

72700
J. Chaille

INSULATION-CLASSES

PLAINTIFF'S
EXHIBIT
WH-812

PH920.

- (1) THE FOLLOWING DATA RELATIVE TO INSULATION FOR TURBINE PARTS SHOWN BY FOLLOWED UNLESS SPECIFIC CONTRACT REQUIREMENTS HAVE INDICATION NECESSARY, IN WHICH CASE THE "D" SPEC. WILL SPECIFY IN DETAIL THE TYPE OF INSULATION AND PROPERTIES.
- (2) THE METHOD FOR INSULATING TURBINE CYLINDERS, MAIN STEAM PIPING, STEAM CHESTS, VALVES AND IRREGULAR SURFACES IS LISTED IN THE CLASSES AS LISTED IN TABLE "X". "D" SPEC WILL CALL FOR CLASS TO FOLLOW.

- (3) IN PAGE PH-920.2 FOR NOTES RELATIVE TO TABLE "X" AND INSULATION OF STEAM DRAIN AND OILAND PIPING.
- (4) SEE TABLE "Y" PAGE PH-920.3 FOR THICKNESSES REQUIRED AT MATERIAL SPECIES, AND PAGE PH-920.4 FOR CRITERION THERMAL

CHANGED
120/55 2

TABLE "X"

CLASS NO.	CLASS DESCRIPTION	PART TO BE INSULATED	INSULATION TYPE	APPLIED IN	QUANTITY SPEC.	NOTES TO BE PLACED ON APPLICABLE DWS. (SEE PH-920.2)
1	TURBINES SHIPPED ASSEMBLED INCLUDING INSULATION (THIS INCLUDES 166, 246 AND 246 FRAMPS AND ALL INDUSTRIAL TURBINES COMING WITHIN THE LIMITS OF SHIPPING DIMENSIONS.)	CYLINDER	BODY	BLOCK	SHOP	600433
			SCREWS	BLANKETS	SHOP	600359
		PIPES*	TO 10"	MOLDED	SHOP	600433
			OVER 10"	BLOCK	SHOP	600433
		STEAM CHESTS, VALVES, AND IRREGULAR SURFACES	BLOCK AND BLANKETS	SHOP	600433 600359	
		LOADING TEMP. OVER 775°F.	ASBESTOS SHEET & FELT	SHOP	600360	
2	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (THIS INCLUDES NON. COND. TURBINE U.P. TURBINES OF TANDER UNITS AND ANY OTHER TURBINES WITH SEPARATE #2 FEDESTALS SPECIFIED BY SERVICE DEPT. (SEE PH-920.2))	CYLINDER, ETC. (EXCEPT AS COVERED BELOW)		BLOCK - PLASTIC	FIELD	600729
		PIPES*	TO 10"	MOLDED	FIELD	600433
			OVER 10"	BLOCK	FIELD	600433
		SEPARATE STEAM CHESTS, VALVES AND IRREGULAR SURFACES	PLASTIC	FIELD	600362	NOTES "B" AND "C"
		LOADING TEMP. OVER 775°F.	ASBESTOS SHEET & FELT	SHOP	600360	
3	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER (THIS INCLUDES NONCOND. TURBINE U.P. TURBINES OF TANDER UNITS AND ANY OTHER TURBINES WITH SEPARATE #2 FEDESTALS SPECIFIED BY SERVICE DEPT. (SEE PH-920.2))	CYLINDER, ETC. (EXCEPT AS COVERED BELOW)		BLOCK - PLASTIC	FIELD	600729
		PIPES*	TO 10"	MOLDED	FIELD	600433
			OVER 10"	BLOCK	FIELD	600433
		SEPARATE STEAM CHESTS, VALVES AND IRREGULAR SURFACES	PLASTIC	FIELD	600362	NOTES "A" AND "C"
		LOADING TEMP. OVER 775°F.	ASBESTOS SHEET & FELT	SHOP	600360	
4	TURBINES SHIPPED DISASSEMBLED WESTINGHOUSE EFFECTED INSULATION FURNISHED AND APPLIED BY SERVICE DEPT.	CYLINDER, ETC. (EXCEPT AS COVERED BELOW)		BLOCK - PLASTIC	FIELD	600729
		PIPES*	TO 10"	MOLDED	FIELD	600433
			OVER 10"	BLOCK	FIELD	600433
		SEPARATE STEAM CHESTS, VALVES AND IRREGULAR SURFACES	PLASTIC	FIELD	600362	NOTES "B" AND "C"
		LOADING TEMP. OVER 775°F.	ASBESTOS SHEET & FELT	SHOP	600360	
5	TURBINES SHIPPED DISASSEMBLED SUPERVISOR EJECTION ONLY INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER.	CYLINDER, ETC. (EXCEPT AS COVERED BELOW)		BLOCK - PLASTIC	FIELD	600729
		PIPES*	TO 10"	MOLDED	FIELD	600433
			OVER 10"	BLOCK	FIELD	600433
		SEPARATE STEAM CHESTS, VALVES AND IRREGULAR SURFACES	PLASTIC	FIELD	600362	NOTES "A" AND "C"
		LOADING TEMP. OVER 775°F.	ASBESTOS SHEET & FELT	SHOP	600360	

*FOR STEAM DRAIN AND OILAND PIPING INSULATION SEE PAGE PH-920.2

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WESTINGHOUSE ELECTRIC
STEAM DIVISION

PH920.1

INSULATION - CLASSES & APPLICATION

PH 920.1

(1) THE FOLLOWING DATA RELATIVE TO INSULATION FOR TURBINE PARTS SHOULD BE FOLLOWED UNLESS SPECIFIC CONTRACT REQUIREMENTS MAKE DEVIATION NECESSARY. IN WHICH CASE THE "D" SPEC. WILL SPECIFY IN DETAIL THE TYPE OF INSULATION AND PROCEDURE.

(2) THE METHOD FOR INSULATING TURBINE CYLINDERS, MAIN STEAM PIPING, STEAM CHESTS, VALVES AND IRREGULAR SURFACES IS DIVIDED INTO CLASSES AS LISTED IN TABLE BELOW. "D" SPEC WILL CALL FOR CLASS TO FOLLOW.

(3) SEE PAGE PH-920.2 FOR NOTES AND FOR INSULATION OF STEAM DRAIN AND GLAND PIPING AND CROSS-OVER OR CROSS-UNDER PIPING.

(4) SEE TABLE ON PAGE PH-920.3 FOR THICKNESSES REQUIRED AND MATERIAL SPECS. AND PAGE PH-920.4 AND 920.5 FOR ORDERING INFORMATION.

