tape should be specified in addition to the width and thickness dimensions.

ASBESTOS TUBULAR GASKETING

GARLOCK 610 GASKETING
GARLOCK 611 FORMED GASKETS

Construction — GARLOCK 610 is a high pressure tubular gasketing material constructed of GARLOCK wire inserted asbestos cloth frictioned with a heat resisting compound and formed with a hollow center. With each box of GARLOCK 610, connecting leads and friction tape for use in forming gaskets, are furnished.

Service — GARLOCK 610 is recommended for high pressure steam service on the handholes and manholes of boilers, heater doors and large tanks.

Form — GARLOCK 610 Gasketing is regularly furnished in 12½ and 25 foot coils; standard sizes ⅜" to 1", advancing by sixteenths. GARLOCK 611 Gaskets, which are formed from GARLOCK 610, are furnished in any specified size.

CORRUGATED METAL GASKETS

GARLOCK 511

Construction — GARLOCK 511 Gaskets are manufactured from a single thickness of metal, corrugated in cross section. Although copper gaskets are usually supplied, steel, monel metal, aluminum or other metal can be furnished when specified.

Service — Recommended for use on steam lines and for all general flange gasket service. Should be used only for application to machine finished joints and flanges.

Form — GARLOCK 511 Gaskets are furnished to the following specifications:

1. Standard overall thickness of gasket — approximately 1/32".
2. Maximum outside diameter of gasket — 23½".
3. Shape of gasket — round only.

CORRUGATED METAL-ASBESTOS GASKETS

GARLOCK 512

Construction — GARLOCK 512 Gaskets are made of single thickness corrugated metal, with asbestos cord superimposed in the corrugations on either side of the gasket. Although copper gaskets are usually supplied, steel, monel metal, aluminum or other metals can be furnished when specified.

Service — GARLOCK 512 Gaskets are recommended for service against superheat steam and other severe conditions. They are particularly suitable for application to rough and uneven surfaces, or in piping slightly out of alignment.

Form — GARLOCK 512 Gaskets are furnished to the following specifications:

1. Standard overall thickness of gasket — approximately 1/8".
2. Maximum outside diameter of gasket — 23½".
3. Shape of gasket — round only.

CORRUGATED LEAD GASKETS

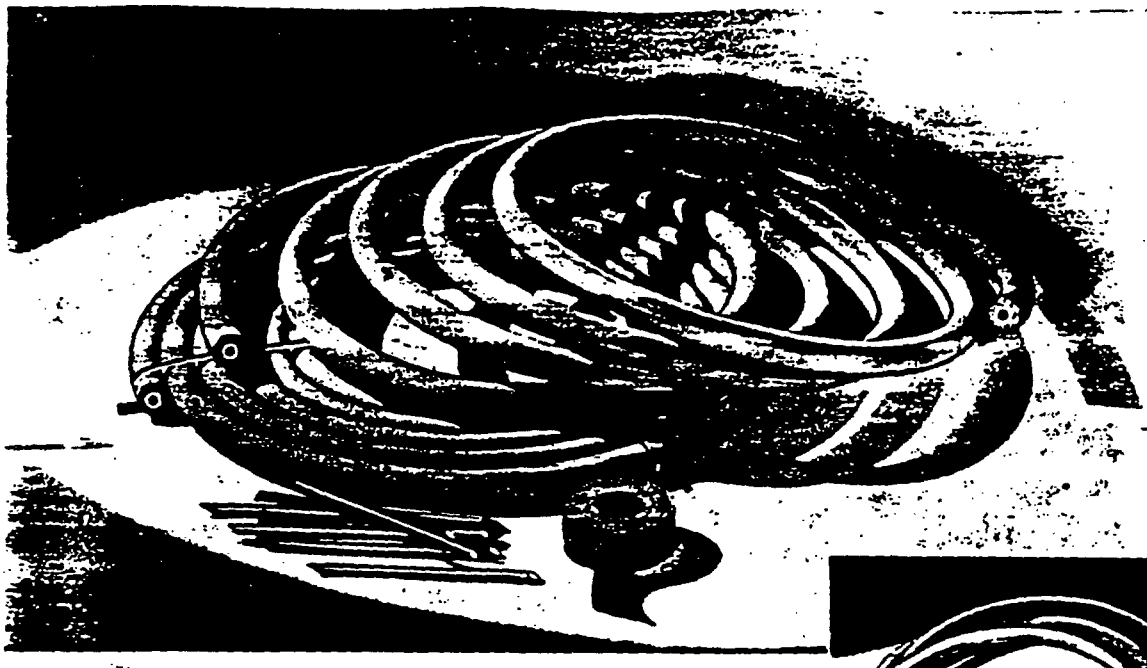
GARLOCK 516

Construction — GARLOCK 516 Gaskets are made from a single thickness of lead sheet, corrugated in cross section.

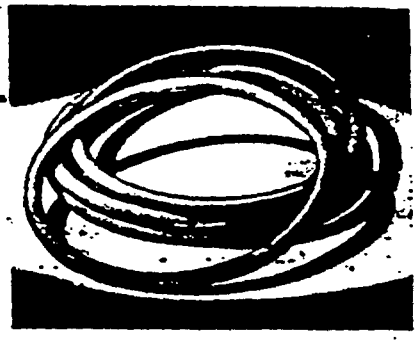
Service — Particularly recommended for service on oil and gasoline drums. They may be used, however, against other petroleum products, alcohol or in any service for which lead gaskets are suitable.

Form — GARLOCK 516 Gaskets are furnished to the following specifications:

1. Thickness of lead sheet — 1/32" or 1/16".
2. Maximum outside diameter of gasket — 29½".
3. Shape of gasket — round only.



GARLOCK 500 GASKETING



GARLOCK 501 GASKETS

METAL INSERTION RED TUBULAR GASKETING MATERIAL

Construction — GARLOCK 500 is a red tubular gasketing material with a soft metal tube insertion. With each box of GARLOCK 500, connecting leads and friction tape, for use in forming gaskets, are furnished.

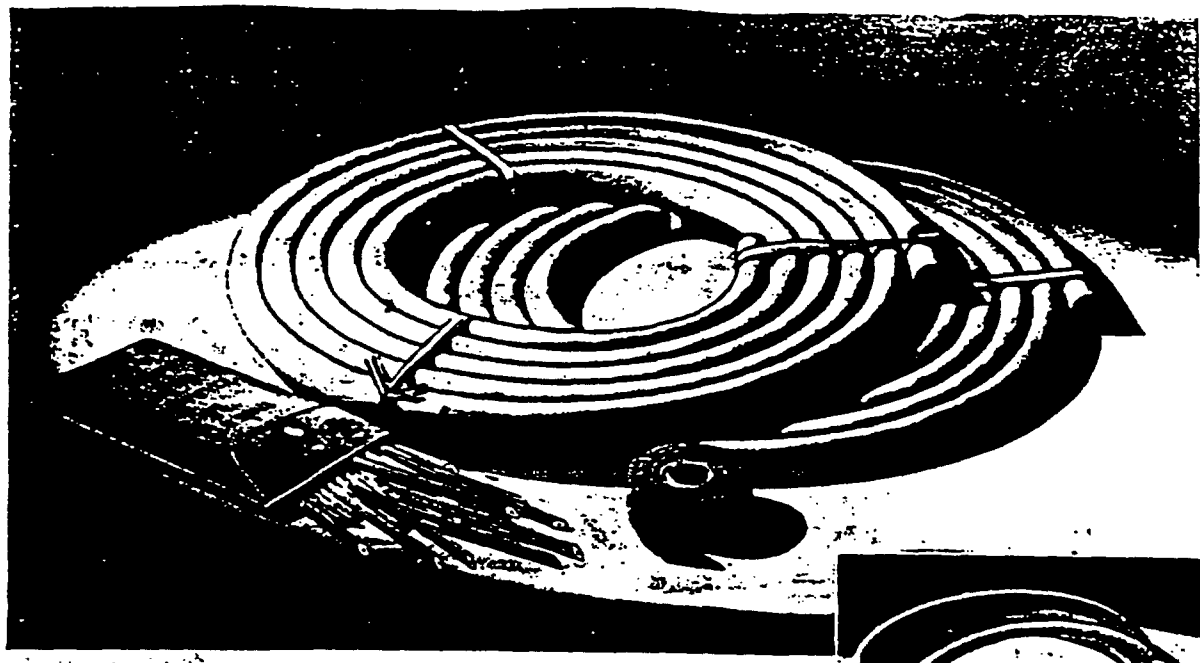
Service — GARLOCK 500 is recommended for service against steam pressures up to 150 lbs. per square inch. It is widely used as a gasketing on manholes and handholes of boilers, heater doors and large tanks.

Form — GARLOCK 500 is regularly furnished in 12½ foot coils; it can also be supplied in continuous lengths on reels. Standard sizes are from ¼" to 1", advancing by sixteenths.

GARLOCK 501 Gaskets, which are formed from GARLOCK 500, are furnished in any specified size.

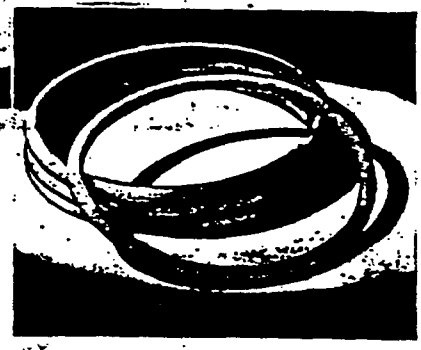
Listed below are approximate weights applying to 12½ foot coils of GARLOCK 500 in the stock sizes:

Size	Coils per Box	Connections per Box	Weight per Box
⅜"	3	30	5 lbs.
½"	2	20	5 2/16 lbs.
⅝"	2	15	10 14/16 lbs.
¾"	2	12	13 5/8 lbs.



GARLOCK 28 GASKETING

RED TUBULAR GASKETING MATERIAL



GARLOCK 281 GASKETS

Construction — GARLOCK 28 is a tubular gasketing material manufactured from a high grade, resilient red rubber compound. With each box of GARLOCK 28, connecting leads and friction tape, for use in forming gaskets, are furnished.

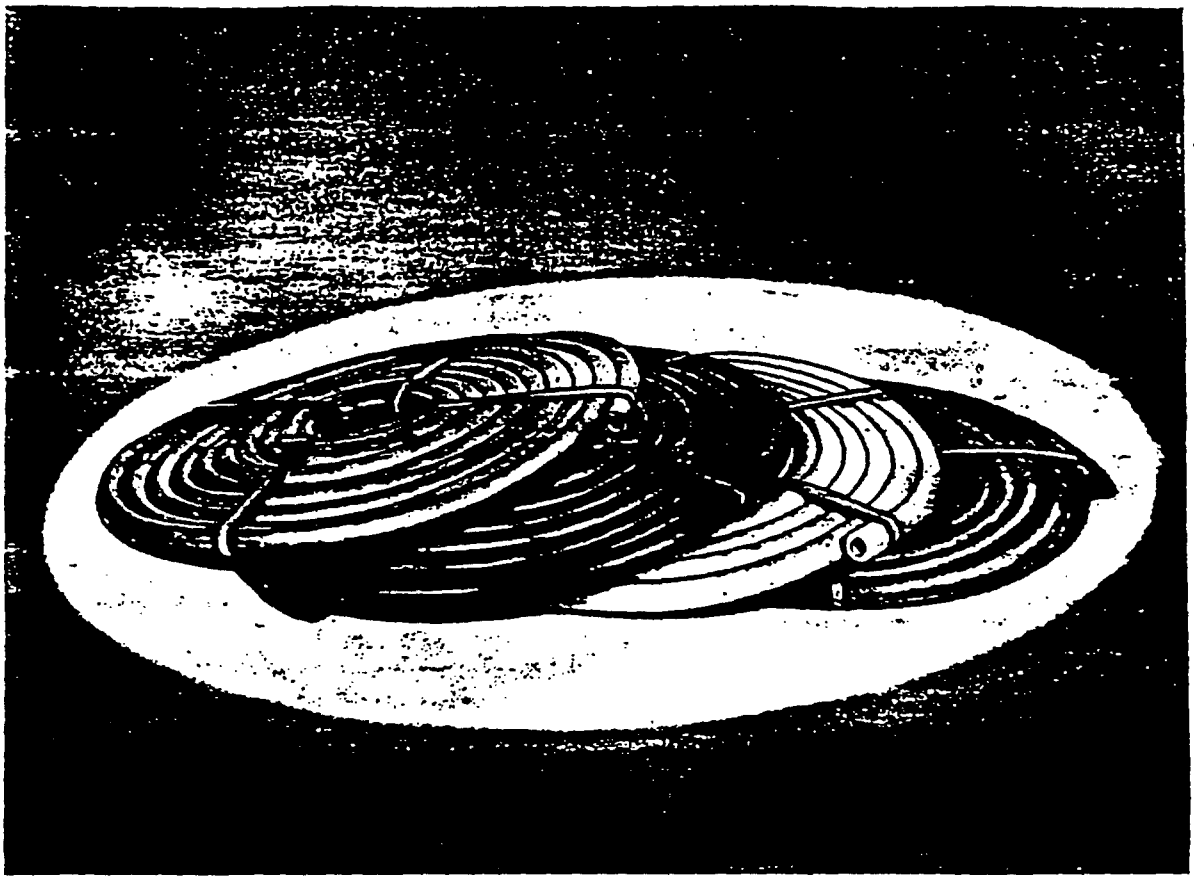
Service — GARLOCK 28 is recommended for service against hot and cold water, low pressure steam and air. It is widely used as a gasketing on manholes and handholes of boilers, heater doors and large tanks.

Form — GARLOCK 28 Gasketing is regularly furnished in 12½ foot coils; it can also be supplied in continuous lengths on reels. Standard sizes, ¼" to 1", advancing by sixteenths.

GARLOCK 281 Gaskets, which are formed from GARLOCK 28, are furnished in any specified size.

Listed below are approximate weights applying to 12½ foot coils of GARLOCK 28 in the stock sizes:

Size	Coils per Box	Connections per Box	Weight per Box
3/8"	4	30	4 3/8 lbs.
1/2"	3	20	5 1/4 lbs.
5/8"	2	15	6 1/4 lbs.
3/4"	2	12	8 1/8 lbs.



GARLOCK RUBBER TUBINGS

GARLOCK 1 (*Soft Black*)
GARLOCK 2 (*Soft White*)
GARLOCK 3 (*Semi-hard Black*)
GARLOCK 4 (*Medium Soft Red*)

Construction — GARLOCK Tubings are manufactured from high grade rubber stocks specially compounded to insure long life and the maintenance of proper resiliency in the particular services for which they are recommended.

Service — GARLOCK 1 Tubing is a soft, high grade black stock specially developed and recommended for laboratory work.

GARLOCK 2 Tubing is a soft, white stock particularly desirable for use in hospitals and all places where a high grade white stock is required.

GARLOCK 3 is a semi-hard, black tubing having oil resisting qualities. It is also a desirable tubing for service in chemical and dye works.

GARLOCK 4 is a good grade, medium soft, red rubber tubing. It is recommended for general service such as ice plants, etc., where a red rubber tubing is desired.

Form — All GARLOCK Tubings are obtainable in an extensive range of sizes. A few typical sizes with approximate weights per hundred feet are listed below:

I.D.	Wall Thickness	O.D.	Approximate Weight per C Feet			
			No. 1	No. 2	No. 3	No. 4
1/8	1/16	1/4	.74 lbs.	1.3 lbs.	1.03 lbs.	1.42 lbs.
1/4	1/16	3/8	1.67 lbs.	2.94 lbs.	2.33 lbs.	3.20 lbs.
1/4	1/8	1/2	2.98 lbs.	5.23 lbs.	4.15 lbs.	5.7 lbs.
3/8	1/16	1/2	5.80 lbs.	10.2 lbs.	8.08 lbs.	11.1 lbs.
3/8	1/8	5/8	9.50 lbs.	16.7 lbs.	13.25 lbs.	18.2 lbs.
1/2	1/16	3/4	14.1 lbs.	24.8 lbs.	19.7 lbs.	26.98 lbs.
1/2	1/4	1	28.5 lbs.	50.1 lbs.	39.8 lbs.	54.5 lbs.



GARLOCK PUMP VALVES

A complete line of rubber and composition Pump Valves for a wide variety of service conditions is described on the following page. This GARLOCK line provides a pump valve suitable for service against practically any liquid or pressure.

Conditions most commonly encountered are:

Cold Water	Acids
Warm Water	Alkalis
Hot Water	Fruit Juices
Gritty or Muddy Water	Cane Juices
Hot or Cold Oils	Air (Vacuum Pump)

Higher pressures and temperatures generally require the use of hard valves. For lower temperatures and pressures, softer valves are usually more suitable. The proper hardness or density of the valve, however, is also dependent to some extent upon the diameter and thickness of the valve and upon the chemical properties of the liquids to be pumped. It should be understood, therefore, that the recommendations appearing on the following pages are general in character; they do not apply to unusual or extreme conditions.

A survey of your equipment and operating conditions by a GARLOCK Representative will insure the specification of the proper GARLOCK Pump Valve for your service. When inconvenient to have that survey made, full and complete answers to the following questions will provide the necessary information for determining the correct valve for your requirements:

1. Diameter of valve?
2. Size of hole?
3. Thickness of valve?
4. Exact nature of the liquid?
5. Temperature of the liquid?
6. Pressure against the valve?
7. Is it a straight or a curved guard pump?

GARLOCK PUMP VALVES

HARD VALVES

GARLOCK 108

GARLOCK 108 is a very hard, black rubber valve recommended for service on hot water, hot oils, gasoline, syrups, alkali, lye and other solutions at temperatures up to 212° and at any pressure. GARLOCK 108 has proven in years of successful service its suitability for the high temperatures, heavy duty work for which it is recommended.

GARLOCK 155 AMBERITE

GARLOCK 155 is a very hard, Bakelite valve particularly recommended for hot or cold oil service. It will operate satisfactorily against high temperatures and pressures.

GARLOCK 156 GRAYBLACK

GARLOCK 156 is a very hard, asbestos composition pump valve particularly recommended for hot or cold oil service. It will operate satisfactorily against high temperatures and pressures.

GARLOCK 188 VALVES

GARLOCK 188 is a hard, black valve recommended for warm or cold water service at pressures from 125 pounds to 300 pounds per square inch. It is particularly recommended for the heavy duty service usually encountered on mine pumps and similar equipment.

MEDIUM VALVES

GARLOCK 182

GARLOCK 182 is a medium hard, gray rubber valve developed for cold water service at pressures from 75 pounds to 125 pounds per square inch. This valve is highly recommended for heavy duty cold water service usually found on city pumping station installations and hydrant valves.

GARLOCK 359

GARLOCK 359 is a medium hard, black valve recommended for cold water or cold oil service at pressures from 75 pounds to 125 pounds per square inch. Because of its toughness, GARLOCK 359 is particularly serviceable when used in contact with water containing sand or grit.

GARLOCK 139

GARLOCK 139 is a medium soft, gray valve recommended for cold water service at pressures from 50 to 75 pounds.

GARLOCK 175

GARLOCK 175 is a medium soft, gray valve recommended for cold water service at pressures from 50 to 75 pounds.

GARLOCK 189

GARLOCK 189 is a medium soft, white valve recommended for cold water service at pressures from 50 to 75 pounds.

SOFT VALVES

GARLOCK 154

GARLOCK 154 is a very soft, red rubber valve recommended for marine condenser and air service. It is particularly recommended for lake and ocean condenser service.

GARLOCK 151

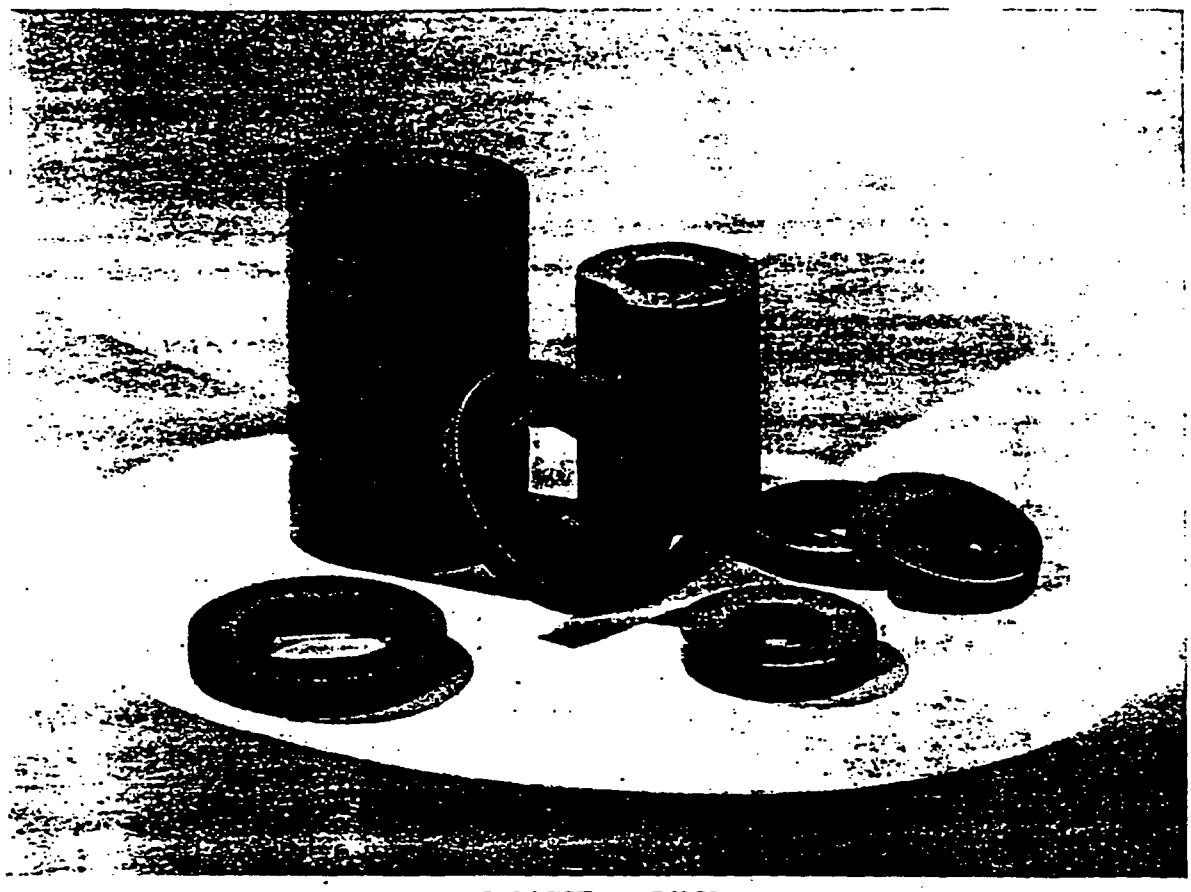
GARLOCK 151 is a very soft, gray valve recommended for air and marine condenser service.