CHANGED

7/15/53	4	CLASS NO.	CLASS DESCRIPTION	PART TO BE INSULATED	INSULATION TYPE	APPLIED IN	PROCESS SPEC.	NOTES TO BE PLACED ON APPLICABLE DWGS. (SEE PH-920.21)	
12/24/61	5	1	TURBINES SHIPPED ASSEMBLED - INCLUDING INSULATION. (THIS INCLUDES 146, 246 AND 286 FRAMES AND ALL INDUSTRIAL TURBINES COMING WITHIN THE LIMITS OF SHIPPING DIMENSIONS)	CYLINDER	BODY	BLOCK	SHOP	600433	
11/16/64	6				JOINTS	BLANKETS	SHOP	600359	
12/15/64	7			PIPES	TO 10"	MOLDED	SHOP	600433	
5/18/65	8				OVER 10"	BLOCK	SHOP	600433	
4/15/73	9			STEAM CHESTS, VALVES & IRREGULAR SURFACES		BLOCK AND BLANKET	SHOP	600433 600359	
				ENCLOSURE		SPRAYED ASBESTOS	SHOP	600111	
			GAUGE BOARD	BLOCK	SHOP	600360			
		2	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. ? ERECTION SERVICE. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (EXCEPT FOR EXPORT ORDERS) INCLUDES NON-COND. TURBS., HP TURBS. OF TANDEM UNITS AND ANY OTHER TURBS. WITH SEPARATE #2 PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.	CYLINDER, STEAM CHEST, VALVES, ETC.		BLOCK - PLASTIC	FIELD	600729	NOTES "B" AND "C" (EXPORT ORDERS SUBSTITUTE NOTE "D")
				PIPES	TO 10"	MOLDED	FIELD	600433	
					OVER 10"	BLOCK	FIELD	600433	
				ENCLOSURE		SPRAYED ASBESTOS	SHOP	600111	
				GAUGE BOARD		BLOCK	SHOP	600360	
		3	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. ? INSTALLATION SERVICE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER. (EXCEPT FOR EXPORT ORDERS) INCLUDES NON-COND. TURBS., HP TURBS. OF TANDEM UNITS AND ANY OTHER TURBS. WITH SEPARATE #2 PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.	CYLINDER, STEAM CHEST, VALVES, ETC.		BLOCK - PLASTIC	FIELD	600729	NOTES "B" AND "C" (EXPORT ORDERS SUBSTITUTE NOTE "D")
				PIPES	TO 10"	MOLDED	FIELD	600433	
					OVER 10"	BLOCK	FIELD	600433	
				ENCLOSURE		SPRAYED ASBESTOS	SHOP	600111	
				GAUGE BOARD		BLOCK	SHOP	600360	
		4	TURBINES SHIPPED DISASSEMBLED WESTINGHOUSE ERECTION SERVICE. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (EXCEPT FOR EXPORT ORDERS)	CYLINDER, STEAM CHEST, VALVES, ETC.		BLOCK - PLASTIC	FIELD	600729	NOTES "B" AND "C" (EXPORT ORDERS SUBSTITUTE NOTE "D")
				PIPES	TO 10"	MOLDED	FIELD	600433	
					OVER 10"	BLOCK	FIELD	600433	
				ENCLOSURE	STRAIGHT	SPRAYED ASBESTOS	SHOP	600111 PT. I	
					SLOPING WALL			600111 PT. II	
		GAUGE BOARD		BLOCK	SHOP	600360			
		5	TURBINES SHIPPED DISASSEMBLED WESTINGHOUSE INSTALLATION SERVICE. INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER. (EXCEPT FOR EXPORT ORDERS)	CYLINDER, STEAM CHEST, VALVES, ETC.		BLOCK - PLASTIC	FIELD	600729	NOTES "A" AND "C" (EXPORT ORDERS SUBSTITUTE NOTE "D")
				PIPES	TO 10"	MOLDED	FIELD	600433	
					OVER 10"	BLOCK	FIELD	600433	
				ENCLOSURE	STRAIGHT	SPRAYED ASBESTOS	SHOP	600111 PT. I	
					SLOPING WALL			600111 PT. II	
		GAUGE BOARD		BLOCK	SHOP	600360			

NOTE: - PROC. SPEC. 600916 SPRAYED ASBESTOS MAY BE USED AT CUSTOMER'S OPTION IN PLACE OF 600433 FOR CROSS-OVER PIPE INSULATION AND 600729 FOR CYLINDER, STEAM CHEST, ETC., INSULATION.

- FOR STEAM DRAIN AND GLAND AND CROSS-OVER OR CROSS-UNDER PIPING INSULATION SEE PAGE PH-920.2.

- FOR TEMPERATURES UP THRU 750°F NO ENCLOSURE INSULATION NECESSARY IN THIS CLASS.

- SPRAY ONLY ENCLOSURES OVER HP, IP, OR HP-IP TURBINE ELEMENTS.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM DIVISION



STANDARDS ENGRG.

PH 920.1

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INSULATION - CLASSES & APPLICATION

PH 920.1

(1) THE FOLLOWING DATA RELATIVE TO INSULATION FOR TURBINE PARTS SHOULD BE FOLLOWED UNLESS SPECIFIC CONTRACT REQUIREMENTS MAKE DEVIATION NECESSARY, IN WHICH CASE THE "D" SPEC. WILL SPECIFY IN DETAIL THE TYPE OF INSULATION AND PROCEDURE.

(2) THE METHOD FOR INSULATING TURBINE CYLINDERS, MAIN STEAM PIPING, STEAM CHESTS, VALVES AND IRREGULAR SURFACES IS DIVIDED INTO CLASSES AS LISTED IN TABLE BELOW. "D" SPEC. WILL CALL FOR CLASS TO FOLLOW.

(3) SEE PAGE PH-920.2 FOR NOTES AND FOR INSULATION OF STEAM DRAIN AND GLAND AND CROSS-OVER OR CROSS-UNDER PIPING.

(4) SEE TABLE ON PAGE PH-920.3 FOR THICKNESSES REQUIRED AND MATERIAL SPECS. PAGE PH-920.4 AND 920.5 FOR ORDERING INFORMATION.

CHANGED

7/15/53	4	CLASS NO.	CLASS DESCRIPTION	PART TO BE INSULATED	INSULATION TYPE	APPLIED IN	PROCESS SPEC.	NOTES TO BE PLACED ON APPLICABLE DWGS. (SEE PH-920.2)		
12/24/61	5	1	TURBINES SHIPPED ASSEMBLED - INCLUDING INSULATION. (THIS INCLUDES 166, 246 AND 286 FRAMES AND ALL INDUSTRIAL TURBINES COMING WITHIN THE LIMITS OF SHIPPING DIMENSIONS.)	CYLINDER	BODY	BLOCK	SHOP	600433		
11/16/64	6				JOINTS	BLANKETS	SHOP	600339		
				PIPES	TO 10"	MOLDED	SHOP	600433		
					OVER 10"	BLOCK	SHOP	600433		
				STEAM CHESTS, VALVES & IRREGULAR SURFACES		BLOCK AND BLANKET	SHOP	600433 600339		
				LAGGING		SPRAYED ASBESTOS	SHOP	600111		
				GAUGE BOARD		ASBESTOS SHEET & FELT	SHOP	600360		
		2	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. 2. ERECTION SERVICE. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (EXCEPT FOR EXPORT ORDERS) INCLUDES NON-COND. TURBS., HP TURBS. OF TANDEM UNITS AND ANY OTHER TURBS. WITH SEPARATE #2 PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.	CYLINDER, STEAM CHEST, VALVES, ETC.	BLOCK - PLASTIC		FIELD	600729	NOTES "B" AND "C" (EXPORT ORDERS SUBSTITUTE NOTES "C" & "E")	
					PIPES	TO 10"	MOLDED	FIELD		600433
						OVER 10"	BLOCK	FIELD		600433
				LAGGING		SPRAYED ASBESTOS	SHOP	600111		
				GAUGE BOARD		ASBESTOS SHEET & FELT	SHOP	600360		
		3	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. 2. INSTALLATION SERVICE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER. (EXCEPT FOR EXPORT ORDERS) INCLUDES NON-COND. TURBS., HP TURBS. OF TANDEM UNITS AND ANY OTHER TURBS. WITH SEPARATE #2 PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.	CYLINDER, STEAM CHEST, VALVES, ETC.	BLOCK - PLASTIC		FIELD	600729	NOTES "A" AND "C" (EXPORT ORDERS SUBSTITUTE NOTES "C" & "E")	
					PIPES	TO 10"	MOLDED	FIELD		600433
						OVER 10"	BLOCK	FIELD		600433
				LAGGING		SPRAYED ASBESTOS	SHOP	600111		
				GAUGE BOARD		ASBESTOS SHEET & FELT	SHOP	600360		
		4	TURBINES SHIPPED DISASSEMBLED WESTINGHOUSE ERECTION SERVICE. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (EXCEPT FOR EXPORT ORDERS)	CYLINDER, STEAM CHEST, VALVES, ETC.	BLOCK - PLASTIC		FIELD	600729	NOTES "B" AND "C" (EXPORT ORDERS SUBSTITUTE NOTES "C" & "E")	
					PIPES	TO 10"	MOLDED	FIELD		600433
						OVER 10"	BLOCK	FIELD		600433
				LAGGING		SPRAYED ASBESTOS	SHOP	600111		
				GAUGE BOARD		ASBESTOS SHEET & FELT	SHOP	600360		
			TURBINES SHIPPED DISASSEMBLED WESTINGHOUSE INSTALLATION SERVICE. INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER. (EXCEPT FOR EXPORT ORDERS)	CYLINDER, STEAM CHEST, VALVES, ETC.	BLOCK - PLASTIC		FIELD	600729	NOTES "A" AND "C" (EXPORT ORDERS SUBSTITUTE NOTES "C" & "E")	
					PIPES	TO 10"	MOLDED	FIELD		600433
						OVER 10"	BLOCK	FIELD		600433
				LAGGING		SPRAYED ASBESTOS	SHOP	600111		
				GAUGE BOARD		ASBESTOS SHEET & FELT	SHOP	600360		

UNCONTROLLED COPY

NO AUTOMATIC REPLACEMENT

* FOR STEAM DRAIN AND GLAND AND CROSS-OVER OR CROSS-UNDER PIPING INSULATION SEE PAGE PH-920.2.

** FOR TEMPERATURES UP THRU 750°F NO LAGGING INSULATION NECESSARY IN THIS CLASS.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM DIVISION



STANDARD ENCOD

PH 920.1

INSULATION - CLASSES & APPLICATION

P 920.

(1) THE FOLLOWING DATA RELATIVE TO INSULATION FOR TURBINE PARTS SHOULD BE FOLLOWED UNLESS SPECIFIC CONTRACT REQUIREMENTS MAKE DEVIATION NECESSARY, IN WHICH CASE THE "D" SPEC. WILL SPECIFY IN DETAIL THE TYPE OF INSULATION AND PROCEDURE

(2) THE METHOD FOR INSULATING TURBINE CYLINDERS, MAIN STEAM PIPING, STEAM CHESTS, VALVES AND IRREGULAR SURFACES IS DIVIDED INTO CLASSES AS LISTED IN TABLE BELOW. "D" SPEC. WILL CALL FOR CLASS TO FOLLOW.

(3) SEE PAGE PM-920.2 FOR NOTES AND FOR INSULATION OF STEAM DRAIN AND GLAND PIPING AND CROSS-OVER OR CROSS-UNDER PIPING.

(4) SEE TABLE ON PAGE PM-920.3 FOR THICKNESSES REQUIRED AND MATERIAL SPECS. AND PAGE PM-920.4 AND 920.5 FOR ORDERING INFORMATION.

CHANGED

CLASS NO.	CLASS DESCRIPTION	PART TO BE INSULATED	INSULATION	APPLIED IN	PRICE SPEC	NOTES TO BE PLACED ON APPLICATION CABLE TAGS (SEE PM-920.2)
1	TURBINES SHIPPED ASSEMBLED - INCLUDING INSULATION. (THIS INCLUDES 146, 246 AND 286 FRAMES AND ALL INDUSTRIAL TURBINES COMING WITHIN THE LIMITS OF SHIPPING DIMENSIONS.)	CYLINDER BODY JOINTS PIPES TO 10" OVER 10" STEAM CHESTS, VALVES, & IRREGULAR SURFACES LAGGING** GAUGE BOARD	BLOCK BLOCK MOLDED BLOCK BLOCK AND GLAND SET SPRAYED ASBESTOS ASBESTOS SHEET & FELT	SHOP SHOP SHOP SHOP SHOP SHOP	600433 600354 600433 600433 600354 600111 600360	
2	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT. (THIS INCLUDES NON. COND. TURBS., M.P. TURBS. OF TANDEM UNITS AND ANY OTHER TURBINES WITH SEPARATE ** PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.)	CYLINDER, STEAM CHEST, VALVES, ETC. PIPES TO 10" OVER 10" LAGGING GAUGE BOARD	BLOCK - PLASTIC MOLDED BLOCK SPRAYED ASBESTOS ASBESTOS SHEET & FELT	FIELD FIELD FIELD SHOP SHOP	600729 600433 600433 600111 600360	NOTES "B" AND "C"
3	TURBINES SHIPPED ASSEMBLED BUT NOT INSULATED. INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER. (THIS INCLUDES NON. COND. TURBS., M.P. TURBS. OF TANDEM UNITS AND ANY OTHER TURBINES WITH SEPARATE ** PEDESTALS WHICH ARE LIFTED BY HORIZ. JT. BOLTS.)	CYLINDER, STEAM CHEST, VALVES, ETC. PIPES TO 10" OVER 10" LAGGING GAUGE BOARD	BLOCK - PLASTIC MOLDED BLOCK SPRAYED ASBESTOS ASBESTOS SHEET & FELT	FIELD FIELD FIELD SHOP SHOP	600729 600433 600433 600111 600360	NOTES "A" AND "C"
4	TURBINES SHIPPED DISASSEMBLED. WESTINGHOUSE ERECTION SERVICE. INSULATION FURNISHED AND APPLIED BY SERVICE DEPT.	CYLINDER, STEAM CHEST, VALVES, ETC. PIPES TO 10" OVER 10" LAGGING GAUGE BOARD	BLOCK - PLASTIC MOLDED BLOCK SPRAYED ASBESTOS ASBESTOS SHEET & FELT	FIELD FIELD FIELD SHOP SHOP	600729 600433 600433 600111 600360	NOTES "B" AND "C"
5	TURBINES SHIPPED DISASSEMBLED. WESTINGHOUSE INSTALLATION SERVICE. INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED BY THE PURCHASER.	CYLINDER, STEAM CHEST, VALVES, ETC. PIPES TO 10" OVER 10" LAGGING GAUGE BOARD	BLOCK - PLASTIC MOLDED BLOCK SPRAYED ASBESTOS ASBESTOS SHEET & FELT	FIELD FIELD FIELD SHOP SHOP	600729 600433 600433 600111 600360	NOTES "A" AND "C"

* FOR STEAM DRAIN AND GLAND AND CROSS OVER OR CROSS-UNDER PIPING INSULATION SEE PAGE PM-920.2.

** FOR TEMPERATURES UP THRU 750°F NO LAGGING INSULATION NECESSARY IN THIS CLASS.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

P 920.1

NOTES

NOTE "A" - WESTINGHOUSE INSTALLATION SERVICE:-

THIS INSULATING MATERIAL, INCLUDING WIRE, CEMENT, ETC., IS PURCHASED BY OUR SERVICE DEPARTMENT IN THE FIELD, AND IS TO BE SHIPPED DIRECTLY TO THE CUSTOMER'S PLANT. IT IS TO BE SUPPLIED AND APPLIED IN ACCORDANCE WITH SPECIFIED MATERIAL AND PROCESS SPECIFICATIONS. MATERIAL TO BE APPLIED BY THE INSTALLATION CONTRACTOR.