GARLOCK 152

GARLOCK 152 is a very soft, red valve recommended for air and marine condenser service.

GARLOCK 197

GARLOCK 197 is a very soft, white valve recommended for air and marine condenser service.



GARLOCK 111 DISCS

GARLOCK VALVE DISCS

Construction — GARLOCK 111 Valve Discs are manufactured from a heat-resisting asbestos and rubber compound, developed for use against the high steam pressures and temperatures encountered in valve disc service.

Service — Recommended for all globe and angle valves of the standard disc type. In addition to high steam pressures, GARLOCK 111 Valve Discs are also recommended for hot oil, hot water and many acid conditions.

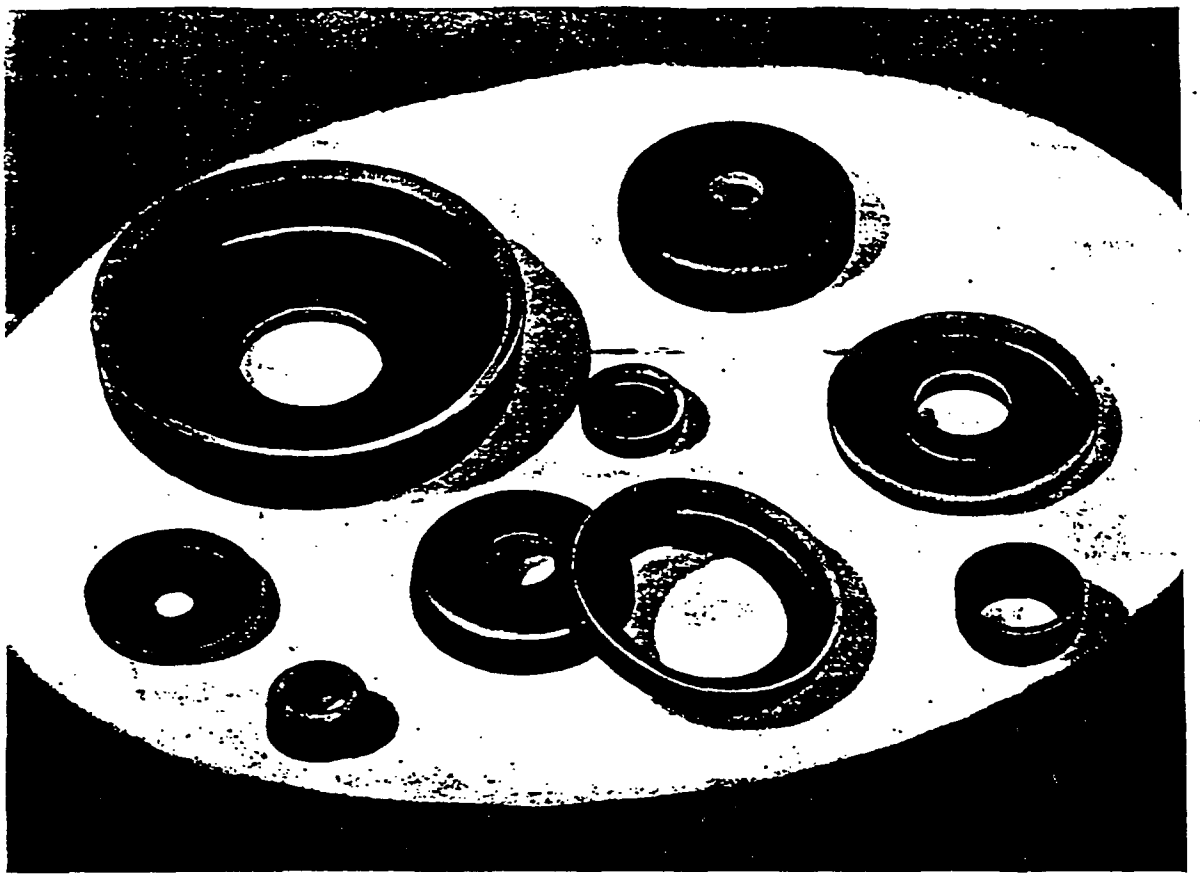
Form — GARLOCK 111 Valve Discs are manufactured both in the round and oval hole type. They are supplied in all standard sizes, and in many special sizes and shapes.

Special Discs — For special service conditions, for which GARLOCK 111 Discs may not be entirely suitable, valve discs having the necessary characteristics for that specific service are furnished. Full information as to temperature, pressure and operating conditions are necessary to permit the development and manufacture of these special discs.

Standard sizes and list prices on GARLOCK Valve Discs are given below:

GARLOCK 111 VALVE DISCS

Size	List Price Each	Size	List Price Each	Size	List Price Each
1/4"	$ .03	2 "	$ .18	6"	$1.00
3/8"	.04	2 1/2"	.24	7"	1.20
1/2"	.04	3 "	.40	8"	1.40
3/4"	.05	3 1/2"	.50	9"	1.80
1 "	.06	4 "	.60	10"	2.25
1 1/4"	.09	4 1/2"	.70	12"	2.50
1 1/2"	.12	5 "	.80		



GARLOCK MOLDED PACKING CUPS

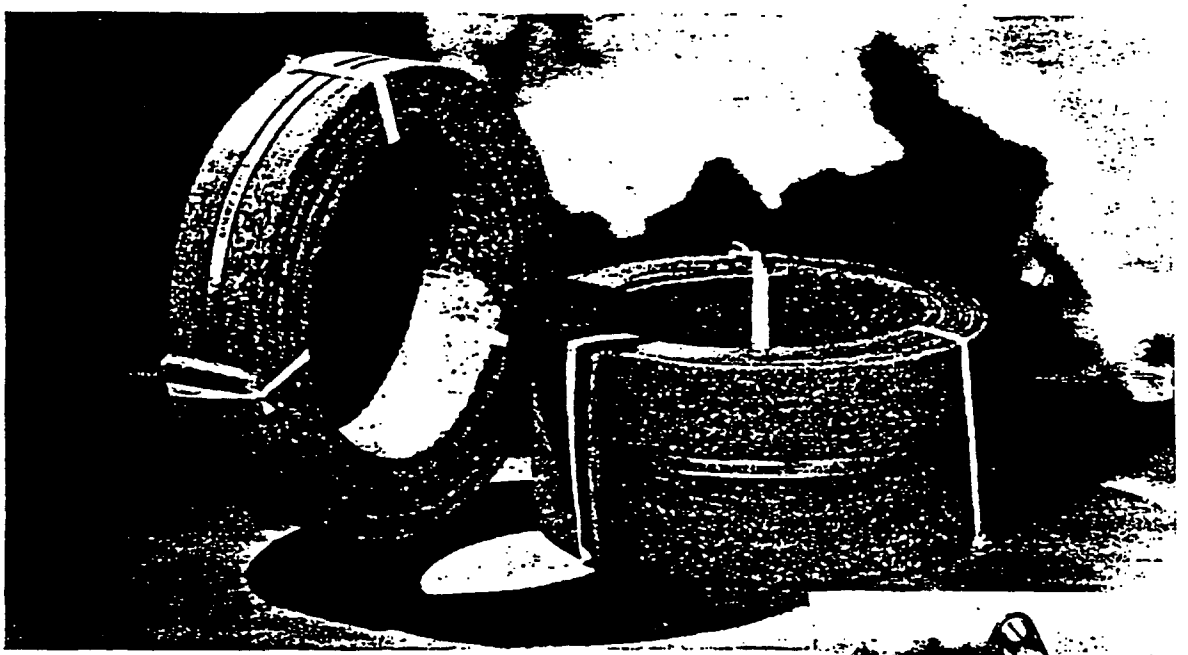
Construction — GARLOCK Molded Packing Cups are made of asbestos, duck or other fabrics, frictioned with heat and oil resisting compounds varied to meet specific service conditions.

Service — Included in the GARLOCK Line are cups to meet every possible service condition including steam, air, water and oil.

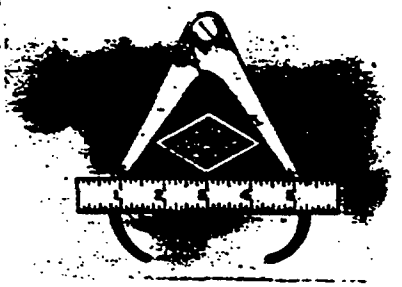
GARLOCK Molded Packing Cups are recommended for service on any equipment on which cup packings are used. A few of the most common of these applications are:

Air Hoists	Air Rams
Pneumatic Chucks	Steam Cylinders on
Hydraulic Presses	Vulcanizers
Steam Rams	

Form — GARLOCK Molded Packing Cups are produced in hundreds of different sizes, ranging in diameter from ½" up to 20". "U" and hat type packings can be supplied in a limited size range.



GARLOCK 701



INDUSTRIAL BRAKE LINING

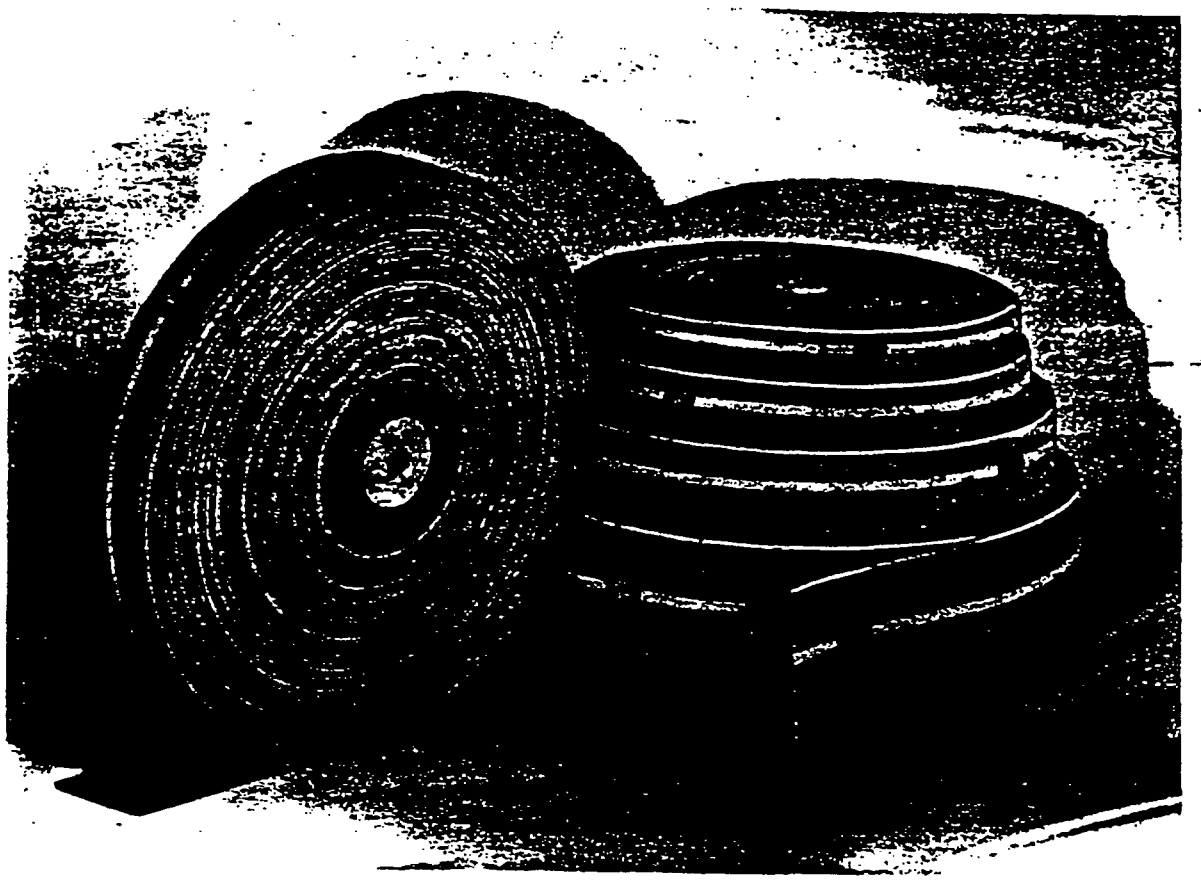
GARLOCK 701 Industrial Brake Lining was developed to meet a real need for a rugged, serviceable and dependable lining for industrial equipment. In every respect it is a superior product.

Construction — GARLOCK Industrial Brake Lining is constructed of high quality GARLOCK Wire inserted asbestos cloth, impregnated with a special rubber compound. It is folded, molded and vulcanized under 2000 pounds pressure.

Service — GARLOCK 701 Lining is highly recommended for severe service conditions on all types of industrial equipment. Some of its many service applications are listed below:

Steam Shovels	Elevators
Excavating Machines	Lift Bridges
Ditchers	Industrial Locomotives
Hoists and Derricks	Drag Lines
Concrete Mixers	Steam Rollers
Cranes	Graders
Logging Equipment	Airplane Catapults
Road Building Machinery	Car Pullers

Form — GARLOCK 701 is furnished in all standard brake lining sizes from 1″ wide x ¼″ thick to 12″ wide x 1″ thick. Standard rolls contain 100 feet; half rolls contain 50 feet. In the larger sizes it will be furnished in short lengths cut to specified sizes.



GARLOCK 725

RUBBER TRANSMISSION BELTING

With the development of GARLOCK 725 Rubber Transmission Belting a new high standard for rubber belts was established. From the specification and selection of raw materials entering into this product to the finished belt, every step in its manufacture is carried out with the sole idea of producing a quality belt.

Construction — GARLOCK Rubber Transmission Belting is constructed of two or more plies of high grade belting duck, frictioned with a special rubber compound. It is folded to size and cured under tremendous pressure.

Service — GARLOCK Belting is recommended for all power transmission work where a flat belt is suitable. Many successful installations of GARLOCK Belting have been made on conditions where inferior rubber belts have failed. Outstanding characteristics of GARLOCK belting are:

1. Extremely long life.
2. Superior wearing qualities.
3. Unusual flexibility.
4. Exceptional gripping power.
5. Rugged strength.

Form — Furnished in all standard belt sizes from 1"-2 ply to 28"-12 ply. When ordering specify exact length desired.

GARLOCK RUBBER APRONS

ACID-RESISTANT APRON

GARLOCK 7106

GARLOCK 7106 Rubber Aprons for acid service are constructed of a single ply of fine cotton fabric frictioned on both sides with a high grade, black rubber compound.

This apron is highly recommended for use in sheet and tin plate mills, chemical plants, process plants and in the many other industries where acids are used. It also is an excellent garage apron.

GARLOCK 7106 Aprons are cut in a proper shape to give complete protection and are furnished with strongly reinforced, brass eyelets correctly placed for tie-strings.

Listed below are dimensions and weights of the two standard sizes of GARLOCK 7106 Aprons:

	Length	Width	Weight Each
Large Size	45"	32"	40 oz.
Small Size	39"	25"	28 oz.

GREASE RESISTANT APRON

GARLOCK 7663

GARLOCK 7663 Rubber Aprons for grease service are constructed of a single ply of fine cotton fabric frictioned on both sides with a high grade, black rubber compound.

This apron is highly recommended for use in creameries and dairies, packing plants, milk handling plants and similar industries.

GARLOCK 7663 Aprons are cut in a shape which affords complete protection and are furnished with strongly reinforced, brass eyelets properly placed for the tie-strings.

Listed below are dimensions and weights of the two standard sizes of GARLOCK 7663 Aprons:

	Length	Width	Weight Each
Large Size	45"	32"	27 oz.
Small Size	39"	25"	19 oz.

GASKET AND LUBRICATING COMPOUNDS

GARLOCK GASKET PASTE

COMPOUND No. 1

GARLOCK Gasket Paste, Compound No. 1, is a development of the GARLOCK Laboratories for application to all kinds of gaskets operating against gasoline, oil and petroleum derivatives, either hot or cold. It is also an excellent compound for wiping threaded joints on pipe lines carrying the same liquids.

Outstanding advantages of GARLOCK Compound No. 1 are as follows:

1. It is not harmful to gaskets of any kind.
2. It is highly resistant to gasoline and oil.
3. It has the correct body for a seal and expands under heat, making a tight joint.
4. It will not discolor gasoline or similar clear liquids.
5. It is ready for immediate application. No thinning is necessary.
6. It will not spoil or ferment in storage.

GARLOCK Gasket Paste, Compound No. 1, is supplied in 12 ounce, 24 ounce, and 5 pound cans; also in bulk for large users.

GARLOCK LUBRICATING PASTE

COMPOUND No. 2

GARLOCK Lubricating Paste, Compound No. 2, is an external lubricant for application to rod packings working against steam, hot water, cold water, and water solutions.

Before applying packing to the stuffing box it should be heavily coated with this Compound. Subsequent applications should be made as required, either by swabbing on the rod or plunger, or under pressure with an Alemite or similar fitting.

Outstanding advantages of GARLOCK Lubricating Paste, Compound No. 2, are as follows:

1. It has high lubricating value, reducing friction to a minimum.
2. It has a long lubricating life due to its great heat resistance and its general wearing qualities.
3. It does not become water thin under heat but maintains a proper viscosity at all times.
4. It is water and steam proof and is not readily washed out.
5. It is a splendid rust and corrosion preventative which particularly recommends it for use with packings installed on new equipment.
6. It is beneficial to any packing and prolong its life in service.

GARLOCK Lubricating Paste, Compound No. 2, is supplied in 12 ounce, 24 ounce and 5 pound cans; also in bulk for large users.

GARLOCK LUBRICATING PASTE

COMPOUND No. 3

GARLOCK Lubricating Paste, Compound No. 3, is an external lubricant for application to rod packings working against gasoline, benzine, oils, ether, carbon tetrachloride, kerosene, diphenyl, and all vapors and chemicals of an oily nature.

Before applying packing to the stuffing box it should be heavily coated with this Compound. Subsequent applications of the lubricant should be made as required, either by swabbing on the rod or plunger, or under pressure with an Alemite or similar fitting.

The use of GARLOCK Lubricating Paste, Compound No. 3, accomplishes the following purposes:

1. It increases the life of the packing by making it more resistant to the deteriorating action of gasoline and other solvents.
2. It prevents seepage of insidious liquids and gases through the packing.
3. It makes possible leak proof operation without excessive gland pressure thereby reducing friction power loss.

GARLOCK Lubricating Paste, Compound No. 3, is not recommended as a rust and corrosion preventative for use on packings installed on new equipment.

GARLOCK Lubricating Paste, Compound No. 3, is supplied in 12 ounce, 24 ounce and 5 pound cans; also in bulk for large users.

GARLOCK ASBESTOS TINNING MACHINE BRUSHES

(Patented)

GARLOCK Asbestos Tinning Machine Brushes are constructed of wire inserted asbestos cloth, plied up fold upon fold. They have a raw wearing edge, which may be bevelled to suit the contour of the tinning machine rolls. The plies of the brushes are sewed together with wire stitching.

GARLOCK Asbestos Tinning Machine Brushes are furnished in two types; the solid brush and the hollow back brush. The hollow back type is used in conjunction with a filler of asbestos or metal.

GARLOCK Asbestos Tinning Machine Brushes are furnished in a complete range of sizes for application on the rolls of tinning machines. When ordering, the width, thickness and length of brush should be specified.

CONDENSER TUBE PACKING

GARLOCK 954

Construction — GARLOCK 954 Rings are molded from specially treated unvulcanized asbestos fibrous compound. They are regularly supplied with a graphite treatment.

Service — Recommended as a condenser tube packing to meet every requirement of the service.

Form — GARLOCK 954 Rings are furnished in sizes to suit any condenser equipment. They are easily applied with a special tool, which will be furnished on request at a nominal charge.

GARLOCK KOLUTOL PRODUCTS

GARLOCK Kolutol Packings and other Kolutol products are manufactured from special compounds, developed in the GARLOCK Laboratories, containing Thiokol. This Company has been one of the pioneers in adapting Thiokol as an ingredient of packings.

In the compounding of Kolutol products, all of the desirable and unusual characteristics of Thiokol have been retained. Kolutol products, therefore, have the resiliency of rubber, but unlike rubber, are entirely impervious to the deteriorating action of oil, gasoline, benzine, ether, carbon tetrachloride and other liquids which are rubber solvents. Kolutol products are not recommended for any service on which temperatures in excess of 180° Fahrenheit are encountered.

GARLOCK Kolutol materials are produced in a variety of forms. Constant research and experimental work is resulting in the frequent addition of new Kolutol products to those already developed. The most commonly used GARLOCK Kolutol styles are indicated below:

GARLOCK	Form	Construction
7601	Sheet	Plain Kolutol Compound
7601	Gasket	Plain Kolutol Compound
7601	Ring	Plain Kolutol Compound
7601	Tubing	Plain Kolutol Compound
7603	Sheet	Cloth Inserted Kolutol Compound
7603	Gasket	Cloth Inserted Kolutol Compound
7700	Sheet	Wire Inserted Kolutol Compound
7700	Gasket	Wire Inserted Kolutol Compound
7716	Cup	Kolutol combined with Fabric
7720	Ring	Kolutol combined with Duck
7720	Disc	Kolutol combined with Duck

GARLOCK CORD PLUGS

(Patented)

Construction — GARLOCK Cord Plugs are constructed of alternate plies of an open weave cord cloth and specially compounded rubber, vulcanized together under pressure. They are a patented product.

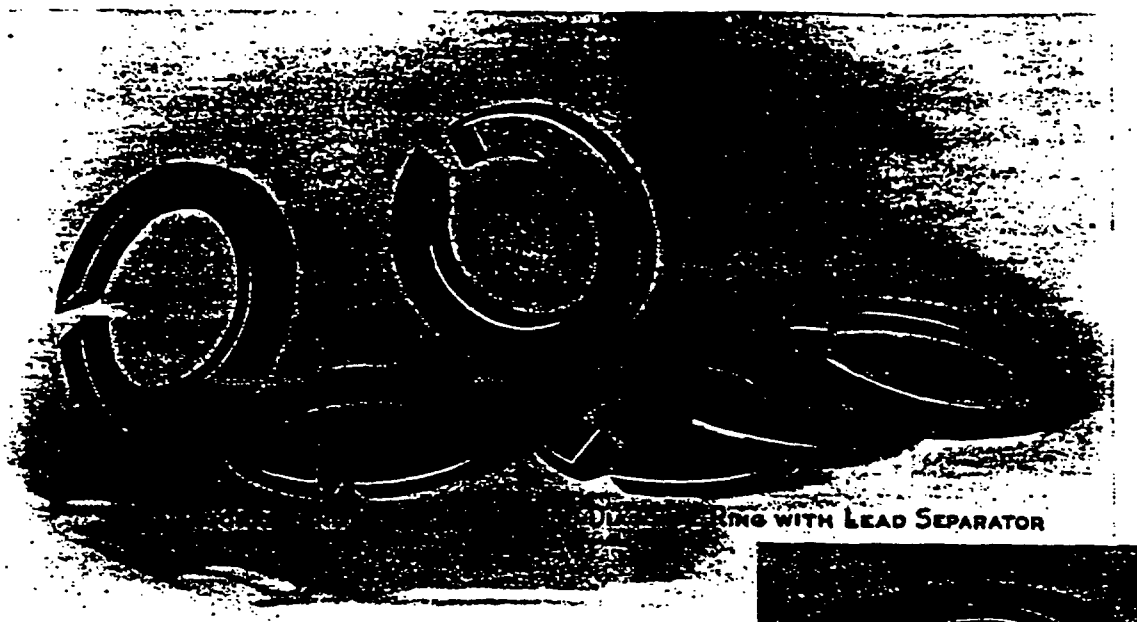
Service — Recommended for cleaning and scouring the inside walls of condenser tubes. Due to their sturdy construction, GARLOCK Cord Plugs can be used many times before becoming worn.

Form — GARLOCK Cord Plugs are furnished in ¾" thickness and in ten standard diameters. This range of sizes includes a plug to fit any standard tubes with which condensers are equipped.

The air gun for use in shooting GARLOCK Plugs is simple in design and can be made in any machine shop equipped with a lathe. Instructions as to the necessary parts and construction of the gun will be furnished on request.

The table below indicates the proper GARLOCK Plug number for tubes of different diameters and gauge.

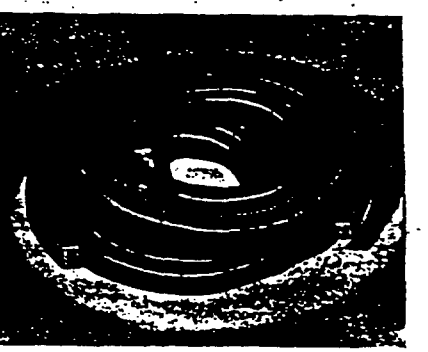
Outside Diameter of Tube	Gauge (Birmingham or Stubbs Iron Wire)	Plug No.	Outside Diameter of Tube	Gauge (Birmingham or Stubbs Iron Wire)	Plug No.
1 "	16	1016	¾"	17	3417
1 "	18	1018	¾"	18	3418
⅞"	16	7816	⅝"	16	5816
⅞"	18	7818	⅝"	17	5817
¾"	16	3416	⅝"	18	5818



RING WITH LEAD SEPARATOR

SHREDDED METAL RINGS

SHREDDED METAL PACKINGS



SHREDDED METAL COIL

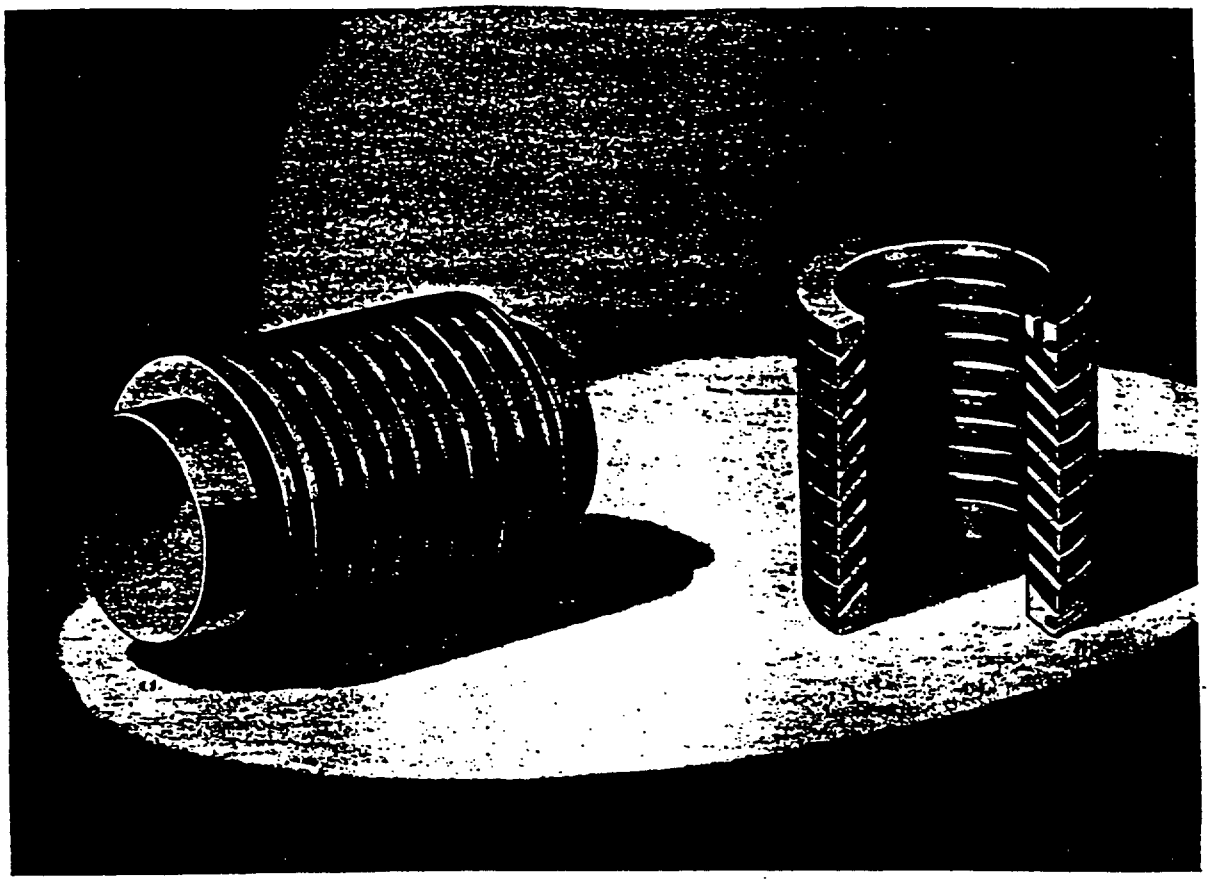
Construction — GARLOCK Shredded Metal Packings are produced of strands of soft metal treated with a binding compound and flake graphite.

Service — Recommended for service on Corliss and reciprocating valve stems, steam and air piston rods, centrifugal pumps handling hot or cold water, small steam turbine shafts, enclosed type ammonia compressor shafts, swing joints and outside packed cold water plungers. The Shredded Metal Packings below are recommended for temperatures up to 600 degrees Fahrenheit. Shredded Metal Ring Packings for higher temperatures are described on page 122.

Form — GARLOCK Shredded Metal Packings are manufactured from fine strand, grooved strand, or crimped strand, soft metal. They are furnished in loose form, twisted coil and formed rings, either plain or diagonal. Diagonal rings can also be furnished with a lead cone (see illustration).

Indicated below are GARLOCK styles of Shredded Metal Packings showing the forms of packing and types of strand used:

Fine Strand		Grooved Strand		Crimped Strand	
Garlock	Description	Garlock	Description	Garlock	Description
998	Straight coil, loose	992	Straight coil	999	Rolled coil (lead wool)
988	Twisted coil, rolled	982	Twisted coil	969	Plain ring
968	Plain ring	962	Plain ring	949	Diagonal ring
948	Diagonal ring	942	Diagonal ring	939	Diagonal ring, lead cone
938	Diagonal ring, lead cone	932	Diagonal ring, lead cone		



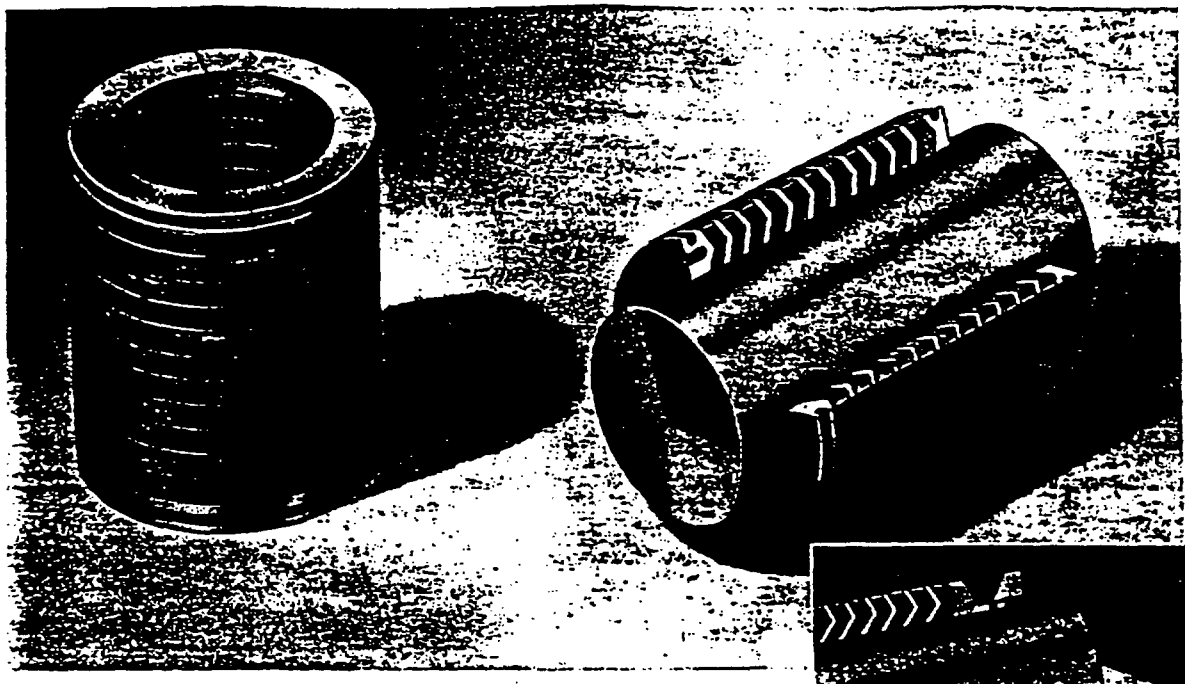
GARLOCK 7050

SHREDDED METAL PACKING

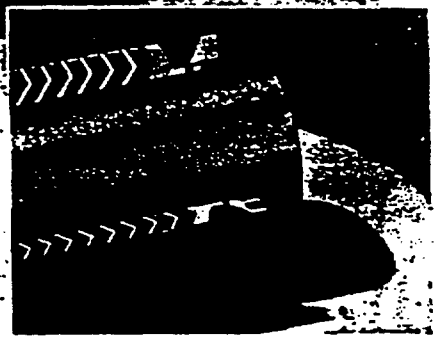
GARLOCK 7050 is an advanced development in Shredded Metal Packing consisting of one concave bevel bottom ring and one convex bevel top ring — both made of babbitt — and a series of concave-convex molded shredded metal rings, alternated with metal separator rings.

GARLOCK 7050 is recommended for air, steam and gas service at temperatures up to 625 degrees Fahrenheit. Being thoroughly impregnated with graphite, GARLOCK 7050 is particularly adapted for high pressure and high speed air and gas compressor service.

Sets of GARLOCK 7050 are molded in sizes to specified rod and stuffing box dimensions.



GARLOCK 7050-C



GARLOCK 7050-C
WITH BRONZE ADAPTER

SHREDDED METAL PACKING

GARLOCK 7050-C is a special GARLOCK development in shredded metal packing consisting of one top and one bottom adapter ring made of babbitt, and a series of V shaped molded shredded metal rings, alternated with soft metal separator rings.

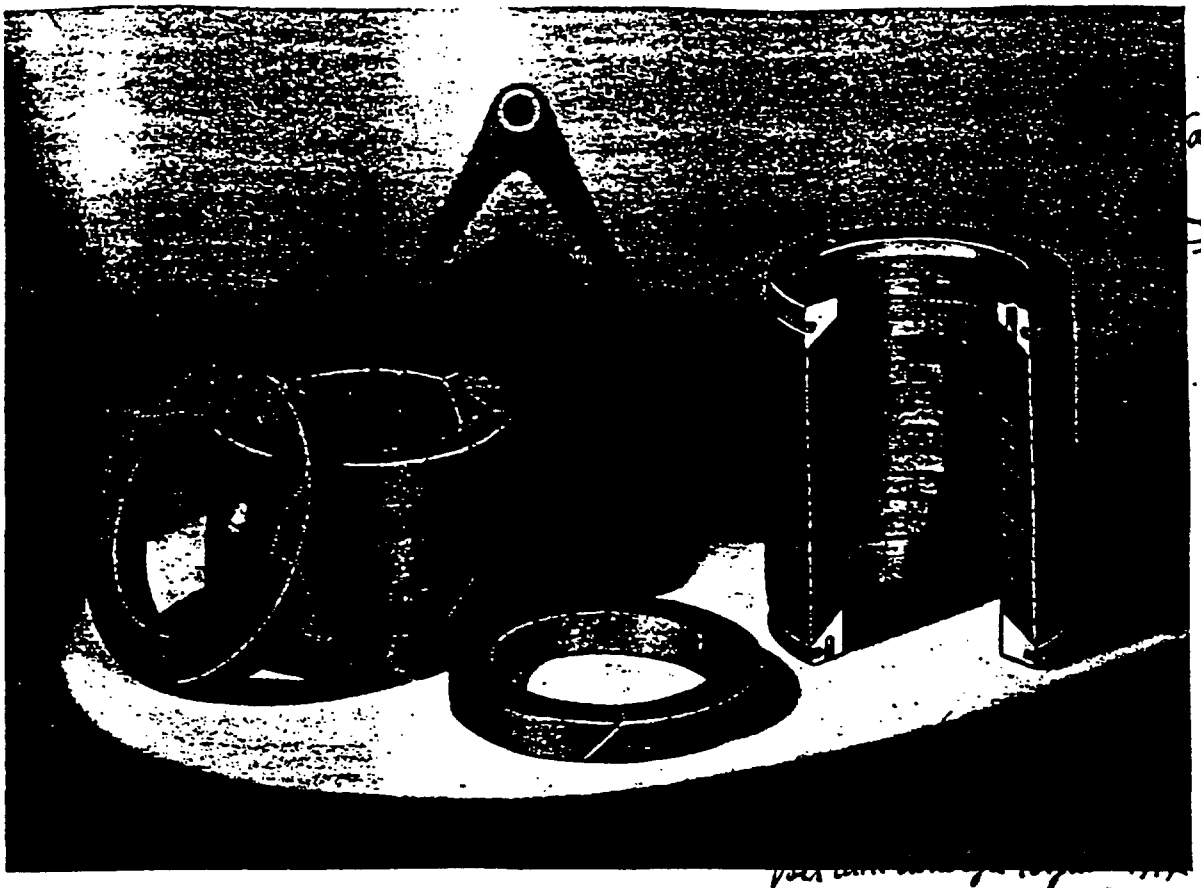
GARLOCK 7050-C is recommended for high pressure and high speed air and gas compressor service, at temperatures up to 625 degrees Fahrenheit.

SPECIAL BRONZE TOP ADAPTER

The small picture above illustrates GARLOCK 7050-C combined with a special bronze top adapter. This combination is highly recommended and widely used in high pressure service on enclosed type CO_2 compressors.

SPECIAL TOP AND BOTTOM BRONZE ADAPTERS AND BRONZE SEPARATOR RINGS

This special combination is particularly adapted for service on outside packed plungers of boiler feed pumps handling high pressure hot water under the most severe conditions.



GARLOCK 934 . GARLOCK 935

HIGH TEMPERATURE SHREDDED METAL PACKINGS

GARLOCK 934

GARLOCK 934 is a high temperature, shredded metal ring packing molded square or rectangular in cross section from shreds of special metal floss. It is suitable for service against temperatures up to 1500 degrees Fahrenheit.

GARLOCK 934 will be furnished in rings to practically any desired rod and stuffing box dimensions; also in sets to specified stuffing box depths.

This material is highly recommended for service on valve stems and piston rods on which high temperatures are encountered. Particularly suitable for service on the rotary shafts of soot blowers.

GARLOCK 935

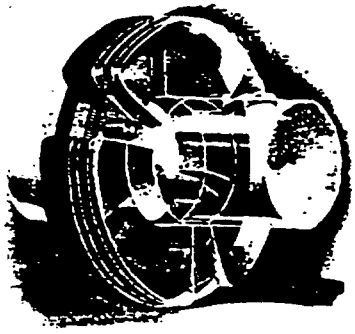
GARLOCK 935 is a special high temperature shredded metal packing. It is regularly furnished in sets consisting of one concave bevel bottom ring and one convex bevel top ring — both made of Red Metal — and a series of concave-convex, molded shredded metal rings. These shredded metal rings are produced from strands of special metal floss suitable for service against temperatures up to 1500 degrees Fahrenheit.

GARLOCK 935 is often supplied without special metal end rings for application in stuffing boxes having bevelled glands and bottoms. In ordering sets of this nature, the type and degree of bevel of both the gland and the bottom of the box must be indicated.

GARLOCK 935 can be furnished in practically any rod and stuffing box sizes. It is highly recommended for service on valve stems and piston rods operating at high temperatures; also for rotary shafts of small turbines and blowers.

TYPES OF GARLOCK METAL PACKING RINGS

FLEXIBLE METAL RINGS



GARLOCK Flexible Type Metal Packing Rings are made up of several segments which are held to the rod with garter springs of music wire placed in grooves on the outside circumference of the ring. The segments are designated as A, B, and C Rings.

The A ring or segment, which is regularly of cast iron but which, for special service, may be made of bronze or babbitt, is the wearing ring which bears on the rod. The B ring or segment is the brass cap ring resting on top of the A ring, and the C ring or segment is the wide ring on the side toward the cylinder head. Inasmuch as the A segments are the only parts subjected to heavy wear on the rod, it is usually possible to add years of service to a set by the renewal of A segments only.

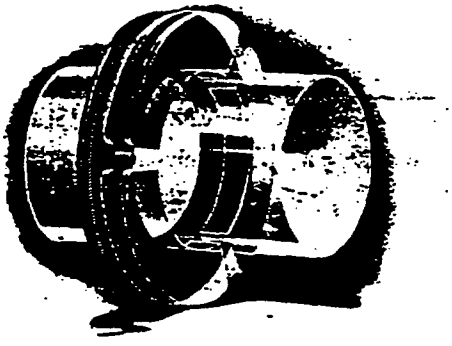
The B segments are made of brass except when the application is to be made on a very large rod, in which instance cast iron segments are furnished. The B rings do not come in contact with the rod and will show no appreciable wear after years of service.

The C segments are usually of cast iron although special service conditions may make necessary the use of bronze or babbitt. While the C rings bear on the rod and break joints with the A segments, they show little actual wear under ordinary working conditions and give years of service without replacement.

In order to insure an equal distribution of wear on the rings, the ends of all segments are radial cut, the pressure joint being made between the B segment and the periphery of the A segments. This design gives a packing ring which will not score the rod and which will give long and satisfactory service. It is mechanically correct and so constructed as to cut friction on the rod to a minimum.