NOTE "B" - WESTINGHOUSE ERECTION SERVICE:-

THIS INSULATING MATERIAL, INCLUDING WIRE, CEMENT, ETC., IS TO BE FURNISHED AND APPLIED BY THE INSTALLATION CONTRACTOR IN THE FIELD. IT IS TO BE SUPPLIED AND APPLIED IN ACCORDANCE WITH SPECIFIED MATERIAL AND PROCESS SPECIFICATIONS.

NOTE "C" - EYE BOLT STUDS, STYLE NO. 270A091H01, REQUIRED FOR INSTALLATION OF INSULATION, ARE TO BE FURNISHED AND INSTALLED BY LESTER WORKS BEFORE SHIPPING TURBINE.

EXPANDED METAL MATERIAL FOR VALVE BONNETS AND FLANGES FURNISHED BY LESTER WORKS AND SHIPPED WITH THE UNIT IS TO BE FORMED IN THE FIELD BY THE INSTALLATION CONTRACTOR IN ACCORDANCE WITH PROCESS SPECIFICATION.

WHEN JOB IS BEING EXPORTED ADD:-

NOTE "D" - THIS INSULATING MATERIAL INCLUDING WIRE, CEMENT, ETC., IS TO BE SUPPLIED BY LESTER WORKS. IT IS TO BE BOXED FOR EXPORT SHIPMENT AND SHIPPED AS INSTRUCTED BY ORDER SERVICE DEPT. IT IS TO BE SUPPLIED AND APPLIED IN ACCORDANCE WITH SPECIFIED MATERIAL AND PROCESS SPECIFICATIONS. MATERIAL TO BE APPLIED BY THE INSTALLATION CONTRACTOR.

GENERAL INFORMATION

FOR TURBINE CYLINDERS, MAIN STEAM PIPING, VALVES, AND IRREGULAR SURFACES, THE FOLLOWING INFORMATION SHOULD BE SHOWN ON THE DETAIL PORTION OF THE DRAWING.

- (1) THICKNESS OF INSULATION FOR AREA INDICATED.
- (2) LENGTH AND APPROXIMATE AREA TO BE INSULATED: INDICATE INSULATION TO BE APPLIED IN THIS REGION WITH APPROPRIATE BALLOONS, ETC.).
- (3) EXPANDED METAL FOR TURBINE JOINT FLANGE, VALVE BONNETS, ETC. TO BE ORDERED IN B.M.

CHANGE

11	11/14
12	5/19
13	9/27
14	6/19

CROSS-OVER PIPES, CROSS-UNDER PIPES AND STEAM DRAIN & GLAND PIPINGSMALL TURBINES

THESE TURBINES DO NOT REQUIRE INSULATION FOR ANY PART OF THE STEAM DRAIN AND GLAND PIPING.

MEDIUM TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES AND NUMBER OF LAYERS IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED IN THE FIELD BY THE INSTALLATION CONTRACTOR.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

LARGE TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES AND NUMBER OF LAYERS IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED IN THE FIELD BY THE INSTALLATION CONTRACTOR.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

CROSS-OVER PIPES WILL BE INSULATED IN THE FIELD WITH SPRAYED ASBESTOS OR BLOCK INSULATION EXCEPT FOR JOINT FLANGES WHICH WILL BE INSULATED WITH BLANKETS MADE AND FITTED AT WESTINGHOUSE. INSULATION WILL BE ORDERED AS SHOWN ON PAGES PH-920.3 AND PH-920.5 FOR BLOCK AND 920.3 AND 920.4 FOR BLANKET.

THEATING OF CROSS-UNDER PIPES OR OTHER PIPES INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET ZONE FOR INSULATION PURPOSES SHALL BE DONE IN FIELD BY THE INSTALLATION CONTRACTOR TO PROCESS SPEC. 600790.

* SHOW LENGTH IN DETAIL PORTION OF Dwg.

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REP.

NOTES

NOTE "A" - WESTINGHOUSE INSTALLATION SERVICE-

THIS INSULATING MATERIAL, INCLUDING WIRE, CEMENT, ETC., IS PURCHASED BY OUR SERVICE DEPARTMENT IN THE FIELD, AND IS TO BE SHIPPED DIRECTLY TO THE CUSTOMER'S PLANT. IT IS TO BE SUPPLIED AND APPLIED IN ACCORDANCE WITH SPECIFIED MATERIAL AND PROCESS SPECS.

MATERIAL TO BE APPLIED BY CUSTOMER.

NOTE "B" - WESTINGHOUSE ERECTION SERVICE-

INSULATION TO BE FURNISHED AND APPLIED BY OUR SERVICE DEPT. IN THE FIELD.

NOTE "C" - THE FOLLOWING NOTE SHOULD BE ADDED TO DWG.:-

EYE BOLT STUDS, STYLE NO. 270A091K01, REQUIRED FOR INSTALLATION OF INSULATION, ARE TO BE FURNISHED AND INSTALLED BY WESTINGHOUSE BEFORE SHIPPING TURBINE.

EXPANDED METAL SECTIONS FOR VALVE BONNETS AND SPECIAL FLANGES MADE BY WESTINGHOUSE AND SHIPPED WITH THE UNIT.

WHEN JOB IS BEING EXPORTED ADD:-

THIS IS AN EXPORT ORDER. INSULATION MATERIALS ARE TO BE BOXED FOR EXPORT SHIPMENT AND SHIPPED TO THE FIELD BY THE SUPPLIER.

GENERAL INFORMATION

FOR TURBINE CYLINDERS, MAIN STEAM PIPING, VALVES, AND IRREGULAR SURFACES, THE FOLLOWING INFORMATION SHOULD BE SHOWN ON THE DETAIL PORTION OF THE DRAWING.

- (1) THICKNESS OF INSULATION FOR AREA INDICATED.
- (2) LENGTH AND APPROXIMATE AREA TO BE INSULATED (INDICATE INSULATION TO BE APPLIED IN THIS REGION WITH APPROPRIATE BALLOONS, ETC.).
- (3) EXPANDED METAL FOR TURBINE JOINT FLANGE, VALVE BONNETS, ETC. TO BE ORDERED IN B.W.

CROSS-OVER PIPES, CROSS-UNDER PIPES AND STEAM DRAIN & GLAND PIPING

SMALL TURBINES

THESE TURBINES DO NOT REQUIRE INSULATION FOR ANY PART OF THE STEAM DRAIN AND GLAND PIPING.

MEDIUM TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES AND NUMBER OF LAYERS IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED IN THE FIELD.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

LARGE TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES AND NUMBER OF LAYERS IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY WESTINGHOUSE AND APPLIED IN THE FIELD.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

CROSS-OVER PIPES ARE COMPLETELY INSULATED AT WESTINGHOUSE WITH MATERIAL ORDERED AS SHOWN ON PAGES PH-920.3 AND PH-920.5. JOINT FLANGE BLANKETS ARE MADE AND FITTED AT WESTINGHOUSE AND INSTALLED AFTER PIPE IS ERECTED IN THE FIELD.

SHEATHING OF CROSS-UNDER PIPES OR OTHER PIPES INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET ZONE FOR INSULATION PURPOSES SHALL BE DONE IN FIELD BY ERECTION OR INSTALLATION SERVICE TO PROCESS SPEC. 600790.