TYPES OF GARLOCK METAL PACKING RINGS—CONTINUED

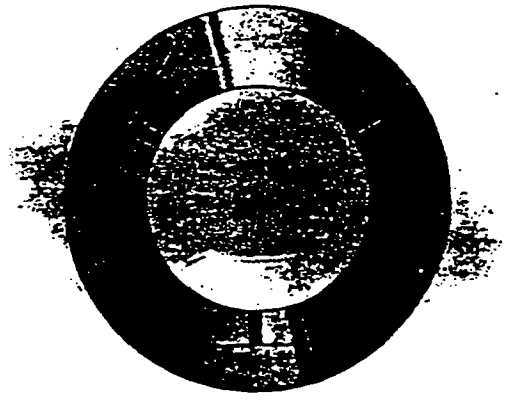
TANGENTIAL CUT PACKING RINGS



In addition to our Flexible Type Packing Rings as described on the preceding page, we are prepared to furnish Tangential Cut Rings. This type of ring is used on rods where limited stuffing box space prohibits the use of the Flexible Type Rings.

Tangential Cut Rings are made of the same high class materials and with the same careful workmanship as our Flexible Type Rings and are guaranteed to give complete satisfaction both as to wearing and holding qualities.

TRIANGULAR CUT PACKING RINGS



GARLOCK Triangular Cut Metal Packing Rings are designed to give the same good service as our Flexible Type Rings on like conditions.

The special design is that of a perfect equilateral triangle, which causes an equal distribution of wear on the rod bearing segments.

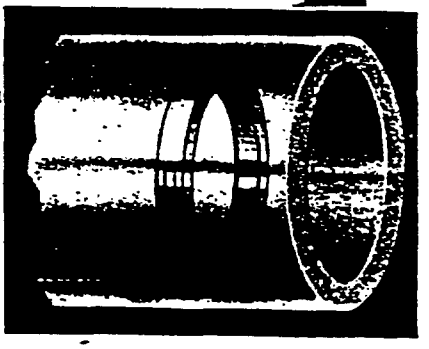
GARLOCK Triangular Cut Rings are regularly manufactured from cast iron to meet ordinary service conditions. They can be produced, however, from bronze or alloyed metals to handle special and unusual services.

This type of ring can be used in any split or solid packing case designed for floating type rings, when the packing space permits.

Note: Fox Type Metal Packing Rings are described on the following page.



FOX TYPE PACKING RINGS



FOX TYPE PISTON RING.

FOX TYPE PACKING RING

(Patent Applied For)

The Fox Type Packing Ring represents the latest development in metal packing design and construction. It is exclusively a GARLOCK product.

This ring is composed of three segments and is supplied either with garter springs or flat band springs, according to the requirements of the installation. The design of the interlocking joints of the segments insures an absolute pressure seal at the joints. Rings usually are made of cast iron, although special bronze rings are furnished to meet certain operating conditions.

Fox Type Packing Rings can be applied in most split or solid metal packing cases. They are recommended for any service on which a good floating type metal packing is required. Exceptional service has been obtained from Fox Rings on locomotive piston rods, power rods of double acting gas engines, air, and gas compressors and steam engines.

FOX TYPE PISTON RING

(Patent Applied For)

The Fox Type Piston Ring is a companion ring to the Fox Type Packing Ring described above. It, also, is an exclusive GARLOCK product.

This piston ring consists of three interlocking segments and one stainless steel expander spring. The accurately milled joints between the segments remain in sealed relationship with each other and insure against leakage until the segments are practically worn through. Rings are manufactured either of cast iron or bronze as conditions require.

Fox Type Piston Rings are built to generous cross sectional widths and thicknesses, insuring long wear. Equalized spring tension results in an even pressure against the cylinder wall at all points on the circumference of the ring. This means that the wear both on the cylinder wall and on the ring is uniform; cylinders will not wear out-of-round.

GARLOCK METAL PACKINGS

INSTRUCTIONS FOR ORDERING

To manufacture satisfactorily an order of metal packing it is necessary to have numerous items of detailed information that ordinarily are not required in the production of fibrous packings.

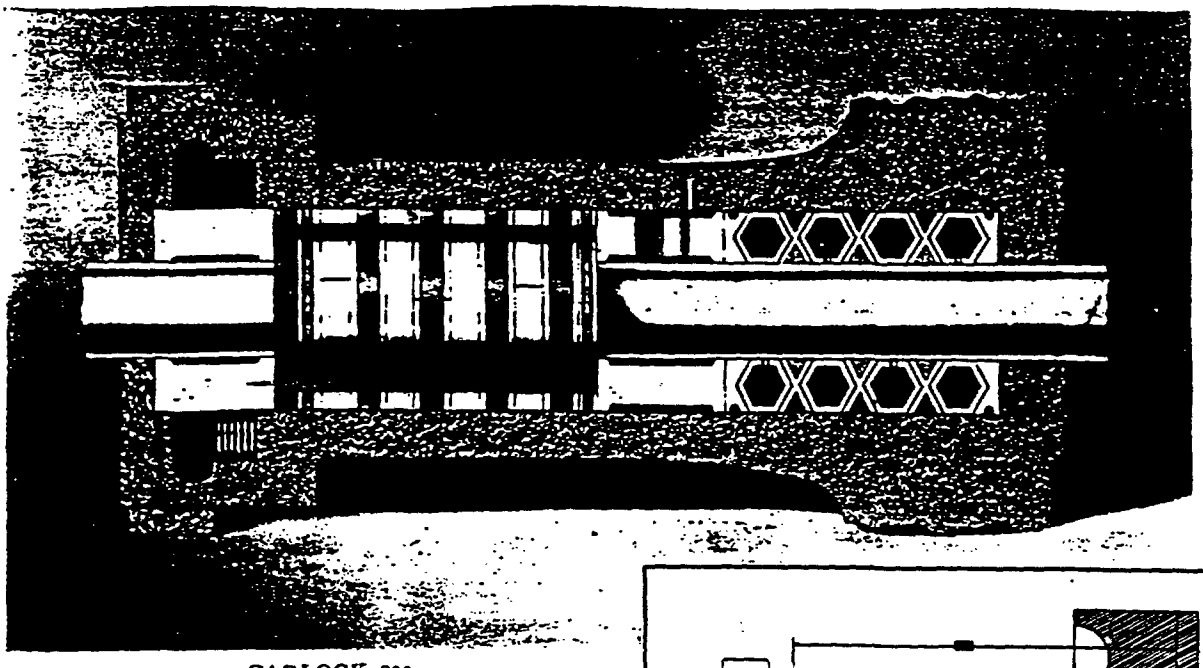
On the opposite page is shown a typical specification blank applicable to orders for metal packing. In placing orders for the types listed below it is necessary that the specification blank questions referred to in the right hand column opposite the respective GARLOCK type numbers be answered in full.

GARLOCK 791	In ordering GARLOCK 791, answer questions 1 to 6 inclusive, 8, 19, 26 and 27.
GARLOCK 800	In ordering GARLOCK 800, answer questions 1 to 6 inclusive, 8, 16, 19, 20, 23, 27 and 28.
GARLOCK 805 or GARLOCK 806	When ordering GARLOCK 805 or GARLOCK 806, answer questions 1 to 22 inclusive, and 26.
	When ordering GARLOCK 805 or GARLOCK 806, with screw gland, answer questions 1 to 6 inclusive, 8, 10, 14, 16 to 20 inclusive, 22 and 24 to 26 inclusive.
GARLOCK 808 or GARLOCK 809	In ordering GARLOCK 808 or GARLOCK 809, answer questions 1 to 6 inclusive, 8, 10, 15 to 20 inclusive, 26 and 27.
GARLOCK 810	In ordering GARLOCK 810, answer questions 1 to 22 inclusive, and 26.
GARLOCK 821	In ordering GARLOCK 821, answer questions 1 to 21 inclusive, 26 and 27.
GARLOCK 860	In ordering GARLOCK 860, answer questions 1 to 15 inclusive, and 20.
GARLOCK 861	In ordering GARLOCK 861, answer questions 1 to 20 inclusive, and 26.
GARLOCK 870	In ordering GARLOCK 870, answer questions 1 to 6 inclusive, 8, 19, 26 and 27.
GARLOCK 875 or GARLOCK 875 Combination	In ordering GARLOCK 875 or GARLOCK 875 Combination, answer questions 1 to 7 inclusive, 19, 20, 22 and 27.

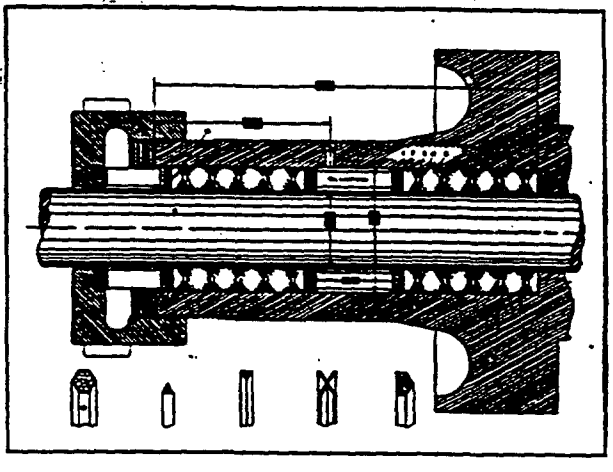
GARLOCK METAL PACKINGS

TYPICAL SPECIFICATION BLANK FOR ORDERING

1. Name and Number of Engine.....
2. Name of Rod.....
3. Number of Sets.....
4. Style Number.....
5. Diameter of Rod.....
6. Diameter of Stuffing Box, inside.....
7. Diameter of Stuffing Box or Flange of Gland, outside.....
8. Depth of Stuffing Box measured along bore.....
9. Is Gland Round or Elliptical?.....
10. Diameter of Opening into Cylinder or Chest.....
11. Number and Size of Stud Bolts.....
12. Length of Stud Bolts.....
13. Diameter of Stud Circle.....
14. Clearance between Face of Stuffing Box and Cross Head.....
15. Is face of Stuffing Box or Cylinder Head Machined?.....
.....
16. Is Engine Vertical or Horizontal?.....
17. If Vertical, does Piston come through Bottom or Top of Cylinder?.....
.....
18. Does Water enter Cylinder in Large Quantities?.....
.....
19. Give Pressure — Steam, Air. Gas or Ammonia.....
20. Piston Speed.....
21. Is Old Gland to be left on Engine?.....
22. What is Largest Diameter Case can be?.....
23. Single or Double Acting?.....
24. Outside Diameter of Threads on Stuffing Box.....
25. Number of Threads per 1 inch on Stuffing Box.....
26. If Superheated Steam, give Temperature.....
27. Is Bottom of Box Flat or Bevelled?.....
28. Distance from Face of Stuffing Box to Gas Vent.....



GARLOCK 800



VARITEMP METAL PACKING FOR AMMONIA

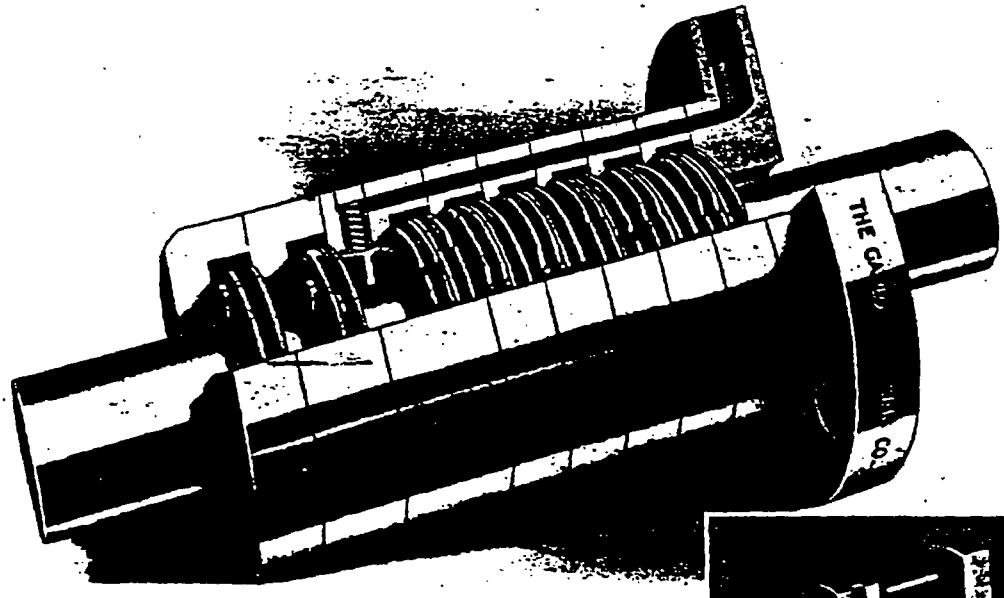
GARLOCK 800 Varitemp Metal Packing, for ammonia compressor service, is built up of sections, each section consisting of one hexagonal ring and one X ring. It is applied in the stuffing box without a case. All parts are split, eliminating the necessity of disconnecting the rod to apply the packing.

The hexagonal rings are hollow metal shells filled with a fibre saturated with a high grade lubricant. When the set is in service and under pressure, the lubricant flows to the rod through properly spaced emission holes in the metal shells.

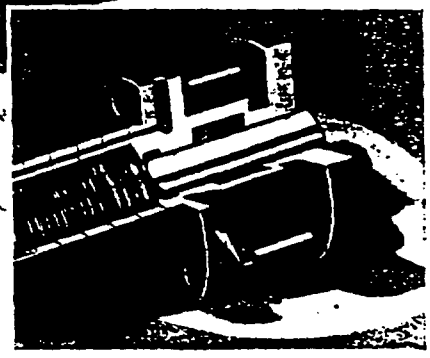
The rubber seal rings are held in place in the outer grooves of the X rings. These seal rings prevent leakage of oil or gas past the outside of the packing.

The inner grooves of the X rings, which bear on the rod, are filled with molded shredded metal. This soft metal furnishes an immediate and leak proof bearing surface; it will not cut or shoulder the rods.

The scientific design of GARLOCK 800 and the method of assembling, allow it to expand and contract with the varying temperatures prevailing in ice and refrigerating machinery. It is highly recommended for service on piston rods of single or double acting ammonia compressors of the anhydrous type.



GARLOCK 875



GARLOCK 875 COMBINATION

GAS COMPRESSOR METAL PACKING

GARLOCK 875 Gas Compressor Packing was primarily designed for gas compressor service. Its suitability for that type of work has been proven in many installations under a wide range of working conditions. It is regularly furnished in an eight section case for high stage service and in a five section case for low stage service. Especially severe conditions are successfully packed with sets of more than eight sections.

GARLOCK 875 is easily applied, will not cut or score the rod and cannot blow out. When placed on piston rods in good condition, and kept well lubricated, it practically becomes an integral part of the compressor.

A special lubrication feature of GARLOCK 875 is the plug lubricator. This is a recent development by GARLOCK engineers which insures constant and proper lubrication of the rod and of all bearing surfaces of the packing. A patent on this lubricator has been applied for.

The solid ring retainer cups which hold each section of rings separately can be remachined on the surface when they become worn. This increases considerably the life of the set.

GARLOCK 875 will be furnished with either cast iron or bronze packing rings as conditions warrant.

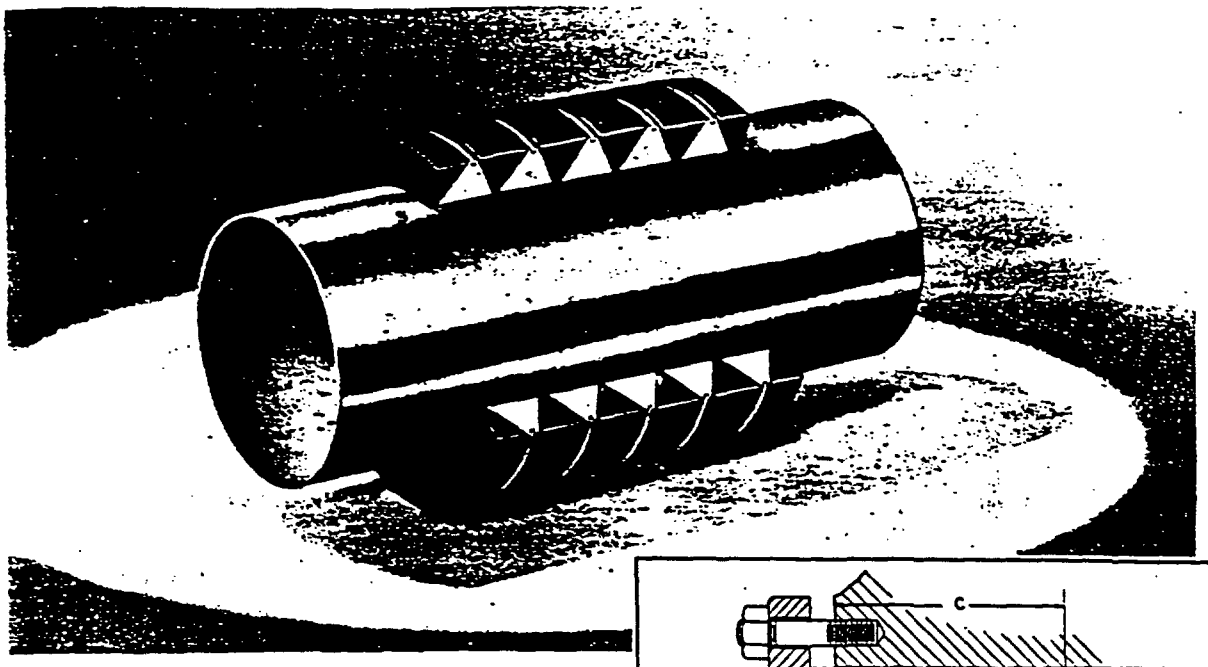
GAS COMPRESSOR METAL PACKING

GARLOCK 875 COMBINATION

GARLOCK 875 Combination consists of a complete set of GARLOCK 875 as described above and a supplementary stuffing box packed with a diagonal cut duck and rubber packing.

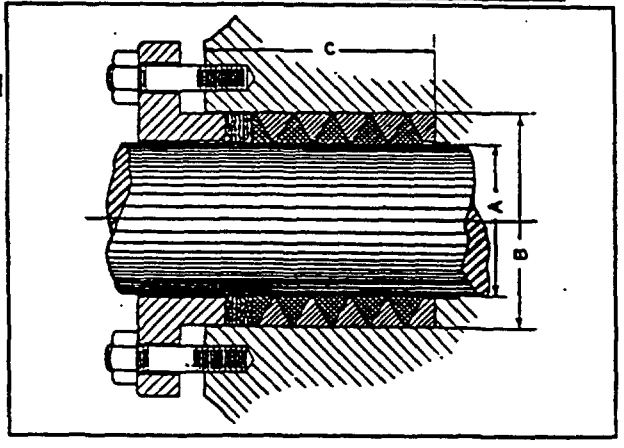
GARLOCK 875 Combination is intended for service on batteries of gas compressors hooked into a single line. The supplementary fibrous set is intended to function only when the compressor is idle. Its purpose is to prevent leakage through the compressor due to pressure developed by other installations working on the same line.

The gland on the supplementary box, therefore, is not to be tightened unless the compressor is idle.



GARLOCK 870 SPECIAL

COMBINATION METAL PACKING



GARLOCK 870

GARLOCK 870

GARLOCK 870 is a combination metal packing put up in sets for application in stuffing boxes without the use of a metal case.

The wearing rings of the set are made from babbitt; the filler rings are either iron or babbitt. In addition, one or two duck and rubber rings are furnished with each set; these rings act as a cushion and prevent the packing from setting up too tightly.

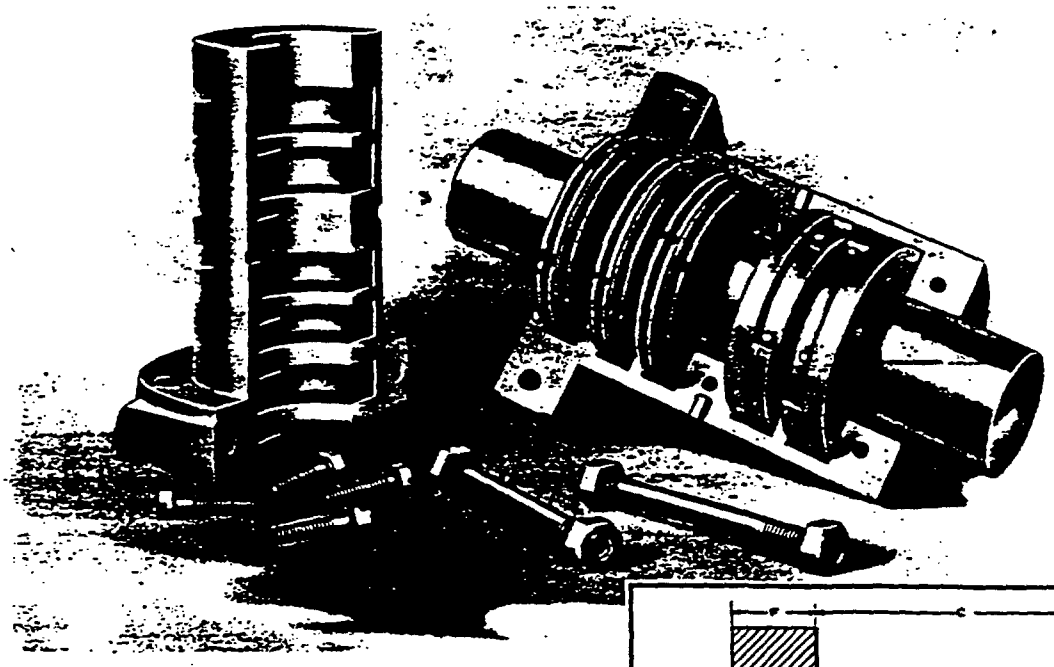
GARLOCK 870 is recommended for small piston rods and valve stems on which the stuffing boxes do not provide sufficient space for the application of flexible type packing. It gives particularly fine service on steam feed rods and in sawmill work.