* SHOW LENGTH IN DETAIL PORTION OF DWG.

600051

NOTES

NOTE "A" - WESTINGHOUSE INSTALLATION SERVICE:-

THIS INSULATING MATERIAL, INCLUDING WIRE, CEMENT, ETC., IS PURCHASED BY OUR SERVICE DEPARTMENT IN THE FIELD, AND IS TO BE SHIPPED DIRECTLY TO THE CUSTOMER'S PLANT. IT IS TO BE SUPPLIED IN ACCORDANCE WITH SPECIFIED PROCESS SPEC. AND MATERIAL SPEC.

MATERIAL TO BE APPLIED BY CUSTOMER.

NOTE "B" - WESTINGHOUSE ERECTION SERVICE:-

INSULATION TO BE FURNISHED AND APPLIED BY OUR SERVICE DEPT. IN THE FIELD.

NOTE "C" - THE FOLLOWING NOTE SHOULD BE ADDED TO OMC:-

EYE BOLT STUDS, STYLE NO. 270A091H03, REQUIRED FOR INSTALLATION OF INSULATION, ARE TO BE FURNISHED AND INSTALLED BY SOUTH PHILA. BEFORE SHIPPING TURBINE.

EXPANDED METAL SECTIONS FOR VALVE BONNETS AND SPECIAL FLANGES MADE BY SOUTH PHILA. AND SHIPPED WITH THE UNIT.

WHEN JOB IS BEING EXPORTED ADD:-

THIS IS AN EXPORT ORDER. INSULATION MATERIALS ARE TO BE BOXED FOR EXPORT SHIPMENT, AND SHIPPED TO THE FIELD BY THE SUPPLIER.

GENERAL INFORMATION

FOR TURBINE CYLINDERS, MAIN STEAM PIPING, VALVES, AND IRREGULAR SURFACES, THE FOLLOWING INFORMATION SHOULD BE SHOWN ON THE DETAIL PORTION OF THE DRAWING.

- (1) THICKNESS OF INSULATION FOR AREA INDICATED.
- (2) LENGTH AND APPROXIMATE AREA TO BE INSULATED. INDICATE INSULATION TO BE APPLIED IN THIS REGION WITH APPROPRIATE BALLOONS, ETC.
- (3) EXPANDED METAL FOR TURBINE JOINT FLANGE, VALVE BONNETS, ETC. TO BE ORDERED IN O.M.

CROSS-OVER PIPES, CROSS-UNDER PIPES AND STEAM DRAIN & GLAND PIPINGSMALL TURBINES

THESE TURBINES DO NOT REQUIRE INSULATION FOR ANY PART OF THE STEAM DRAIN AND GLAND PIPING.

MEDIUM TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY SOUTH PHILA. AND APPLIED IN THE FIELD.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

LARGE TURBINES

ALL STEAM DRAIN AND GLAND PIPING WILL BE INSULATED WITH THICKNESSES IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4, WITH THE INSULATION FURNISHED BY SOUTH PHILA. AND APPLIED IN THE FIELD.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

CROSS-OVER PIPES ARE COMPLETELY INSULATED AT SOUTH PHILA. WITH MATERIAL ORDERED AS SHOWN ON PAGES PH-920.3 AND PH-920.5. JOINT FLANGE BLANKETS ARE MADE AND FITTED AT SOUTH PHILA. AND INSTALLED AFTER PIPE IS ERECTED IN THE FIELD.

SLATHING OF CROSS-UNDER PIPES OR OTHER PIPES INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET ZONE FOR INSULATION PURPOSES SHALL BE DONE IN FIELD BY ERECTION OR INSTALLATION SERVICE TO PROCESS SPEC. 600790.

600095

REF.



NOTE "A" SUPERVISION ONLY:- THIS INSULATING MATERIAL, INCLUDING WIRE, CEMENT, ETC. AND EXPANDED METAL WHEN ORDERED, IS PURCHASED BY SOUTH PHILA. AND IS TO BE SHIPPED DIRECTLY TO THE CUSTOMER'S PLANT.

IT IS TO BE SUPPLIED IN ACCORDANCE WITH SPECIFIED PROCESS SPEC. AND MATERIAL SPEC.

MATERIAL TO BE APPLIED BY CUSTOMER.

NOTE "B" INSULATION TO BE FURNISHED AND APPLIED BY OUR SERVICE DEPT. IN THE FIELD.

NOTE "C" THE FOLLOWING NOTE SHOULD BE ADDED TO DWG.

"RAILS, STAPLES, RIVETS AND ANY OTHER NECESSARY ATTACHMENTS REQUIRED FOR INSTALLATION OF INSULATION ARE TO BE FURNISHED AND INSTALLED BY SOUTH PHILA. BEFORE SHIPPING TURBINE.

EXPANDED METAL SECTIONS FOR VALVE BONNETS AND SPECIAL FLANGES, MADE BY SOUTH PHILA. AND SHIPPED WITH THE CRIT.

GENERAL INFORMATION

FOR TURBINE CYLINDERS, MAIN STEAM PIPING, VALVES, AND IRREGULAR SURFACES THE FOLLOWING INFORMATION SHOULD BE SHOWN ON THE DETAIL PORTION OF THE DRAWING.

- (1) THICKNESS OF INSULATION PER AREA INDICATED.
- (2) LENGTH AND APPROXIMATE AREA TO BE INSULATED (INDICATE INSULATION TO BE APPLIED IN THIS REGION WITH APPROPRIATE PALLIARDS ETC.).
- (3) EXPANDED METAL FOR TURB. JOINT FLANGE, VALV. BONNETS, ETC. TO BE ORDERED IN S/W.

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CROSS UNDER-CROSS OVER PIPES
AND
STEAM, DRAIN AND GLAND PIPING

GENERAL PURPOSE AND "M" TURBINES

THESE TURBINES DO NOT REQUIRE INSULATION FOR ANY PORTION OF THE STEAM, DRAIN AND GLAND PIPING.

INDUSTRIAL TURBINES

ALL STEAM PIPING (EXCEPT THE SEALING STEAM PIPING TO THE STEAM GLANDS ON CONDENSING UNITS) WILL BE INSULATED, WITH THICKNESSES IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4.

FOR CLASS #1 UNITS - ALL INSULATION FURNISHED BY SOUTH PHILA. AND APPLIED IN THE FIELD.
OTHER CLASSES AS LISTED ON PAGE PH-920.1.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

CENTRAL STATION TURBINES

ALL STEAM PIPING WILL BE INSULATED, WITH THICKNESSES IN ACCORDANCE WITH PAGE PH-920.3 AND ORDERED IN ACCORDANCE WITH PAGE PH-920.4.

FOR CLASS #1 UNITS - ALL INSULATION FURNISHED BY SOUTH PHILA. AND APPLIED IN THE FIELD.
OTHER CLASSES AS LISTED ON PAGE PH-920.1.

GLAND WATER SUPPLY PIPING TO BE INSULATED WITH CORK AS LISTED ON PAGE PH-920.4.

CROSS OVER PIPES ARE COMPLETELY INSULATED AND SHIPPED WITH BLOCK INSULATION IN PLACE. JOINT FLANGE BLANKETS ARE MADE AND FITTED AT SOUTH PHILA., AND INSTALLED AFTER PIPE IS ERECTED IN THE FIELD.

CROSS OVER PIPES ON OUTDOOR UNITS ARE TO HAVE A FINAL COAT OF WATERPROOFING PAINT (CHEESMAN ELLIST 43-2 OR EQUAL) APPLIED AS REQUIRED BY CLASS.