For high temperature service up to 1000° Fahrenheit GARLOCK 870 will be furnished with Red Metal wearing rings and asbestos cushion rings.

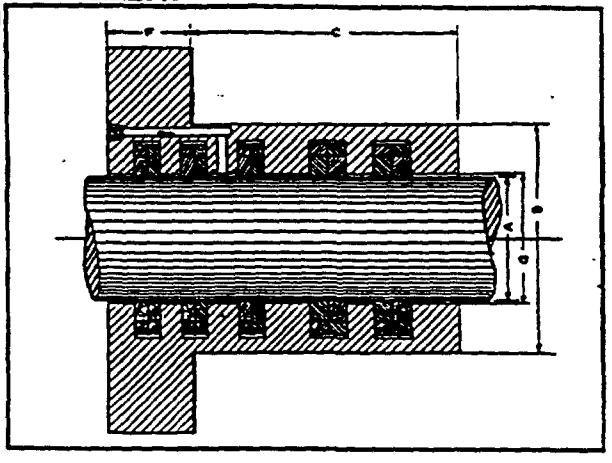
GARLOCK 870 SPECIAL

GARLOCK 870 Special is similar in design to regular GARLOCK 870. It differs, however, in that the filler rings are of rubber instead of iron or babbitt. The cushion rings are omitted.

GARLOCK 870 Special is designed for service on nigger kickers and similar equipment having an extremely long piston stroke resulting in considerable bend and whip. GARLOCK 870 Special can also be used to advantage on equipment having rods out of alignment.



GARLOCK 860



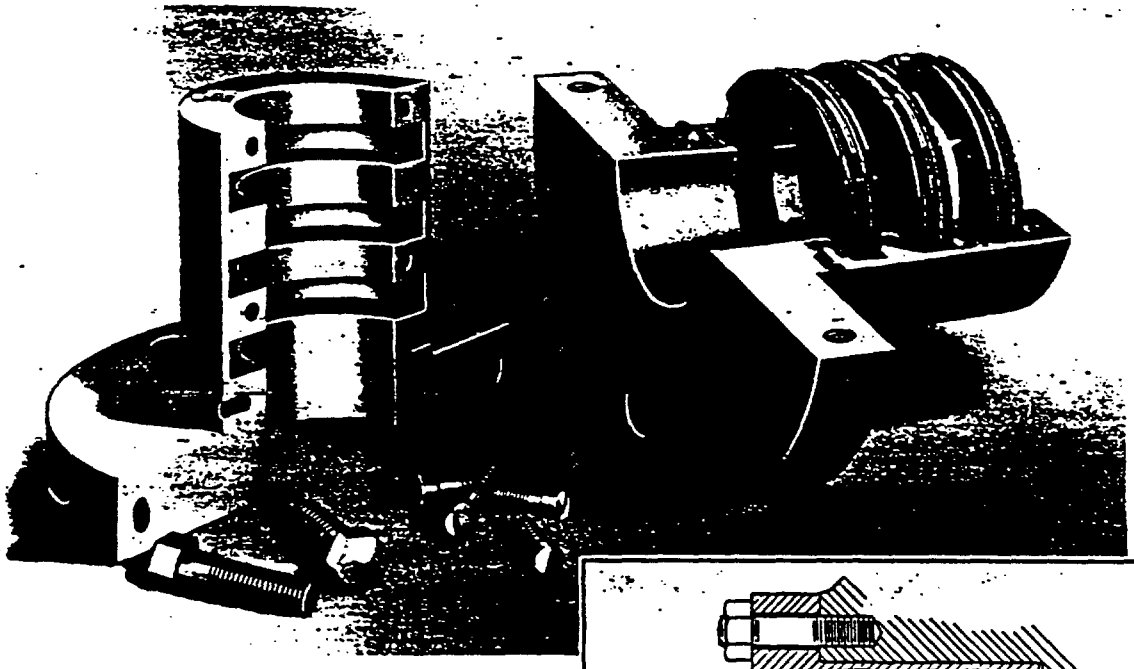
FLEXIBLE METAL PACKING

GARLOCK 860 can be furnished either with a split or solid case; however, it is recommended that a split case be used wherever possible.

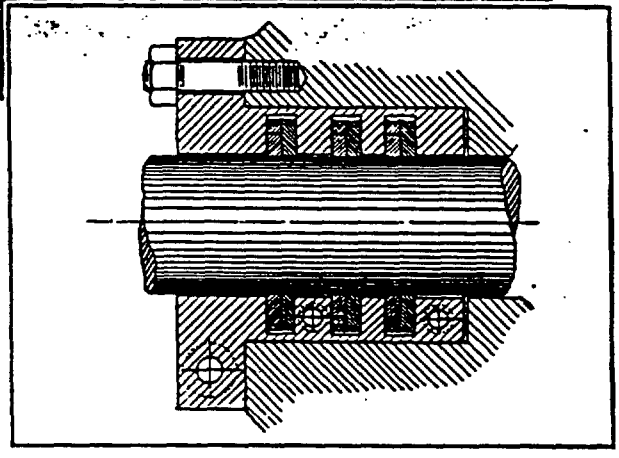
The breaker or fire check rings used in GARLOCK 860 are made from cast-iron and are furnished with a special cut which reduces the clearance space to a minimum and allows a maximum amount of wear before the segments butt ends.

Cast-iron snap rings replace the customary steel garter springs in the breaker rings on this type of packing. Two breaker rings and three sections of special iron packing rings comprise the usual set. The number of rings can be increased or decreased to meet specific conditions.

GARLOCK 860 is highly recommended for use on piston rods of double acting gas engines.



GARLOCK 861

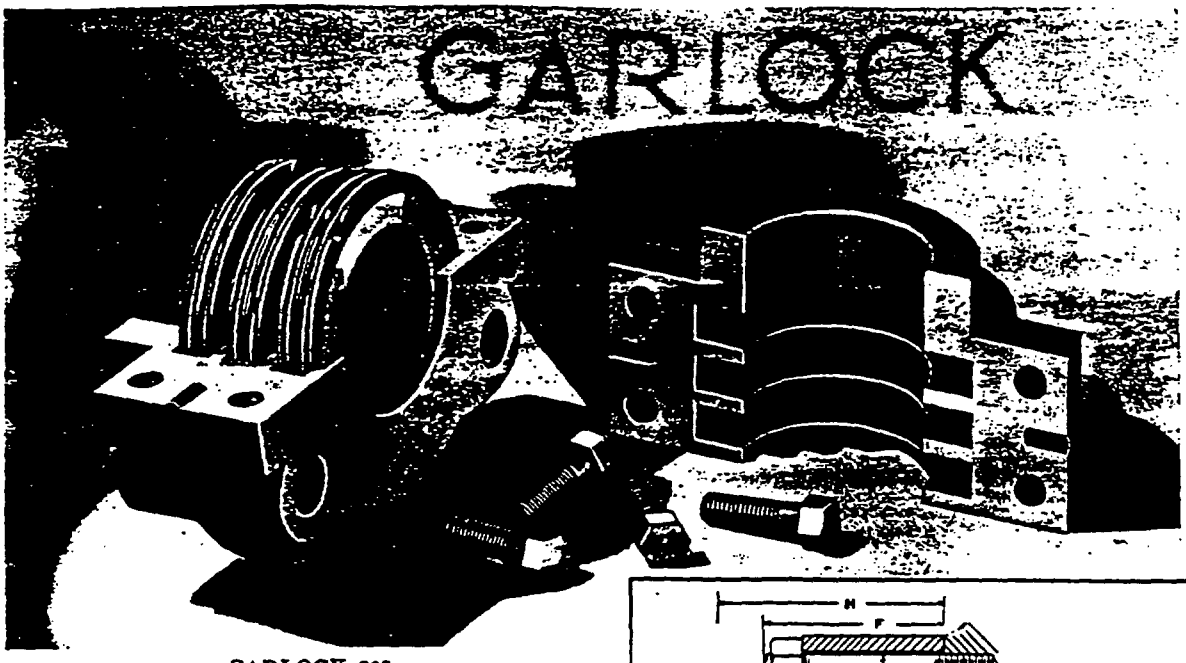


FLEXIBLE METAL PACKING

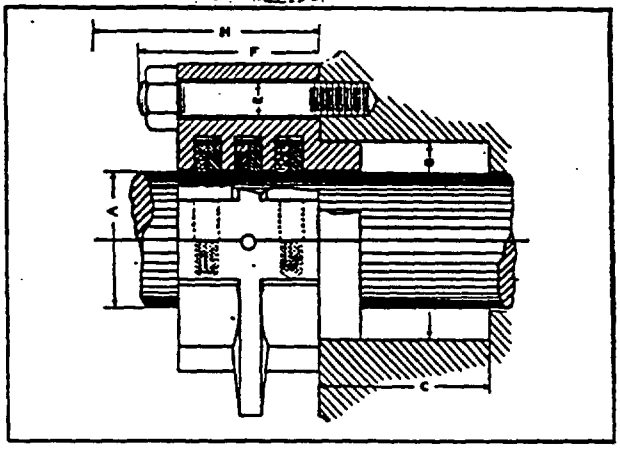
GARLOCK 861 is a split case type, flexible metal packing with stud bolt flange. It is furnished with three sections of flexible metal rings, except where limited space necessitates the use of tangential cut rings. Suitable oil ways and drain connections are provided.

GARLOCK 861 can be furnished made up of four, five or six sections for service on high pressure air and steam rods.

This type of metal packing is particularly recommended for use as original equipment by engine builders since it eliminates the necessity of furnishing a stuffing box gland.



GARLOCK 805

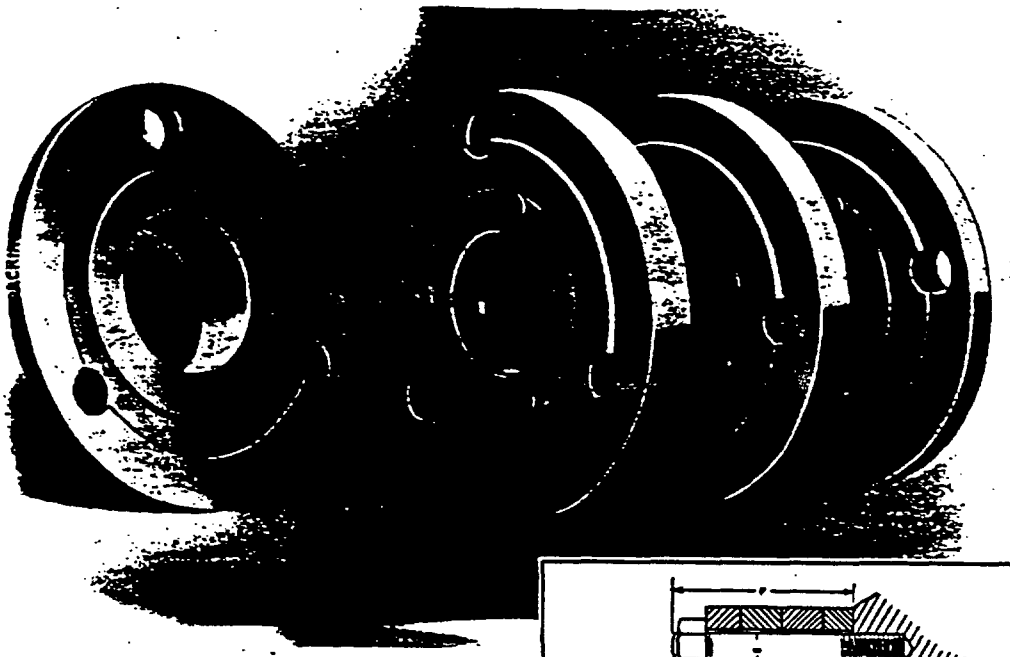


FLEXIBLE METAL PACKING

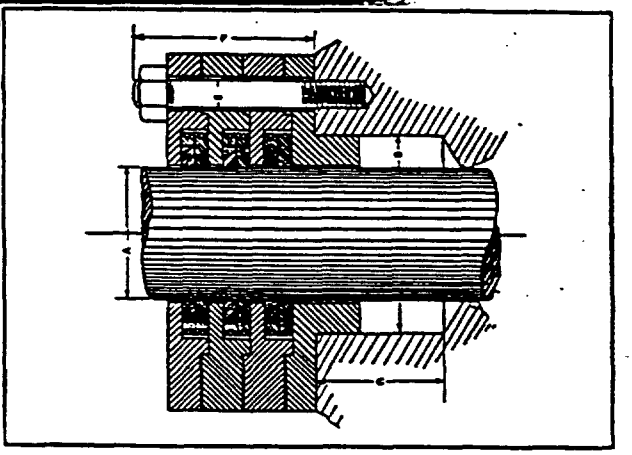
GARLOCK 805 is a split case type, flexible ring metal packing. In its application it is not necessary to disconnect the piston, as it can be applied either by bolting the gland flange against the stuffing box or by removing the gland entirely. When the gland is removed GARLOCK 805 case is furnished with a turned hub, which enters the stuffing box approximately one inch. This hub type of case is centered around the rod, and if emergency should require, the packing case can be used for a soft packing gland.

GARLOCK 805 can be supplied in practically any size to take care of individual applications. It is regularly furnished with three sections of rings but can be made with additional sections to meet more severe conditions. It can also be furnished in varied shapes and designs including round, square and elliptical shaped cases split on either the long or short diameter. Provision for draining condensation from the case is provided.

GARLOCK 805 is recommended for service on piston rods and valve stems of steam engines, air or gas compressors and steam driven pumps.



GARLOCK 806



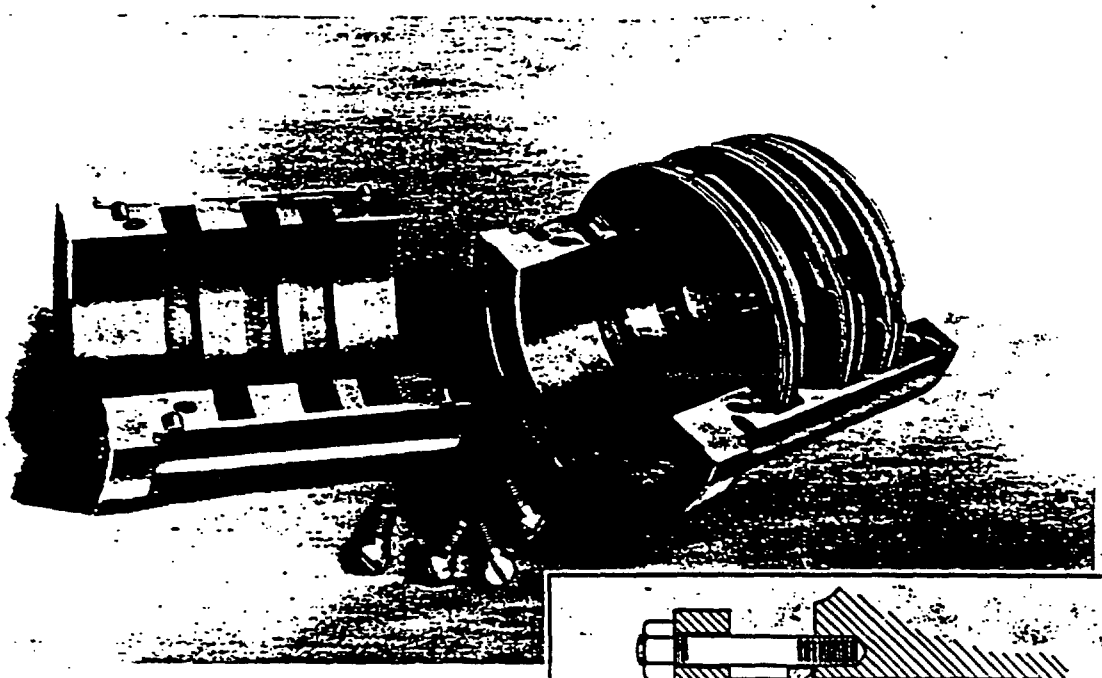
FLEXIBLE METAL PACKING

GARLOCK 806 is an outside solid case packing regularly of the three section type. It can be manufactured, however, with any number of sections to take care of extremely high pressures.

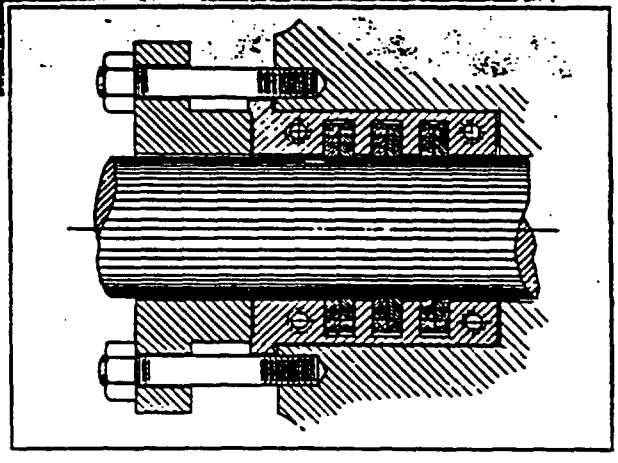
In installing GARLOCK 806, it is necessary to disconnect the rod; renewal rings, however, can be applied by backing off the stud bolts and separating the several sections comprising the case. A minimum clearance of three inches in front of the stuffing box is required for its application.

GARLOCK 806 can be installed either with or without the use of the gland. When the gland is removed, the case will be furnished with a turned hub. A connection for draining condensation is provided.

GARLOCK 806 is recommended for service on large or small piston rods and valve stems when it is possible to disconnect the rod with no great amount of labor. The cases for this type of packing can be furnished round, square or elliptical as required.



GARLOCK 808



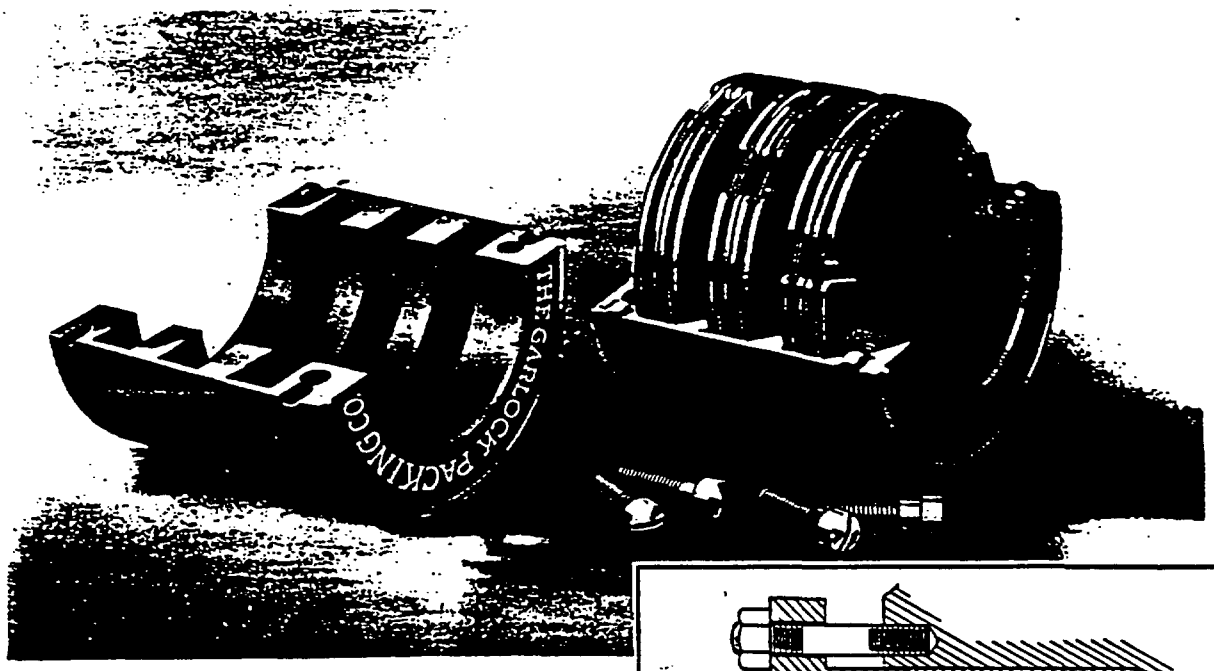
FLEXIBLE METAL PACKING

GARLOCK 808 is a split case type metal packing. It is usually furnished with three sections of flexible rings, although limited packing space may necessitate the use of tangential cut rings. The number of rings that can be furnished in this style is governed entirely by the depth of the stuffing box.

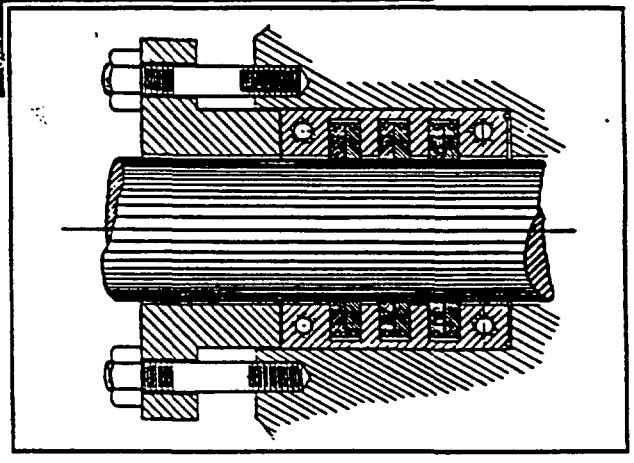
A copper wire gasket is imbedded in the flange of the case and comes in contact with the face of the stuffing box, forming a seal. For this flange, approximately five-eights of an inch in front of the stuffing box is required. A recess in the flange centers the packing gland around the rod.

When specified, suitable drain pipe connections for taking care of condensation can be supplied.

GARLOCK 808 is recommended for service on piston rods and valve stems of steam engines, air and gas compressors or steam driven pumps.



GARLOCK 809



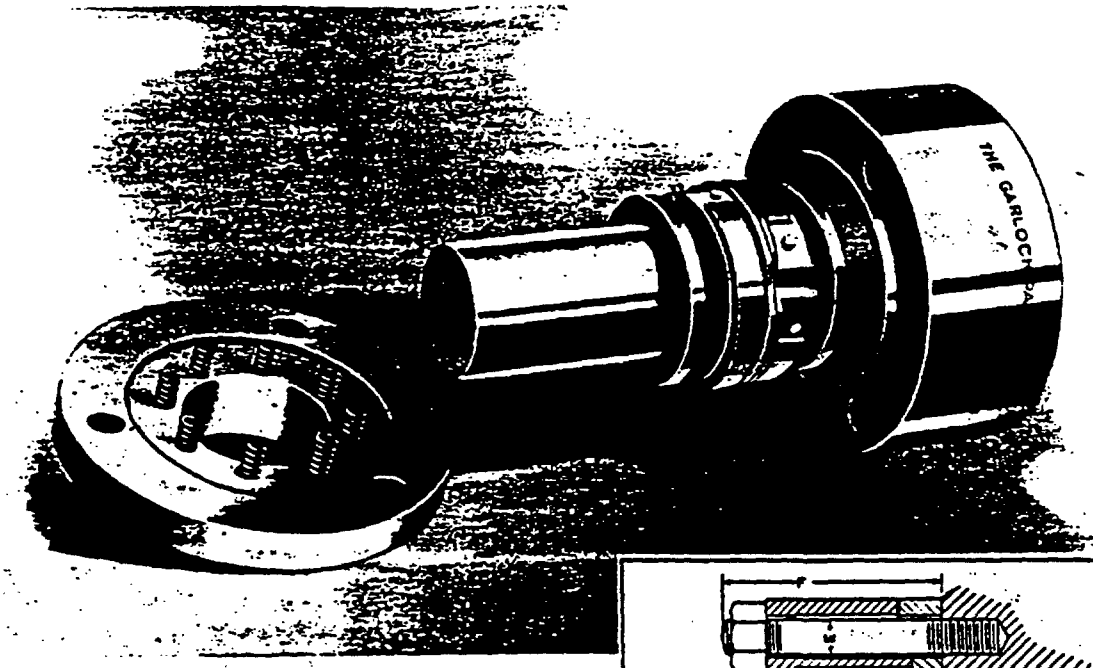
FLEXIBLE METAL PACKING

GARLOCK 809 is a split case type of metal packing, so designed that the entire case is placed inside the stuffing box. When packing space permits, flexible type wearing rings are furnished. If packing space is limited, tangential cut rings are furnished.

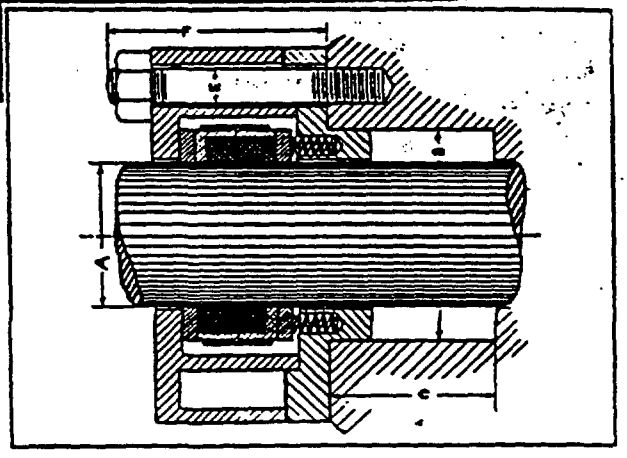
To insure lasting and economical service from GARLOCK 809, the packing space should be at least ⅞" as this allows sufficient space for a substantial wearing ring.

GARLOCK 809 is recommended for service on steam and air piston rods and valve stems against working pressure up to 150 pounds.

GARLOCK 809 can be furnished with additional ring sections for high pressure service, when necessary, if stuffing box depth permits.



GARLOCK 810

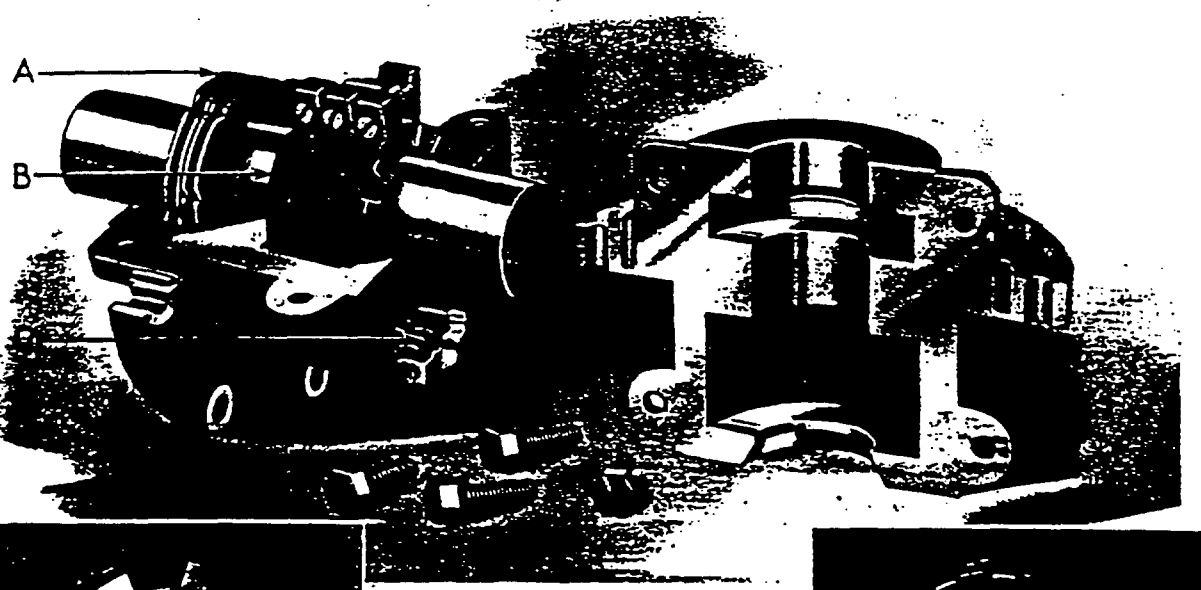


FLEXIBLE METAL PACKING

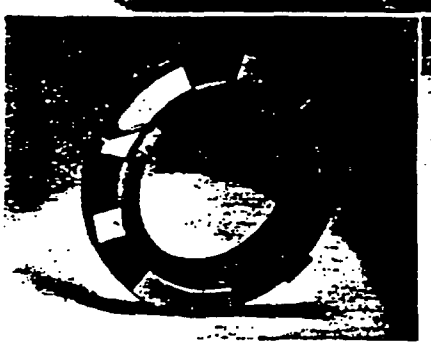
GARLOCK 810 is constructed either with a solid or a split case, as desired. All wearing parts are babbitt and bronze metal, specially alloyed to GARLOCK specifications.

Due to the special design of the segments, GARLOCK 810 will operate under heavy loads with no possibility of breakage. This feature makes GARLOCK 810 particularly desirable for use on large rods of reversing and blowing engines.

Excellent service can be obtained from this style of metal packing on high and low pressure steam and air rods; also on valve stems.

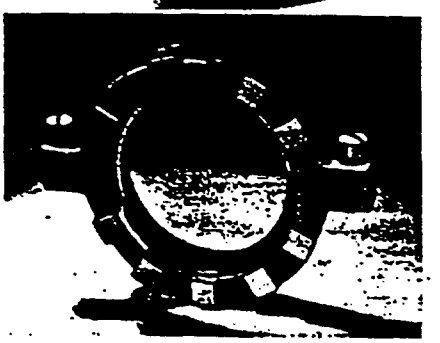


GARLOCK 890 TYPE A



GARLOCK 891 RING

OIL RETURN METAL PACKING



GARLOCK 890 RING

GARLOCK Oil Return Metal Packing is designed for service on all kinds of machinery of the enclosed crank case type including gas engines, air compressors, gas compressors, steam engines and diesel engines. It will remove all splash oil from the piston rod and return it to the crank case.

GARLOCK Oil Return Metal Packing Rings are manufactured in two designs — GARLOCK 890 and GARLOCK 891. Either of these designs can be furnished in split or solid cases. They are frequently furnished in combination sets with GARLOCK Metal Pressure Packings.

The center illustration above shows a set of GARLOCK 890 — Type A, one of the many GARLOCK Oil Return Metal Packings. This particular installation is recommended to replace the entire stuffing box assembly on wall plates of two and four cycle internal combustion engines.

A description of the parts shown on GARLOCK 890 — Type A follows:

A — The pressure vacuum ring which faces the cylinder side of the wall plate.

B — Three GARLOCK 890 Oil Scraper Rings.

C — Holes in the bottom half of the split case through which the oil is returned to the crank case.

GARLOCK 890 OIL SCRAPER RING

GARLOCK 890 consists of a cast iron ring enclosed in a ported cage. A crimped steel spring inserted between the cage and the ring causes it to hug the rod, thus breaking the oil film. The ports on the cage provide for the return of the oil.

GARLOCK 890 can be applied without disconnecting the rod and will not cut or shoulder it. It is equally serviceable on vertical or horizontal rods.

Due to its construction GARLOCK 890 is not recommended for rods larger than five inches in diameter. Although it occasionally can be applied in ordinary stuffing boxes, it is generally necessary to install it in GARLOCK split or solid packing cases.

GARLOCK 891 OIL SCRAPER RING

GARLOCK 891 is manufactured of cast iron and is of the tangential cut design. Its various segments are held in place by a steel garter spring in a groove on its outer circumference. The ring is ported on one side allowing the return of the oil. Rings of this construction have a continuous metal bearing surface on the rod and the sharp, scraping edges break down the oil film. They will not shoulder or cut the rod.

GARLOCK 891 Ring can be applied in almost any oil scraper stuffing box and in spaces that prohibit the application of GARLOCK 890 Ring. It is recommended that at least three GARLOCK 891 Rings be used in a box. When applying GARLOCK 891 sufficient allowance to enable the rings to float with the rod must be provided. It is also necessary that suitable drain holes be provided to return the oil from the stuffing box to the crank case.

This type of ring, when made of bronze, will give excellent service as a water scraper or drain ring.

COMBINATION METAL PACKING

GARLOCK 791

GARLOCK 791 is a combination set of metal and fibrous packing. It is furnished without a case and the entire set is placed inside the stuffing box. As all parts are split, application can be made without disconnecting the rod.

This material consists of a special grade of babbitt fitted in either bronze or iron bevelled cups which are forced to the rod by means of gland pressure controlled by the operator. Between the metal rings are placed two or three rings of fibrous or shredded metal packing, which act as a cushion and prevent the packing from being set up too tightly.

GARLOCK 791 is recommended for hot or cold water service on outside packed plungers.

FLEXIBLE METAL PACKING

GARLOCK 821

GARLOCK 821 is a solid, sectional case type of metal packing made up of four or more sections of cups. These cups enclose flexible metal packing rings.

GARLOCK 821 is furnished so that the entire sectional case goes inside the stuffing box. The first section is copper wire gasketed and makes contact in the bottom of the stuffing box. The balance of the sections have ground joints insuring a tight fit when drawn up by the flange. For installations in which an unusual amount of water or condensation is present, GARLOCK 821 Rings are made of a special high grade bronze.

GARLOCK 821 can be furnished in any number of sections thus rendering satisfactory service on high pressure as well as on low pressure rods.

This style is particularly recommended for service on vertical and marine engines.

GARLOCK METAL BUSHING RINGS

GARLOCK 70	GARLOCK 170
GARLOCK 71	GARLOCK 171
GARLOCK 72	GARLOCK 172

Construction — GARLOCK Metal Bushing Rings are manufactured of cast iron, bronze or babbitt. Unless otherwise specified, babbitt rings are furnished.

Service — GARLOCK Metal Bushing Rings are recommended for use in the bottom of stuffing boxes to close the opening into the cylinder when rods have become worn or have been turned down.

Form — GARLOCK Metal Bushing Rings can be supplied in practically any size with $\frac{3}{16}$" packing space or more. Sizes under $\frac{5}{16}$" will be furnished solid without spring. In sizes $\frac{5}{16}$" or over split rings with steel garter springs are furnished.

Rings are designed for usage as follows:

GARLOCK 70 — For bushing a bevelled bottom stuffing box and retaining the bevel.

GARLOCK 71 — For bushing a flat bottom stuffing box and changing the contour from flat to bevelled.

GARLOCK 72 — For bushing an oval bottom stuffing box and changing the contour from oval to bevelled.

GARLOCK 170 — For bushing a bevelled bottom stuffing box and changing the contour from bevel to flat.

GARLOCK 171 — For bushing a flat bottom stuffing box and retaining the flat bottom.

GARLOCK 172 — For bushing an oval bottom stuffing box and changing the contour from oval to flat.

GARLOCK METAL PACKINGS

HINTS FOR APPLICATION

Each individual set of GARLOCK Metal Packing is built to the exact measurements and specifications placed on the order. There is always a chance, however, that measurements have been incorrectly taken or rod sizes have changed between the time of taking measurements and application of the packing. To guard against this remote possibility of error, it is always desirable that each set of rings be checked prior to final application.

This check can be made by the user by rubbing one of the A or C segments on the rod until it shows bearing marks. Examination of these marks will then indicate whether the ring may be expected to wear to a proper fit within a reasonable time. If the segments show bearing marks only on the ends, the rings are too small; if the bearing is only in the center, they are too large. If the test shows either of the above mentioned faults, the packing should not be placed in service until the rings are either corrected or replaced.

In the installation of metallic packing the following procedure should be followed:

1. Snap two springs around the rod.
2. Apply the B segments of a single section under one spring.

   Exception — On large rods where the number of segments comprising one section of rings is greater than for small rods, the application of two B segments followed by one A segment will provide the spring tension necessary to hold these three parts in place until the balance of the B segments is applied.
3. Place one A segment at a time under the B segments, with the dowel pin in each A segment pointing toward the stuffing box.
4. Place the three C segments in position under the second spring. These segments should be on the pressure side of the A and B segments.
5. Draw together the A and B segments and the C segments in such way that the dowels in the A segments come in place between the ends of the C segments.
6. Assemble the remaining sections of the complete packing in the manner just described for the first section.
7. Space the several sections of rings in proper positions to match the grooves in the metallic packing case.
8. Fit one-half of the case over the ring and if possible turn this halfcase entirely around the rod. This rotation will line up the rings so that the other half of the case can be placed over them without difficulty.
9. Make sure that the ground joint between the two halves of the case is free from dirt or foreign matter; then set up the screws or bolts which hold the parts of the case together.

GARLOCK METAL PACKINGS

NOTES

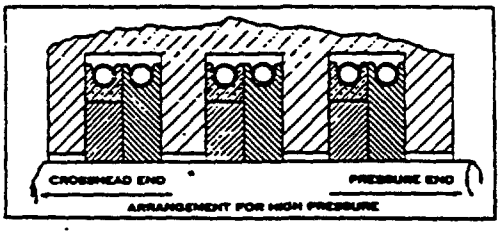
GASKETS

Several types of GARLOCK metal packing cases are equipped with copper gaskets for forming a seal between the metal packing case and the stuffing box or cylinder head. All other styles must be provided with gaskets cut from a high grade heat resisting sheet packing, such as GARLOCK 7021 or GARLOCK 900. The asbestos fibre gasket will be furnished when so specified on the order.

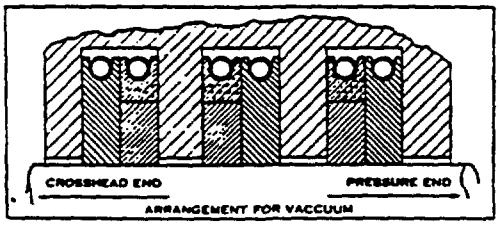
Descriptions of the various types of GARLOCK metal packings, as given on other pages of the catalog, designate the cases that are furnished with copper gaskets.

FLEXIBLE RINGS

When applying GARLOCK flexible metal packing to high pressure rods or to rods on which no vacuum is to be held, all sections must be placed with the wide or C segments facing the pressure as indicated below.



When rings are used in vacuum service, reverse the parts of the metallic packing sections nearest the cross head so that the wide or C segments will be on the cross head side. The cut below indicates a correct installation for vacuum.



TANGENTIAL RINGS

Tangential rings are applied by the method that has been described for the flexible type ring. Bear in mind that the tangential rings occupy the same relative position as the A and B rings in the flexible type. The C rings in both types are exactly the same in construction and in both instances perform the same functions.

All tangential cut rings are lettered and have their ends numbered. It is absolutely necessary that they be assembled so that the letters and numbers at the adjacent ends of any two segments are identical.

LUBRICATION

Proper lubrication with a high grade non-asphaltic lubricating oil is essential to the successful use of metal packing. No installation is complete until correct mechanical means has been provided to return or deliver the oil to the proper point on the rod.

ENGINEERING DATA

FAHRENHEIT AND CENTIGRADE CONVERSION TABLE

Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.
0	32	205	401	405	761	605	1121	805	1481	1005	1841	1205	2201	1405	2561
5	41	210	410	410	770	610	1130	810	1490	1010	1850	1210	2210	1410	2570
10	50	215	419	415	779	615	1139	815	1499	1015	1859	1215	2219	1415	2579
15	59	220	428	420	788	620	1148	820	1508	1020	1868	1220	2228	1420	2588
20	68	225	437	425	797	625	1157	825	1517	1025	1877	1225	2237	1425	2597
25	77	230	446	430	806	630	1166	830	1526	1030	1886	1230	2246	1430	2606
30	86	235	455	435	815	635	1175	835	1535	1035	1895	1235	2255	1435	2615
35	95	240	464	440	824	640	1184	840	1544	1040	1904	1240	2264	1440	2624
40	104	245	473	445	833	645	1193	845	1553	1045	1913	1245	2273	1445	2633
45	113	250	482	450	842	650	1202	850	1562	1050	1922	1250	2282	1450	2642
50	122	255	491	455	851	655	1211	855	1571	1055	1931	1255	2291	1455	2651
55	131	260	500	460	860	660	1220	860	1580	1060	1940	1260	2300	1460	2660
60	140	265	509	465	869	665	1229	865	1589	1065	1949	1265	2309	1465	2669
65	149	270	518	470	878	670	1238	870	1598	1070	1958	1270	2318	1470	2678
70	158	275	527	475	887	675	1247	875	1607	1075	1967	1275	2327	1475	2687
75	167	280	536	480	896	680	1256	880	1616	1080	1976	1280	2336	1480	2696
80	176	285	545	485	905	685	1265	885	1625	1085	1985	1285	2345	1485	2705
85	185	290	554	490	914	690	1274	890	1634	1090	1994	1290	2354	1490	2714
90	194	295	563	495	923	695	1283	895	1643	1095	2003	1295	2363	1495	2723
95	203	300	572	500	932	700	1292	900	1652	1100	2012	1300	2372	1500	2732
100	212	305	581	505	941	705	1301	905	1661	1105	2021	1305	2381	1505	2741
105	221	310	590	510	950	710	1310	910	1670	1110	2030	1310	2390	1510	2750
110	230	315	599	515	959	715	1319	915	1679	1115	2039	1315	2399	1515	2759
115	239	320	608	520	968	720	1328	920	1688	1120	2048	1320	2408	1520	2768
120	248	325	617	525	977	725	1337	925	1697	1125	2057	1325	2417	1525	2777
125	257	330	626	530	986	730	1346	930	1706	1130	2066	1330	2426	1530	2786
130	266	335	635	535	995	735	1355	935	1715	1135	2075	1335	2435	1535	2795
135	275	340	644	540	1004	740	1364	940	1724	1140	2084	1340	2444	1540	2804
140	284	345	653	545	1013	745	1373	945	1733	1145	2093	1345	2453	1545	2813
145	293	350	662	550	1022	750	1382	950	1742	1150	2102	1350	2462	1550	2822
150	302	355	671	555	1031	755	1391	955	1751	1155	2111	1355	2471	1555	2831
155	311	360	680	560	1040	760	1400	960	1760	1160	2120	1360	2480	1560	2840
160	320	365	689	565	1049	765	1409	965	1769	1165	2129	1365	2489	1565	2849
165	329	370	698	570	1058	770	1418	970	1778	1170	2138	1370	2498	1570	2858
170	338	375	707	575	1067	775	1427	975	1787	1175	2147	1375	2507	1575	2867
175	347	380	716	580	1076	780	1436	980	1796	1180	2156	1380	2516	1580	2876
180	356	385	725	585	1085	785	1445	985	1805	1185	2165	1385	2525	1585	2885
185	365	390	734	590	1094	790	1454	990	1814	1190	2174	1390	2534	1590	2894
190	374	395	743	595	1103	795	1463	995	1823	1195	2183	1395	2543	1595	2903
195	383	400	752	600	1112	800	1472	1000	1832	1200	2192	1400	2552	1600	2912
200	392														