CROSS UNDER PIPES AS A RULE ARE INSULATED IN THE FIELD PER 600433 PART I ITEM 7.

ORDER S.S. SHEETING AS FOLLOWS:

ITEM	DESCRIPTION	MATERIAL
1	S.S. SHEET 36 X REQ. LENGTH X 1/16 THICK	4562-2

THE WAREHOUSE SHEET SIZES AVAILABLE ARE 36 X 96 AND 36 X 120.

FOR DIAPHRAGMS AND IRREGULAR SURFACES ORDER SUFFICIENT WAREHOUSE STOCK SHEETS AS A SEPARATE ITEM.

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DORFMAN

INSULATION-THICKNESS AND TEMP RANGE

P
H 920.3

BY REFERRING TO THE TABLES BELOW, THE PROPER THICKNESS AND TYPE OF INSULATION CAN BE DETERMINED FOR A GIVEN TEMPERATURE CONDITION.
• FOR TEMPERATURES OVER 400°F., SPECIFY DOUBLE LAYER INSULATION. THE THICKNESS OF EACH LAYER SHALL BE HALF THE TOTAL THICKNESS.
WHEN SPRAYED ASBESTOS INSULATION SPEC. 400-1A IS USED INS. THICKNESS SHALL BE 1.5 TIMES THE THICKNESS OF INSULATION
54251A AS THICKNESS SPECIFIED FOR 400433 GP 402727.

PIPE INSULATION (EXCEPT AS NOTED)

CHANGED		INSULATION TYPE	PROCESS SPEC.	PIPE SIZE	MATERIAL	TEMPERATURE °F.									
1/16/68	13					UP TO 100	301 TO 450	451 TO 600	601 TO 750	751 TO 900	901 TO 1050	1051 TO 1200	1201 TO 1350	1351 TO 1500	
0/6/68	14	MOLDED	400433 PART II	.500	* 54251AH	1.00	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
					44601BA	1.00	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
				.750	* 54251AH	1.00	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
					44601BA	1.00	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
				1.000	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				1.250	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				1.500	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				2.000	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					INNER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				OUTER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00		
				2.500	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					INNER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				OUTER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00		
				3.000	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					INNER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				OUTER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00		
				3.500	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					INNER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				OUTER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00		
				4.000	* 54251AH	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					44601BA	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
					INNER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
				OUTER	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00		
				5.000	* 54251AH	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	
					44601BA	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	
		INNER	1.50		2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
		OUTER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50				
		6.000	* 54251AH	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			44601BA	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			INNER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
		OUTER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50				
		8.000	* 54251AH	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			44601BA	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			INNER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
		OUTER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50				
		10.000	* 54251AH	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			44601BA	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
			INNER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50			
		OUTER	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50				
BLOCK	400433 PART I	PIPE OVER 10.000 INCH. TURB. CYLS. ETC.	* 46102BB	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00			
			44601BA	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00			
			INNER	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00			
			46102BA	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00			
			OUTER	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00			

INSULATION (OTHER THAN PIPE)

INSULATION TYPE	PROCESS SPEC.	MATERIAL	TEMPERATURE °F.								
			UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 900	901 TO 1050	1051 TO 1200	1201 TO 1350	1351 TO 1500
BLANKET	600359 PART I	AS REQ'D. BY PROCESS SPECIFICATION	2.000	2.500	3.000	-----	-----	-----	-----	-----	-----
	600359 PART IV		-----	-----	-----	3.500	2.000 (INNER) 2.000 (OUTER)	2.500 (INNER) 2.500 (OUTER)	2.500 (INNER) 2.500 (OUTER)	2.500 (INNER) 3.000 (OUTER)	3.000 (INNER) 3.000 (OUTER)
BLOCK AND PLASTIC	600729	44601AB BLOCK	2.000	2.000	2.500	2.500	1.000	3.500	1.500	4.000	4.000
		44110BJ PLASTIC	.500	1.000	1.500	2.000	2.000	2.000	2.500	2.500	3.000
BLOCK	620360	44102BB	1.000 THICK								
SPRAYED INSUL. COMPOUND	60C111 PT. I	54251AC	.250 FOR STRAIGHT SIDE OR CLOSE FITTING ENCLOSURES.								
	60C111 PT. II		.100 FOR SLOPING WALL OR WIDE CLEARANCE ENCLOSURES.								

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM DIVISIONS



STANDARDS ENGRG.

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H 920.3

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INSULATION — THICKNESS AND TEMP. RANGE

P H 920.3

BY REFERRING TO THE TABLES BELOW, THE PROPER THICKNESS AND TYPE OF INSULATION MAY BE DETERMINED FOR A GIVEN TEMPERATURE CONDITION.

• FOR TEMPERATURES OVER 600°F., SPECIFY "DOUBLE LAYER" IN B/M WHEN ORDERING THESE MATERIALS. FIGURES SHOW TOTAL THICKNESS.

PIPE INSULATION (EXCEPT AS NOTED)

CHANGED		INSULATION TYPE	PROCESS SPEC.	PIPE SIZE	MATERIAL	TEMPERATURE °F									
						UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200	
9/5/62	8	MOLDED	600433 PART II	1/2	• 54251AM	1	1	1-1/2	2	2	2-1/2	2-1/2	-----	-----	
11/27/62	9				46601BA	-----	-----	-----	-----	-----	-----	3	3		
8/18/64	10			3/4	• 54251AM	1	1	1-1/2	2	2-1/2	2-1/2	3	-----	-----	
					46601BA	-----	-----	-----	-----	-----	-----	3	3		
				1	• 54251AM	1	1-1/2	2	2	2-1/2	2-1/2	3	-----	-----	
					46601BA	-----	-----	-----	-----	-----	-----	3	3		
				1-1/4	• 54251AM	1	1-1/2	2	2-1/2	2-1/2	3	3	-----	-----	
					46601BA	-----	-----	-----	-----	-----	-----	3	3		
				1-1/2	• 54251AM	1	1-1/2	2	2-1/2	2-1/2	3	3	-----	-----	
					46601BA	-----	-----	-----	-----	-----	-----	3	3		
				2	• 54251AM	1	1-1/2	2	2-1/2	3	3	3-1/2	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	1	1-1/2	
					OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2		
				2-1/2	• 54251AM	1	1-1/2	2	2-1/2	3	3-1/2	3-1/2	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	3	1-1/2	
					OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2		
				3	• 54251AM	1	1-1/2	2	2-1/2	3	3-1/2	4	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	1-1/2	2	
					OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2		
				3-1/2	• 54251AM	1	1-1/2	2	2-1/2	3	3-1/2	4	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	1-1/2	2	
					OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2		
				4	• 54251AM	1	2	2-1/2	3	3-1/2	4	4	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	2	2	
					OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2		
				5	• 54251AM	1-1/2	2	2-1/2	3	3-1/2	4	4	-----	-----	
					46601BA	INNER	-----	-----	-----	-----	-----	-----	2	2	
			OUTER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2				
		6	• 54251AM	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	-----	-----			
			46601BA	INNER	-----	-----	-----	-----	-----	-----	2	2			
			OUTER	-----	-----	-----	-----	-----	-----	3	3				
		8	• 54251AM	1-1/2	2	2-1/2	3-1/2	4	4	5	-----	-----			
			46601BA	INNER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2			
			OUTER	-----	-----	-----	-----	-----	-----	3	3				
		10	• 54251AM	1-1/2	2-1/2	3	3-1/2	4	4-1/2	5	-----	-----			
			46601BA	INNER	-----	-----	-----	-----	-----	-----	2-1/2	2-1/2			
			OUTER	-----	-----	-----	-----	-----	-----	3	3				
		BLOCK	600433 PART I	PIPE OVER 10 IN., INDOUS. TUBS, CYLS., ETC.	• 461028B	1-1/2	2-1/2	3	3-1/2	4	4-1/2	5	-----	-----	
					46601AA INNER	-----	-----	-----	-----	-----	-----	2-1/2	2		
					461028B OUTER	-----	-----	-----	-----	-----	-----	3	3		