METRIC CONVERSION TABLE

Millimetres × .03937 = inches.
Millimetres ÷ 25.4 = inches.
Centimetres × .3937 = inches.
Centimetres ÷ 2.54 = inches.
Metres × 39.37 = inches (Act of Congress).
Metres × 3.281 = feet.
Metres × 1.094 = yards.
Kilometres × .621 = miles.
Kilometres ÷ 1.6093 = miles.
Kilometres × 3280.8693 = feet.
Square Millimetres × .00155 = sq. inches.
Square Millimetres ÷ 645.1 = sq. inches.
Square Centimetres × .155 = sq. inches.
Square Centimetres ÷ 6.451 = sq. inches.
Square Metres × 10.764 = sq. feet.
Square Kilometres × 247.1 = acres.
Hectare × 2.471 = acres.
Cubic Centimetres ÷ 16.383 = cubic inches.
Cubic Centimetres ÷ 3.69 = fl. drams (U.S.P.).
Cubic Centimetres ÷ 29.57 = fluid ounce (U.S.P.).
Cubic Metres × 35.315 = cubic feet.
Cubic Metres × 1.308 = cubic yards.
Cubic Metres × 264.2 = gallons (231. cubic inches).
Litres × 61.022 = cu. in. (Act of Congress).
Litres × 33.84 = fluid ounces (U.S.P.).
Litres × .2642 = gallons (231. cu. in.).
Litres ÷ 3.78 = gallons (231. cu. in.).
Litres ÷ 28.316 = cubic feet.
Hectolitres × 3.531 = cubic feet.
Hectolitres × 2.84 = bushels (2150.42 cu. in.).
Hectolitres × .131 = cubic yards.
Hectolitres ÷ 26.42 = gallons (231. cu. in.).
Grammes × 15.432 = grains (Act of Congress).
Grammes ÷ 981. = dynes.
Grammes (water) ÷ 29.57 = fluid ounces.
Grammes ÷ 28.35 = ounces avoirdupois.
Grammes per cu. cent. ÷ 27.7 = lbs. per cubic inches.
Joule × .7373 = foot pounds.
Kilo-grammes × 2.2046 = pounds.
Kilo-grammes × 35.3 = oz. avoirdupois.
Kilo-grammes ÷ 907.2 = tons (2,000 lbs.).
Kilo-grammes per sq. cent. × 14.223 = lbs. per sq. in.
Kilo-gram-metres × 7.233 = foot lbs.
Kilo-gr. per Metre × .672 = lbs. per foot.
Kilo-gr. per Cu. Metre × .062 = lbs. per cubic feet.
Tonneau × 1.1023 = tons (2,000 lbs.).
Kilo-Watts × 1.34 = Horse Power.
Watts ÷ 746. = Horse Power.
Watts × .7373 = foot pounds per second.
Calorie × 3.968 = B.t.u.
Cheval vapeur ÷ .9863 = Horse Power.
(Centigrade × 1.8) + 32 = degrees Fahr.
Gravity Paris = 980.94 centimetres per sec.

ENGINEERING DATA

TABLE OF DECIMAL EQUIVALENTS

OF MILLIMETERS AND FRACTIONS OF MILLIMETERS

$\frac{1}{100}$B = .0003937 in.

mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches
$\frac{1}{100}$	= .00079	$\frac{30}{100}$	= .02362	11	= .43307	41	= 1.61417	71	= 2.79527
$\frac{2}{100}$	= .00157	$\frac{31}{100}$	= .02441	12	= .47244	42	= 1.65354		
$\frac{3}{100}$	= .00236	$\frac{32}{100}$	= .02520	13	= .51181	43	= 1.69291	72	= 2.83464
$\frac{4}{100}$	= .00315	$\frac{33}{100}$	= .02598	14	= .55118	44	= 1.73228	73	= 2.87401
		$\frac{34}{100}$	= .02677					74	= 2.91338
$\frac{5}{100}$	= .00394			15	= .59055	45	= 1.77165	75	= 2.95275
$\frac{6}{100}$	= .00472	$\frac{35}{100}$	= .02756	16	= .62992	46	= 1.81102	76	= 2.99212
$\frac{7}{100}$	= .00551	$\frac{36}{100}$	= .02835	17	= .66929	47	= 1.85039		
$\frac{8}{100}$	= .00630	$\frac{37}{100}$	= .02913	18	= .70866	48	= 1.88976	77	= 3.03149
$\frac{9}{100}$	= .00709	$\frac{38}{100}$	= .02992	19	= .74803	49	= 1.92913	78	= 3.07086
		$\frac{39}{100}$	= .03071					79	= 3.11023
				20	= .78740	50	= 1.96850	80	= 3.14960
$\frac{10}{100}$	= .00787	$\frac{40}{100}$	= .03150	21	= .82677	51	= 2.00787	81	= 3.18897
$\frac{11}{100}$	= .00866	$\frac{41}{100}$	= .03228	22	= .86614	52	= 2.04724		
$\frac{12}{100}$	= .00945	$\frac{42}{100}$	= .03307	23	= .90551	53	= 2.08661	82	= 3.22834
$\frac{13}{100}$	= .01024	$\frac{43}{100}$	= .03386	24	= .94488	54	= 2.12598	83	= 3.26771
$\frac{14}{100}$	= .01102	$\frac{44}{100}$	= .03465					84	= 3.30708
				25	= .98425	55	= 2.16535	85	= 3.34645
$\frac{15}{100}$	= .01181	$\frac{45}{100}$	= .03543	26	= 1.02362	56	= 2.20472	86	= 3.38582
$\frac{16}{100}$	= .01260	$\frac{46}{100}$	= .03622	27	= 1.06299	57	= 2.24409		
$\frac{17}{100}$	= .01339	$\frac{47}{100}$	= .03701	28	= 1.10236	58	= 2.28346	87	= 3.42519
$\frac{18}{100}$	= .01417	$\frac{48}{100}$	= .03780	29	= 1.14173	59	= 2.32283	88	= 3.46456
$\frac{19}{100}$	= .01496	$\frac{49}{100}$	= .03858					89	= 3.50393
				30	= 1.18110	60	= 2.36220	90	= 3.54330
$\frac{20}{100}$	= .01575	1	= .03937	31	= 1.22047	61	= 2.40157	91	= 3.58267
$\frac{21}{100}$	= .01654	2	= .07874	32	= 1.25984	62	= 2.44094		
$\frac{22}{100}$	= .01732	3	= .11811	33	= 1.29921	63	= 2.48031	92	= 3.62204
$\frac{23}{100}$	= .01811	4	= .15748	34	= 1.33858			93	= 3.66141
$\frac{24}{100}$	= .01890					64	= 2.51968	94	= 3.70078
		5	= .19685	35	= 1.37795	65	= 2.55905	95	= 3.74015
		6	= .23622	36	= 1.41732	66	= 2.59842	96	= 3.77952
$\frac{25}{100}$	= .01969	7	= .27559	37	= 1.45669				
$\frac{26}{100}$	= .02047	8	= .31496	38	= 1.49606	67	= 2.63779	97	= 3.81889
$\frac{27}{100}$	= .02126	9	= .35433	39	= 1.53543	68	= 2.67716	98	= 3.85826
$\frac{28}{100}$	= .02205					69	= 2.71653	99	= 3.89763
$\frac{29}{100}$	= .02283	10	= .39370	40	= 1.57480	70	= 2.75590	100	= 3.93700

10 mm. = 1 Centimeter = 0.3937 inches
10 cm. = 1 Decimeter = 3.937 inches
10 dm. = 1 Meter = 39.37 inches
25.4 mm. = 1 English inch

OF 8THS, 16THS, 32DS, AND 64THS OF AN INCH

8ths			32ds		64ths				
$\frac{1}{8}$	= .125	$\frac{5}{8}$	= .5625	$\frac{17}{32}$	= .53125	$\frac{1}{64}$	= .015625	$\frac{33}{64}$	= .515625
$\frac{2}{8}$	= .250	$\frac{6}{8}$	= .6875	$\frac{18}{32}$	= .56250	$\frac{2}{64}$	= .031250	$\frac{34}{64}$	= .531250
$\frac{3}{8}$	= .375	$\frac{7}{8}$	= .8125	$\frac{19}{32}$	= .59375	$\frac{3}{64}$	= .046875	$\frac{35}{64}$	= .546875
$\frac{4}{8}$	= .500	$\frac{8}{8}$	= .9375	$\frac{20}{32}$	= .62500	$\frac{4}{64}$	= .062500	$\frac{36}{64}$	= .562500
$\frac{5}{8}$	= .625			$\frac{21}{32}$	= .65625	$\frac{5}{64}$	= .078125	$\frac{37}{64}$	= .578125
$\frac{6}{8}$	= .750	32ds		$\frac{22}{32}$	= .68750	$\frac{6}{64}$	= .093750	$\frac{38}{64}$	= .593750
$\frac{7}{8}$	= .875	$\frac{1}{32}$	= .03125	$\frac{23}{32}$	= .71875	$\frac{7}{64}$	= .109375	$\frac{39}{64}$	= .609375
		$\frac{2}{32}$	= .06250	$\frac{24}{32}$	= .75000	$\frac{8}{64}$	= .125000	$\frac{40}{64}$	= .625000
16ths		$\frac{3}{32}$	= .09375	$\frac{25}{32}$	= .78125	$\frac{9}{64}$	= .140625	$\frac{41}{64}$	= .640625
$\frac{1}{16}$	= .0625	$\frac{4}{32}$	= .12500	$\frac{26}{32}$	= .81250	$\frac{10}{64}$	= .156250	$\frac{42}{64}$	= .656250
$\frac{2}{16}$	= .1250	$\frac{5}{32}$	= .15625	$\frac{27}{32}$	= .84375	$\frac{11}{64}$	= .171875	$\frac{43}{64}$	= .671875
$\frac{3}{16}$	= .1875	$\frac{6}{32}$	= .18750	$\frac{28}{32}$	= .87500	$\frac{12}{64}$	= .187500	$\frac{44}{64}$	= .687500
$\frac{4}{16}$	= .2500	$\frac{7}{32}$	= .21875	$\frac{29}{32}$	= .90625	$\frac{13}{64}$	= .203125	$\frac{45}{64}$	= .703125
$\frac{5}{16}$	= .3125	$\frac{8}{32}$	= .25000	$\frac{30}{32}$	= .93750	$\frac{14}{64}$	= .218750	$\frac{46}{64}$	= .718750
$\frac{6}{16}$	= .3750	$\frac{9}{32}$	= .28125	$\frac{31}{32}$	= .96875	$\frac{15}{64}$	= .234375	$\frac{47}{64}$	= .734375
$\frac{7}{16}$	= .4375	$\frac{10}{32}$	= .31250			$\frac{16}{64}$	= .250000	$\frac{48}{64}$	= .750000
$\frac{8}{16}$	= .5000	$\frac{11}{32}$	= .34375			$\frac{17}{64}$	= .265625	$\frac{49}{64}$	= .765625
$\frac{9}{16}$	= .5625	$\frac{12}{32}$	= .37500			$\frac{18}{64}$	= .281250	$\frac{50}{64}$	= .781250
$\frac{10}{16}$	= .6250	$\frac{13}{32}$	= .40625			$\frac{19}{64}$	= .296875	$\frac{51}{64}$	= .796875
$\frac{11}{16}$	= .6875	$\frac{14}{32}$	= .43750			$\frac{20}{64}$	= .312500	$\frac{52}{64}$	= .812500
$\frac{12}{16}$	= .7500	$\frac{15}{32}$	= .46875			$\frac{21}{64}$	= .328125	$\frac{53}{64}$	= .828125
$\frac{13}{16}$	= .8125	$\frac{16}{32}$	= .50000			$\frac{22}{64}$	= .343750	$\frac{54}{64}$	= .843750
$\frac{14}{16}$	= .8750					$\frac{23}{64}$	= .359375	$\frac{55}{64}$	= .859375
$\frac{15}{16}$	= .9375					$\frac{24}{64}$	= .375000	$\frac{56}{64}$	= .875000
						$\frac{25}{64}$	= .390625	$\frac{57}{64}$	= .890625
						$\frac{26}{64}$	= .406250	$\frac{58}{64}$	= .906250
						$\frac{27}{64}$	= .421875	$\frac{59}{64}$	= .921875
						$\frac{28}{64}$	= .437500	$\frac{60}{64}$	= .937500
						$\frac{29}{64}$	= .453125	$\frac{61}{64}$	= .953125
						$\frac{30}{64}$	= .468750	$\frac{62}{64}$	= .968750
						$\frac{31}{64}$	= .484375	$\frac{63}{64}$	= .984375
						$\frac{32}{64}$	= .500000	$\frac{64}{64}$	= 1.000000

ENGINEERING DATA

CIRCUMFERENCES AND AREAS OF CIRCLES

Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area
1/32	.0981	.00076	7	21.90	38.484	15	47.12	176.71	23	72.25	415.47	31	97.38	754.76	39	122.5	1194.5
1/16	.1963	.00306	1/8	22.38	39.871	1/8	47.51	179.67	1/8	72.64	420.00	1/8	97.78	760.86	1/8	122.9	1202.2
1/8	.3926	.01227	1/4	22.77	41.282	1/4	47.90	182.72	1/4	73.04	424.55	1/4	98.17	766.99	1/4	123.3	1209.9
1/16	.5890	.02761	3/8	23.16	42.718	3/8	48.30	185.66	3/8	73.43	429.13	3/8	98.56	773.14	3/8	123.7	1217.6
1/4	.7854	.04908	1/2	23.56	44.978	1/2	48.69	188.69	1/2	73.82	433.73	1/2	98.96	779.31	1/2	124.0	1225.4
1/16	.9817	.07669	5/8	23.95	45.663	5/8	49.08	191.74	5/8	74.21	438.30	5/8	99.35	785.51	5/8	124.4	1233.1
3/8	1.178	.1104	3/4	24.34	47.173	3/4	49.48	194.82	3/4	74.61	443.01	3/4	99.74	791.73	3/4	124.8	1240.9
1/16	1.374	.1503	7/8	24.74	48.707	7/8	49.87	197.73	7/8	75.00	447.69	7/8	100.1	797.97	7/8	125.2	1248.7
1/2	1.570	.1963	8	25.13	50.265	16	50.26	201.06	24	75.39	452.39	32	100.5	804.24	40	125.6	1256.6
1/16	1.767	.2485	1/8	25.52	51.848	1/8	50.65	204.21	1/8	75.79	457.11	1/8	100.9	810.45	1/8	126.0	1264.5
9/16	1.963	.3097	1/4	25.91	53.456	1/4	51.05	207.39	1/4	76.18	461.86	1/4	101.3	816.86	1/4	126.4	1272.3
5/8	2.159	.3712	3/8	26.31	55.088	3/8	51.44	210.59	3/8	76.57	466.63	3/8	101.7	823.21	3/8	126.8	1280.3
11/16	2.356	.4417	1/2	26.70	56.745	1/2	51.83	213.82	1/2	76.96	471.43	1/2	102.1	829.57	1/2	127.2	1288.2
11/16	2.552	.5184	5/8	27.09	58.426	5/8	52.22	217.07	5/8	77.36	476.25	5/8	102.4	835.97	5/8	127.6	1291.2
7/8	2.748	.6013	3/4	27.47	60.132	3/4	52.62	220.35	3/4	77.75	481.10	3/4	102.8	842.39	3/4	128.0	1304.2
15/16	2.945	.6902	7/8	27.88	61.862	7/8	53.01	223.65	7/8	78.14	485.97	7/8	103.2	848.85	7/8	128.4	1312.2
1	3.141	.7854	9	28.27	63.617	17	53.40	226.98	25	78.54	490.87	33	103.6	855.30	41	128.8	1320.2
1/16	3.534	.9940	1/8	28.66	65.396	1/8	53.79	230.33	1/8	78.93	495.79	1/8	104.0	861.79	1/8	129.1	1328.3
1/8	3.927	1.227	1/4	29.05	67.200	1/4	54.19	233.70	1/4	79.32	500.74	1/4	104.4	868.30	1/4	129.5	1336.4
3/16	4.319	1.484	3/8	29.45	69.029	3/8	54.58	237.10	3/8	79.71	505.71	3/8	104.8	874.88	3/8	129.9	1344.5
1/4	4.712	1.767	1/2	29.84	70.882	1/2	54.97	240.52	1/2	80.10	510.70	1/2	105.2	881.41	1/2	130.3	1352.6
5/16	5.105	2.073	5/8	30.23	72.759	5/8	55.37	243.97	5/8	80.50	515.72	5/8	105.6	888.00	5/8	130.7	1360.8
3/8	5.497	2.405	3/4	30.63	74.662	3/4	55.76	247.45	3/4	80.89	520.70	3/4	106.0	894.61	3/4	131.1	1369.0
7/16	5.890	2.761	7/8	31.02	76.588	7/8	56.16	250.94	7/8	81.28	525.83	7/8	106.4	901.25	7/8	131.5	1377.2
2	6.283	3.141	10	31.41	78.539	18	56.54	254.46	26	81.68	530.93	34	106.8	907.92	42	131.9	1385.4
1/16	6.675	3.546	1/8	31.80	80.515	1/8	56.94	258.01	1/8	82.07	536.04	1/8	107.2	914.61	1/8	132.3	1393.7
1/8	7.068	3.976	1/4	32.20	82.516	1/4	57.33	261.58	1/4	82.46	541.18	1/4	107.5	921.32	1/4	132.7	1401.9
3/16	7.461	4.430	3/8	32.59	84.540	3/8	57.72	265.18	3/8	82.85	546.35	3/8	107.9	928.06	3/8	133.1	1410.2
1/4	7.854	4.908	1/2	32.98	86.590	1/2	58.11	268.80	1/2	83.25	551.54	1/2	108.3	934.82	1/2	133.5	1418.6
5/16	8.246	5.411	5/8	33.37	88.664	5/8	58.51	272.44	5/8	83.64	556.76	5/8	108.7	941.60	5/8	133.9	1426.9
3/8	8.639	5.939	3/4	33.77	90.762	3/4	58.90	276.11	3/4	84.03	562.00	3/4	109.1	948.41	3/4	134.3	1435.3
7/16	9.032	6.491	7/8	34.16	92.885	7/8	59.29	279.81	7/8	84.43	567.26	7/8	109.5	955.25	7/8	134.6	1443.7
3	9.424	7.068	11	34.55	95.033	19	59.69	283.52	27	84.82	572.55	35	109.9	962.11	43	135.0	1452.2
1/16	9.817	7.669	1/8	34.95	97.205	1/8	60.08	287.27	1/8	85.21	577.87	1/8	110.3	968.99	1/8	135.4	1460.6
1/8	10.21	8.295	1/4	35.34	99.402	1/4	60.47	291.03	1/4	85.60	583.20	1/4	110.7	975.90	1/4	135.8	1469.1
3/16	10.60	8.946	3/8	35.73	101.62	3/8	60.86	294.83	3/8	86.00	588.57	3/8	111.1	982.84	3/8	136.2	1477.6
1/4	10.99	9.621	1/2	36.12	103.86	1/2	61.26	298.64	1/2	86.39	593.95	1/2	111.5	989.80	1/2	136.6	1486.1
5/16	11.38	10.320	5/8	36.52	106.13	5/8	61.65	302.48	5/8	86.78	599.37	5/8	111.9	996.78	5/8	137.0	1494.7
3/8	11.78	11.044	3/4	36.91	108.43	3/4	62.04	306.35	3/4	87.17	604.80	3/4	112.3	1003.7	3/4	137.4	1503.3
7/16	12.17	11.793	7/8	37.30	110.75	7/8	62.43	310.24	7/8	87.57	610.26	7/8	112.7	1010.8	7/8	137.8	1511.9
4	12.65	12.566	12	37.69	113.00	20	62.83	314.16	28	87.96	615.75	36	113.0	1017.8	44	138.2	1520.5
1/16	12.95	13.364	1/8	38.09	115.46	1/8	63.22	318.09	1/8	88.35	621.26	1/8	113.4	1024.9	1/8	138.6	1529.1
1/8	13.35	14.186	1/4	38.48	117.85	1/4	63.61	322.06	1/4	88.75	626.79	1/4	113.8	1032.0	1/4	139.0	1537.8
3/16	13.74	15.033	3/8	38.87	120.27	3/8	64.01	326.05	3/8	89.14	632.35	3/8	114.2	1039.1	3/8	139.4	1546.5
1/4	14.13	15.904	1/2	39.27	122.71	1/2	64.40	330.06	1/2	89.53	637.94	1/2	114.6	1049.3	1/2	139.8	1555.2
5/16	14.52	16.800	5/8	39.66	125.18	5/8	64.79	334.10	5/8	89.92	643.54	5/8	115.0	1053.5	5/8	140.1	1564.0
3/8	14.92	17.720	3/4	40.05	127.67	3/4	65.18	338.16	3/4	90.32	649.18	3/4	115.4	1060.7	3/4	140.5	1572.8
7/16	15.31	18.665	7/8	40.44	130.19	7/8	65.58	342.25	7/8	90.71	654.83	7/8	115.8	1067.9	7/8	140.9	1581.6
5	15.70	19.635	13	40.84	132.73	21	65.97	346.36	29	91.10	660.52	37	116.2	1075.2	45	141.3	1590.4
1/16	16.10	20.629	1/8	41.23	135.29	1/8	66.36	350.49	1/8	91.49	666.22	1/8	116.6	1082.4	1/8	141.7	1599.2
1/8	16.49	21.647	1/4	41.62	137.88	1/4	66.75	354.65	1/4	91.89	671.95	1/4	117.0	1089.7	1/4	142.1	1608.1
3/16	16.88	22.690	3/8	42.01	140.50	3/8	67.15	358.84	3/8	92.28	677.71	3/8	117.4	1097.1	3/8	142.5	1617.0
1/4	17.27	23.758	1/2	42.41	143.13	1/2	67.54	363.05	1/2	92.67	683.49	1/2	117.8	1104.4	1/2	142.9	1625.9
5/16	17.67	24.850	5/8	42.80	145.80	5/8	67.93	367.28	5/8	93.06	689.29	5/8	118.2	1111.8	5/8	143.3	1634.9
3/8	18.06	25.967	3/4	43.19	148.48	3/4	68.32	371.54	3/4	93.46	695.12	3/4	118.6	1119.2	3/4	143.7	1643.8
7/16	18.45	27.108	7/8	43.58	151.20	7/8	68.72	375.82	7/8	93.85	700.98	7/8	118.9	1126.6	7/8	144.1	1652.8
6	18.84	28.274	14	43.98	153.93	22	69.11	380.13	30	94.24	706.86	38	119.3	1134.1	46	144.5	1661.9
1/16	19.24	29.464	1/8	44.37	156.69	1/8	69.50	384.46	1/8	94.64	712.76	1/8	119.7	1141.5	1/8	144.9	1670.9
1/8	19.63	30.679	1/4	44.76	159.48	1/4	69.90	388.82	1/4	95.03	718.69	1/4	120.1	1149.0	1/4	145.2	1680.0
3/16	20.02	31.919	3/8	45.16	162.29	3/8	70.29	393.20	3/8	95.42	724.64	3/8	120.5	1156.6	3/8	145.6	1689.1
1/2	20.42	33.183	1/2	45.55	165.13	1/2	70.68	397.60	1/2	95.81	730.61	1/2	120.9	1164.1	1/2	146.0	1698.2
5/16	20.81	34.471	5/8	45.94	167.98	5/8	71.07	402.03	5/8	96.21	736.61	5/8	121.3	1171.7	5/8	146.4	1707.3
3/4	21.20	35.784	3/4	46.33	170.87	3/4	71.47	406.49	3/4	96.60	742.64	3/4	121.7	1179.3	3/4	146.8	1716.5
7/8	21.57	37.122	7/8	46.73	173.78	7/8	71.86	410.97	7/8	96.99	748.69	7/8	122.1	1186.9	7/8	147.2	1725.7