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NO AUTOMATIC REPRODUCTION

INSULATION (OTHER THAN PIPE)

INSULATION TYPE	PROCESS SPEC.	MATERIAL	TEMPERATURE °F.								
			UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200
BLANKET	600359 PART I	AS REQ'D. BY PROCESS SPECIFICATION	2	2-1/2	3	—	—	—	—	—	—
	600359 PART IV		—	—	—	3-1/2	2 INNER 2 OUTER	2 INNER 2-1/2 OUTER	2-1/2 INNER 2-1/2 OUTER	2-1/2 INNER 3 OUTER	3 INNER 3 OUTER
BLOCK AND PLASTIC	600729	46601AB	2	2	2	2-1/2	3	3-1/2	3-1/2	4	4
		46110BJ	1/2	1	1-1/2	2	2	2	2-1/2	2-1/2	3
BLOCK	600360	461028B	1 IN. THICK								
SPRAYED ASBESTOS	600111	54251AC	1/4 IN. THICK								

600054

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM ENGINEERING (W) ---

P. 920.3

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NO AUTOMATIC REPLACEMENT

600054

INSULATION — THICKNESS AND TEMP. RANGE

P H 920.3

BY REFERRING TO THE TABLES BELOW, THE PROPER THICKNESS AND TYPE OF INSULATION MAY BE ORDERED FOR A GIVEN TEMPERATURE CONDITION.
FOR TEMPERATURES OVER 600°F., SPECIFY "DOUBLE LAYER" IN B. M. WHEN ORDERING THESE MATERIALS. FIGURES SHOW TOTAL THICKNESS.

PIPE INSULATION (EXCEPT AS NOTED)

CHANGED		INSULATION TYPE	PROCESS SPEC.	PIPE SIZE	MATERIAL	TEMPERATURE °F.													
9/5/62	8					UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200					
		MOLDED	600433 PART II	1/2	• 54251AM	1	1	1-1/2	2	2	2-1/2	2-1/2	3	3					
					46601BA	-----	-----	-----	-----	-----	-----	-----	3	3					
				3/4	• 54251AM	1	1	1-1/2	2	2-1/2	2-1/2	3	-----	---					
					46601BA	-----	-----	-----	-----	-----	-----	-----	3	3					
				1	• 54251AM	1	1-1/2	2	2	2-1/2	2-1/2	3	-----	---					
					46601BA	-----	-----	-----	-----	-----	-----	-----	3	3					
				1-1/4	• 54251AM	1	1-1/2	2	2-1/2	2-1/2	3	3	-----	---					
					46601BA	-----	-----	-----	-----	-----	-----	-----	3	3					
				1-1/2	• 54251AM	1	1-1/2	2	2-1/2	2-1/2	3	3	-----	---					
					46601BA	-----	-----	-----	-----	-----	-----	-----	3	3					
				2	• 54251AM	1	1-1/2	2	2-1/2	3	3	3-1/2	-----	---					
					46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	1	1-1				
				2-1/2	46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	2-1/2	2-1				
					• 54251AM	1	1-1/2	2	2-1/2	3	3-1/2	1-1/2	-----	---					
				3	46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	1	1-1				
					46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	2-1/2	2-1			
				3-1/2	• 54251AM	1	1-1/2	2	2-1/2	3	3-1/2	4	-----	---					
					46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	-----	1-1/2	2			
				4	46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	2-1/2	2-1			
					• 54251AM	1	2	2-1/2	3	3-1/2	4	4	-----	---					
				5	46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	-----	2	2			
					46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	-----	2-1/2	2-1		
				6	• 54251AM	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	-----	---					
					46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	-----	2	2			
				8	46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	3	3			
					• 54251AM	1-1/2	2	2-1/2	3-1/2	4	4	5	-----	---					
				10	46601BA	INNER	-----	-----	-----	-----	-----	-----	-----	-----	2-1/2	2-1			
					46601BA	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	-----	3	3		
				BLOCK	600433 PART I	PIPE OVER 10 IN.; INDUS. TURB. CYLS., ETC.	• 46102BB	1-1/2	2-1/2	3	3-1/2	4	4-1/2	5	-----	---			
							46601AA	INNER	-----	-----	-----	-----	-----	-----	-----	-----	-----	2-1/2	3
							46012BB	OUTER	-----	-----	-----	-----	-----	-----	-----	-----	-----	3	3

INSULATION (OTHER THAN PIPE)

INSULATION TYPE	PROCESS SPEC.	MATERIAL	TEMPERATURE °F.								
			UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200
BLANKET	600359 PART I	AS REQ'D. BY PROCESS SPECIFICATION	2	2-1/2	3	-----	-----	-----	-----	-----	---
	600359 PART IV		-----	-----	-----	3-1/2	2 (INNER) 2 (OUTER)	2 (INNER) 2-1/2 (OUTER)	2-1/2 (INNER) 2-1/2 (OUTER)	2-1/2 (INNER) 3 (OUTER)	3 (INNER) 3 (OUTER)
BLOCK AND PLASTIC	600729	46601AB	2	2	2	2-1/2	3	3-1/2	3-1/2	4	4
		46110BJ	1/2	1	1-1/2	2	2	2	2-1/2	2-1/2	3
BLOCK	600360	46102BB	----- 1 IN. THICK -----								
SPRAYED ASBESTOS	600111	54251AC	----- 1/4 IN. THICK -----								

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

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INSULATION - THICKNESS AND TEMP. RANGE

P H 920.3

BY REFERRING TO THE TABLES BELOW, THE PROPER THICKNESS AND TYPE OF INSULATION MAY BE ORDERED FOR A GIVEN TEMPERATURE CONDITION.

PIPE INSULATION (EXCEPT AS NOTED)

CHANGED	INSULATION TYPE	PROCESS SPEC.	PIPE SIZE	MATERIAL	TEMPERATURE °F.									
					UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200	
7/24/61	7		1/2	5779	1	1	1-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
			3/4	5779	1	1	1-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
			1	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
			1-1/4	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
			1-1/2	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
			2	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			2-1/2	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			3	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			3-1/2	5779	1	1-1/2	2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			4	5779	1	2	2-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			5	5779	1-1/2	2	2-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			6	5779	1-1/2	2	2-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			8	5779	1-1/2	2	2-1/2	2	2	2-1/2	2-1/2	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			10	5779	1-1/2	2-1/2	3	3	3	3	3	3	3	
				7310	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
				INNER	1	1	1	1	1	1	1	1-1/2	1-1/2	
				OUTER	1-1/2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
			PIPE OVER 10 IN., INDUS. TURB. CYLS., ETC.	7308	1-1/2	2-1/2	3	3	3	3	3	3	3	
				7309-1 INNER	1-1/2	2-1/2	3	3	3	3	3	3	3	
				7308 OUTER	2	2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	
	BLOCK	600433 PART I												

INSULATION (OTHER THAN PIPE)