ENGINEERING DATA

CIRCUMFERENCE AND AREAS OF CIRCLES—Continued

Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area	Diam.	Circ.	Area
47	147.6	1734.9	54	169.6	2290.2	61	191.6	2922.4	68	213.6	3631.6	75	235.6	4417.8	88	276.4	6082.1
1/8	148.0	1744.1	1/8	170.0	2300.8	1/8	192.0	2934.4	1/8	214.0	3645.0	1/4	236.4	4447.3	1/4	277.2	6116.7
1/4	148.4	1753.4	1/4	170.4	2311.4	1/4	192.4	2946.4	1/4	214.4	3658.4	1/2	237.1	4476.9	1/2	278.0	6151.4
3/8	148.8	1762.7	3/8	170.8	2322.1	3/8	192.8	2958.5	3/8	214.8	3671.8	3/4	237.9	4506.6	3/4	278.8	6186.2
1/2	149.2	1772.0	1/2	171.2	2332.8	1/2	193.2	2970.5	1/2	215.1	3685.2						
5/8	149.6	1781.3	5/8	171.6	2343.5	5/8	193.6	2982.6	5/8	215.5	3698.7	76	238.7	4536.4	89	279.6	6221.1
3/4	150.0	1790.7	3/4	172.0	2354.2	3/4	193.9	2994.6	3/4	215.9	3712.2	1/4	239.5	4566.3	1/4	280.3	6256.1
7/8	150.4	1800.1	7/8	172.3	2365.0	7/8	194.3	3006.9	7/8	216.3	3725.7	1/2	240.3	4596.3	1/2	281.1	6291.2
												3/4	241.1	4626.4	3/4	281.9	6326.4
48	150.7	1809.5	55	172.7	2375.8	62	194.7	3019.0	69	216.7	3739.2						
1/8	151.1	1818.9	1/8	173.1	2386.6	1/8	195.1	3031.2	1/8	217.1	3752.8	77	241.9	4566.6	90	282.7	6361.7
1/4	151.5	1828.4	1/4	173.3	2397.4	1/4	195.5	3043.4	1/4	217.5	3766.4	1/4	242.6	4686.9	1/4	283.5	6397.1
3/8	151.9	1837.9	3/8	173.9	2408.3	3/8	195.9	3055.7	3/8	217.9	3780.0	1/2	243.4	4717.3	1/2	284.3	6432.6
1/2	152.3	1847.4	1/2	174.3	2419.2	1/2	196.3	3067.9	1/2	218.3	3793.6	3/4	244.2	4747.7	3/4	285.1	6468.2
5/8	152.7	1856.9	5/8	174.7	2430.1	5/8	196.7	3080.2	5/8	218.7	3807.3						
3/4	153.1	1866.5	3/4	175.1	2441.0	3/4	197.1	3092.5	3/4	219.1	3821.0	78	245.0	4778.3	91	285.8	6503.8
7/8	153.5	1876.1	7/8	175.5	2452.0	7/8	197.5	3104.8	7/8	219.5	3834.7	1/4	245.8	4809.0	1/4	286.6	6539.6
												1/2	246.6	4839.8	1/2	287.4	6575.5
49	153.9	1885.7	56	175.9	2463.0	63	197.9	3117.2	70	219.9	3848.4	3/4	247.4	4870.7	3/4	288.2	6611.5
1/8	154.3	1895.3	1/8	176.3	2474.0	1/8	198.3	3129.6	1/8	220.3	3862.2						
1/4	154.7	1905.0	1/4	176.7	2485.0	1/4	198.7	3142.0	1/4	220.6	3875.9	79	248.1	4901.6	92	289.0	6647.6
3/8	155.1	1914.7	3/8	177.1	2496.1	3/8	199.0	3144.4	3/8	221.0	3889.8	1/4	248.9	4932.7	1/4	289.8	6683.8
1/2	155.5	1924.4	1/2	177.5	2507.1	1/2	199.4	3166.9	1/2	221.4	3903.6	1/2	249.7	4963.9	1/2	290.5	6720.0
5/8	155.9	1934.1	5/8	177.8	2518.2	5/8	199.8	3179.4	5/8	221.8	3917.4	3/4	250.5	4995.1	3/4	291.3	6756.4
3/4	156.2	1943.9	3/4	178.2	2529.4	3/4	200.2	3191.9	3/4	222.2	3931.3						
7/8	156.6	1953.6	7/8	178.6	2540.5	7/8	200.6	3204.4	7/8	222.6	3945.2	80	251.3	5026.5	93	292.1	6792.0
												1/4	252.1	5058.0	1/4	292.9	6829.4
50	157.0	1963.5	57	179.0	2551.7	64	201.0	3216.9	71	223.0	3959.2	1/2	252.8	5089.5	1/2	293.7	6866.1
1/8	157.4	1973.3	1/8	179.4	2562.9	1/8	201.4	3229.5	1/8	223.4	3973.1	3/4	253.6	5121.2	3/4	294.5	6902.9
1/4	157.8	1983.1	1/4	179.8	2574.1	1/4	201.8	3242.1	1/4	223.8	3987.1						
3/8	158.2	1993.0	3/8	180.2	2585.4	3/8	202.2	3254.8	3/8	224.2	4001.1	81	254.4	5153.0	94	295.3	6939.7
1/2	158.6	2002.9	1/2	180.6	2596 7	1/2	202.6	3267.4	1/2	224.6	4015.1	1/4	255.2	5184.8	1/4	296.0	6976.7
5/8	159.0	2012.8	5/8	181.0	2608.0	5/8	203.0	3280.1	5/8	225.0	4029.2	1/2	256.0	5216.8	1/2	296.8	7013.8
3/4	159.4	2022.8	3/4	181.4	2619.3	3/4	203.4	3292.8	3/4	225.4	4043.2	3/4	256.8	5248.8	3/4	297.6	7050.9
7/8	159.8	2032.8	7/8	181.8	2630.7	7/8	203.8	3305.5	7/8	225.8	4067.3						
												82	257.6	5281.0	95	298.4	7088.2
51	160.2	2042.8	58	182.2	2642.0	65	204.2	3318.3	72	226.1	4071.5	1/4	258.3	5313.2	1/4	299.2	7125.5
1/8	160.6	2052.8	1/8	182.6	2653.4	1/8	204.5	3331.0	1/8	226.5	4085.6	1/2	259.1	5345.6	1/2	300.0	7163.0
1/4	161.0	2062.9	1/4	182.9	2664.9	1/4	204.9	3343.8	1/4	226.9	4099.8	3/4	259.9	5378.0	3/4	300.8	7200.5
3/8	161.3	2072.9	3/8	183.3	2676.3	3/8	205.3	3356.7	3/8	227.3	4114.0						
1/2	161.7	2083.0	1/2	183.7	2687.8	1/2	205.7	3369.5	1/2	227.7	4128.2	83	260.7	5410.6	96	301.5	7238.2
5/8	162.1	2093.2	5/8	184.1	2690.3	5/8	206.1	3382.4	5/8	228.1	4142.5	1/4	261.5	5443.2	1/4	302.3	7275.9
3/4	162.5	2103.3	3/4	184.5	2710.8	3/4	206.5	3395.3	3/4	228.5	4156.7	1/2	262.3	5476.0	1/2	303.1	7313.8
7/8	162.9	2113.5	7/8	184.9	2722.4	7/8	206.9	3408.2	7/8	228.9	4171.0	3/4	263.1	5508.8	3/4	303.9	7341.7
52	163.3	2123.7	59	185.3	2733.9	66	207.3	3421.2	73	229.3	4185.3	84	263.8	5541.7	97	304.7	7389.8
1/8	163.7	2133.9	1/8	185.7	2745.5	1/8	207.7	3434.1	1/8	229.7	4199.7	1/4	264.6	5574.8	1/4	305.5	7427.9
1/4	164.1	2144.1	1/4	186.1	2757.1	1/4	208.1	3447.1	1/4	230.1	4214.1	1/2	265.4	5607.9	1/2	306.3	7466.2
3/8	164.5	2154.4	3/8	186.5	2768.8	3/8	208.5	3460.1	3/8	230.5	4228.5	3/4	266.2	5641.1	3/4	307.0	7504.4
1/2	164.9	2164.7	1/2	186.9	2780.5	1/2	208.9	3473.2	1/2	230.9	4242.9						
5/8	165.3	2175.0	5/8	187.3	2792.2	5/8	209.3	3486.3	5/8	231.3	4257.3	85	267.0	5674.5	98	307.8	7542.9
3/4	165.7	2185.4	3/4	187.7	2803.9	3/4	209.7	3499.3	3/4	231.6	4271.8	1/4	267.8	5707.9	1/4	308.6	7581.5
7/8	166.1	2195.7	7/8	188.1	2815.6	7/8	210.0	3512.5	7/8	232.0	4286.3	1/2	268.6	5741.4	1/2	309.4	7620.1
												3/4	269.3	5775.0	3/4	310.2	7658.8
53	166.5	2206.1	60	188.4	2827.4	67	210.4	3525.6	74	232.4	4300.8						
1/8	166.8	2216.6	1/8	188.8	2839.2	1/8	210.9	3538.8	1/8	232.8	4315.3	86	270.1	5808.8	99	311.0	7697.7
1/4	167.2	2227.0	1/4	189.2	2851.0	1/4	211.2	3552.0	1/4	233.2	4329.9	1/4	270.9	5842.6	1/4	311.8	7736.6
3/8	167.6	2237.5	3/8	189.6	2862.8	3/8	211.6	3565.2	3/8	233.6	4344.5	1/2	271.7	5876.5	1/2	312.5	7775.6
1/2	168.0	2248.0	1/2	190.0	2874.7	1/2	212.0	3578.4	1/2	234.0	4359.1	3/4	272.5	5910.5	3/4	313.3	7814.7
5/8	168.4	2258.5	5/8	190.4	2886.6	5/8	212.4	3591.7	5/8	234.4	4373.8						
3/4	168.8	2269.0	3/4	190.8	1898.5	3/4	212.8	3605.0	3/4	234.8	4388.4	87	273.3	5944.6	100	314.1	7853.0
7/8	169.2	2279.6	7/8	191.2	2910.5	7/8	213.2	3618.3	7/8	235.2	4403.1	1/4	274.1	5978.9	1/4	314.9	7893.3
												1/2	274.8	6013.2	1/2	315.7	7932.7
												3/4	275.6	6047.6	3/4	316.4	7972.2

ENGINEERING DATA

STEAM TABLE

Gauge Press. Lbs.	Temp. Deg. F.	Gauge Press. Lbs.	Temp. Deg. F.	Gauge Press. Lbs.	Temp. Deg. F.	Gauge Press. Lbs.	Temp. Deg. F.	Gauge Press. Lbs.	Temp. Deg. F.	Gauge Press. Lbs.	Temp. Deg. F.
5	228	39	285	72	317	110	344	176	378	241	403
6	230	40	287	73	318	112	345	178	378	243	403
7	233	41	288	74	319	114	346	180	379	245	404
8	235	42	289	75	320	116	348	182	380	247	405
9	237	43	290	76	321	118	349	184	381	249	405
10	240	44	291	77	321	120	350	186	382	251	406
11	242	45	292	78	322	122	351	188	383	253	407
12	244	46	293	79	323	124	352	190	384	255	407
13	246	47	294	80	324	126	353	192	384	257	408
14	248	48	295	81	324	128	354	194	385	259	409
15	250	49	297	82	325	130	355	196	386	261	409
16	252	50	298	83	326	132	356	198	387	263	410
17	254	51	299	84	327	134	357	200	388	265	411
18	255	52	300	85	327	136	359	202	388	267	411
19	257	53	301	86	328	138	360	204	389	269	412
20	259	54	302	87	329	140	361	206	390	271	413
21	261	55	302	88	330	142	362	208	391	273	413
22	262	56	303	89	330	144	363	210	391	275	414
23	264	57	304	90	331	146	364	212	392	277	415
24	265	58	305	91	332	148	365	214	393	279	415
25	267	59	306	92	332	150	366	216	394	281	416
26	268	60	307	93	333	152	367	218	394	283	416
27	270	61	308	94	334	154	368	220	395	285	417
28	271	62	309	95	334	156	368	222	396	295	420
29	273	63	310	96	335	158	369	224	397	305	423
30	274	64	311	97	336	160	370	226	397	355	437
31	275	65	312	98	336	162	371	228	398	375	442
32	277	66	312	99	337	164	372	230	399	385	444
33	278	67	313	100	338	166	373	232	400	405	449
34	279	68	314	102	339	168	374	234	400	455	460
35	281	69	315	104	340	170	375	235	401	510	472
36	282	70	316	106	341	172	376	237	401	560	481
37	283	71	317	108	343	174	377	239	402	585	486
38	284										

TABLE OF WATER HEADS AND EQUIVALENT PRESSURES

(To estimate any pressure multiply the head (in feet) by .433. The result is lbs. per square inch.)

Head in Feet	Pressure lbs. per sq. in.	Head in Feet	Pressure lbs. per sq. in.	Head in Feet	Pressure lbs. per sq. in.	Head in Feet	Pressure lbs. per sq. in.
5	2.17	80	34.64	275	119.08	700	303.10
10	4.33	90	38.97	300	129.90	750	324.75
15	6.50	100	43.30	350	151.55	800	346.40
20	8.66	125	54.13	400	173.20	850	368.05
30	12.99	150	64.95	450	194.85	900	389.70
40	17.32	175	75.78	500	216.50	950	411.35
50	21.65	200	86.60	550	238.15	1000	433.00
60	25.98	225	97.43	600	259.80	1100	476.30
70	30.31	250	108.25	650	281.45	1200	519.60

ENGINEERING DATA

DIMENSIONS OF GASKETS FOR STANDARD AND LOW PRESSURE FLANGES A.S.M.E. 1928 STANDARD

Size of Pipe	Ring Gaskets		Full Faced Gaskets		Size of Pipe	Ring Gaskets		Full Faced Gaskets	
	I. D.	O. D.	I. D.	O. D.		I. D.	O. D.	I. D.	O. D.
¾"	¾"	2⅛"	¾"	3½"	40"	40"	45⅜"	40"	50¾"
1"	1"	2⅝"	1"	4¼"	42"	42"	48"	42"	53"
1¼"	1¼"	3"	1¼"	4⅝"	44"	44"	50⅛"	44"	55¼"
1½"	1½"	3⅜"	1½"	5"	46"	46"	52⅛"	46"	57¼"
2"	2"	4⅛"	2"	6"	48"	48"	54½"	48"	59½"
2½"	2½"	4⅞"	2½"	7"	50"	50"	56½"	50"	61¾"
3"	3"	5⅜"	3"	7½"	52"	52"	58¾"	52"	64"
3½"	3½"	6⅜"	3½"	8½"	54"	54"	61"	54"	66¼"
4"	4"	6⅞"	4"	9"	56"	56"	63¼"	56"	68¾"
4½"	4½"	7"	4½"	9¼"	58"	58"	65½"	58"	71"
5"	5"	7¾"	5"	10"	60"	60"	67½"	60"	73"
6"	6"	8¾"	6"	11"	62"	62"	69⅞"	62"	75¾"
7"	7"	10"	7"	12½"	64"	64"	72⅛"	64"	78"
8"	8"	11"	8"	13½"	66"	66"	74⅛"	66"	80"
9"	9"	12½"	9"	15"	68"	68"	76⅜"	68"	82¼"
10"	10"	13⅜"	10"	16"	70"	70"	78⅝"	70"	84½"
12"	12"	16⅛"	12"	19"	72"	72"	80¾"	72"	86½"
14"	14"	17¾"	14"	21"	74"	74"	82⅝"	74"	88½"
15"	15"	19"	15"	22¼"	76"	76"	84⅝"	76"	90¾"
16"	16"	20¼"	16"	23½"	78"	78"	86¾"	78"	93"
18"	18"	21⅝"	18"	25"	80"	80"	89"	80"	95¼"
20"	20"	23⅞"	20"	27½"	82"	82"	91¼"	82"	97½"
22"	22"	26"	22"	29½"	84"	84"	93½"	84"	99¾"
24"	24"	28¼"	24"	32"	86"	86"	95¾"	86"	102"
26"	26"	30½"	26"	34¼"	88"	88"	98"	88"	104¼"
28"	28"	32¾"	28"	36½"	90"	90"	100⅛"	90"	106½"
30"	30"	34¾"	30"	38¾"	92"	92"	102⅜"	92"	108¾"
32"	32"	38"	32"	41¾"	94"	94"	104⅛"	94"	111"
34"	34"	39"	34"	43¾"	96"	96"	106¼"	96"	113¼"
36"	36"	41¼"	36"	46"	98"	98"	108½"	98"	115½"
38"	38"	43⅝"	38"	48¾"	100"	100"	110¾"	100"	117¾"

DIMENSIONS OF GASKETS FOR MEDIUM AND EXTRA HEAVY FLANGES A.S.M.E. 1928 STANDARD

Size of Pipe	Ring Gaskets		Full Faced Gaskets		Size of Pipe	Ring Gaskets		Full Faced Gaskets	
	I. D.	O. D.	I. D.	O. D.		I. D.	O. D.	I. D.	O. D.
1"	1"	2⅞"	1"	4⅞"	16"	16"	21¼"	16"	25½"
1¼"	1¼"	3¼"	1¼"	5¼"	18"	18"	23½"	18"	28"
1½"	1½"	3¾"	1½"	6⅛"	20"	20"	25¾"	20"	30½"
2"	2"	4⅜"	2"	6½"	22"	22"	27¾"	22"	33"
2½"	2½"	5⅛"	2½"	7½"	24"	24"	30½"	24"	36"
3"	3"	5⅞"	3"	8¼"	26"	26"	32⅞"	26"	38¼"
3½"	3½"	6½"	3½"	9"	28"	28"	35⅜"	28"	40¾"
4"	4"	7⅛"	4"	10"	30"	30"	37½"	30"	43"
4½"	4½"	7¾"	4½"	10½"	32"	32"	39⅝"	32"	45¼"
5"	5"	8½"	5"	11"	34"	34"	41⅝"	34"	47½"
6"	6"	9⅞"	6"	12½"	36"	36"	44"	36"	50"
7"	7"	11"	7"	14"	38"	38"	46⅛"	38"	52¼"
8"	8"	12⅛"	8"	15"	40"	40"	48⅜"	40"	54½"
9"	9"	13"	9"	16¼"	42"	42"	50¾"	42"	57"
10"	10"	14¼"	10"	17½"	44"	44"	53"	44"	59¼"
12"	12"	16⅜"	12"	20½"	46"	46"	55¼"	46"	61½"
14"	14"	19⅛"	14"	23"	48"	48"	58¾"	48"	65"
15"	15"	20¼"	15"	24½"					

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