INSULATION TYPE	PROCESS SPEC.	MATERIAL	UP TO 300	301 TO 450	451 TO 600	601 TO 750	751 TO 850	851 TO 950	951 TO 1050	1051 TO 1150	1151 TO 1200
BLANKET	600359 PART I	AS REQ'D. BY PROCESS SPECIFICATION	2	2-1/2	3	3-1/2	4	4-1/2	2-1/2 (INNER)	2-1/2 (INNER)	3 (INNER)
	600359 PART II		2	2-1/2	3	3-1/2	4	4-1/2	2-1/2 (OUTER)	2-1/2 (OUTER)	3 (OUTER)
	600359 PART III		2	2-1/2	3	3-1/2	4	4-1/2	2-1/2 (INNER)	2-1/2 (INNER)	3 (INNER)
	600359 PART IV		2	2-1/2	3	3-1/2	4	4-1/2	2-1/2 (OUTER)	2-1/2 (OUTER)	3 (OUTER)
BLOCK AND PLASTIC	600729	730V-2 8407	2	2	2	2-1/2	3	3-1/2	2-1/2	2-1/2	3
ASBESTOS FELT AND SHEET	600360	778V 778I	2	2	2	2-1/2	3	3-1/2	2-1/2	2-1/2	3
SPRAYED ASBESTOS	600111	4057-3	2	2	2	2-1/2	3	3-1/2	2-1/2	2-1/2	3

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM DIVISION



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600092

10/53

INSULATION - THICKNESS & SPECS

PH 920.

CHALLENGE

LISTED FOLLOWING ARE THICKNESS AND MATERIAL SPECS. REQUIRED FOR VARIOUS TEMPERATURE CONDITIONS AND SHOULD BE FOLLOWED UNLESS SPECIFIC CONTRACT REQUIREMENTS MAKE DEVIATION NECESSARY. IN WHICH CASE THE "D" SPEC. WILL SPECIFY REQUIREMENTS IN DETAIL.

MANGED

1/64 2

20/55 3

TABLE "Y"

INSULATION TYPE	PROCESS SPEC.	PIPE SIZE	MTL.	TEMPERATURE CONDITION (°F)							
				UP TO 350	351 TO 500	501 TO 650	651 TO 825	826 TO 950	951 TO 1000	1001 TO 1200	
MOLED	600433 PART II	1/2	5779	1 1/2	1 1/2	—	—	—	—	—	—
			7310	—	—	2	2	2 1/2	2 1/2	2 1/2	—
		3/4	5779	1 1/2	1 1/2	—	—	—	—	—	—
			7310	—	—	2	2	2 1/2	2 1/2	2 1/2	—
		1	5779	1 1/2	1 1/2	—	—	—	—	—	—
			7310	—	—	2	2	2 1/2	2 1/2	2 1/2	—
		1 1/4	5779	1 1/2	1 1/2	—	—	—	—	—	—
			7310	—	—	2	2	2 1/2	2 1/2	2 1/2	—
		1 1/2	5779	1 1/2	1 1/2	—	—	—	—	—	—
			7310	—	—	2	2	2 1/2	2 1/2	2 1/2	—
		2	5779	1 1/2	2	—	—	—	—	—	—
			7310 INNER	—	—	1	1	1 1/2	1 1/2	2	—
			7310 OUTER	—	—	2	2 1/2	2 1/2	2 1/2	2 1/2	—
		2 1/2	5779	1 1/2	2	—	—	—	—	—	—
			7310 INNER	—	—	1	1	1 1/2	1 1/2	2	—
			7310 OUTER	—	—	2	2 1/2	2 1/2	2 1/2	2 1/2	—
		3	5779	1 1/2	2	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	1 1/2	2	2	2	—
			7310 OUTER	—	—	2	2 1/2	2 1/2	2 1/2	2 1/2	—
		3 1/2	5779	1 1/2	2	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	1 1/2	2	2	2	—
			7310 OUTER	—	—	2	2 1/2	2 1/2	2 1/2	2 1/2	—
		4	5779	1 1/2	2 1/2	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	1 1/2	2	2	2 1/2	—
			7310 OUTER	—	—	2	2 1/2	2 1/2	2 1/2	2 1/2	—
		5	5779	1 1/2	2 1/2	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	2	2	2 1/2	2 1/2	—
			7310 OUTER	—	—	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	—
		6	5779	1 1/2	2 1/2	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	2	2	2 1/2	2 1/2	—
			7310 OUTER	—	—	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	—
		8	5779	2	3	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	2	2	2 1/2	2 1/2	—
			7310 OUTER	—	—	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	—
		10	5779	2	3	—	—	—	—	—	—
			7310 INNER	—	—	1 1/2	2	2	2 1/2	2 1/2	—
			7310 OUTER	—	—	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	—
BLOCK	600433 PART I	PIPES OVER 10" AND IND. TURB. CYLS. ETC.	7308	2 1/2	3	—	—	—	—	—	—
			7309-1 INNER	—	—	1 1/2	2	2 1/2	3	3 1/2	—
BLANKET	600369 PART I	INDUSTRIAL TURBINE HORIZONTAL JOINT FLANGES ETC.	7308 OUTER	—	—	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	—
	600369 PART II		AS REQUIRED BY PROCESS	2 1/2	3	—	—	—	—	—	—
	600359 PART III		AS REQUIRED BY PROCESS	—	—	4	4 1/2	—	—	—	—
PLASTIC	600362	STM. CHESTS & VLV. BOOIES	8407	2	3	4	5 1/2	6	6 1/2	7	—
BLOCK AND PLASTIC	600729	CENT. STATURE PARTS, VALVE BONNET AND PIPE FLANGES	7309-2	2	2	2	2	2	3	3	—
			8407	1 1/2	1	2	3 1/2	4	4 1/2	5	—
ASBESTOS FELT AND SHEET	600360	UNDER SIDE OF LAGGING	7789 7791	1" THICK REQUIRED FOR UNDERSIDE OF LAGGING WHEN INITIAL TEMP. IS OVER 775° F							

600014

WESTINGHOUSE ELECTRIC CORPORATION PHILA. PA. U.S.A.
STEAM DIVISION

P 0200

ISSUED 90
020337BY:
M. DORFMANUSER INLET ZONE,
OR INSULATION

EXAMPLES FOR ORDERING PIPE, FLOTH AND PLASTIC INSULATION

ITEM	DESCRIPTION	MTL.	REQ.
1	MOLDED INSULATION 2.500 PIPE 2.00 THK. - PROC. 600433 PART II	54251AM	1 SET
2	MOLDED INSULATION (DOUBLE LAYER) 2.500 PIPE 3.00 THK. - PROC. 600433 PART II	54251AM	1 SET
3	MOLDED INSULATION 2.500 PIPE INNER 1.50 THK. OUTER 1.50 THK. - PROC. 600433 PART II	46601BA	1 SET
4	BLOCK INSULATION 2.50 THK. - INNER - PROC. 600433 PART I	46601AA	1 SET
5	BLOCK INSULATION 3.00 THK. - OUTER - PROC. 600433 PART I	46602BA	1 SET
6	BLANKET INSULATION 3.50 THK. - PROC. 600355 PART IV	-----	1 SET
7	PIPE SHEATHING INSULATION - PROC. 600790	-----	1 SET

- * FOR CROSS-OVER PIPES AND PIPES OVER 20.000 SEE PAGE PH 920.5.
 * FOR CROSS-UNDER OR OTHER PIPING INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET.

EXAMPLES FOR ORDERING BLOCK AND PLASTIC INSULATION

ITEM	DESCRIPTION	MTL.	REQ.
1	BLOCK INSULATION 3.00 THK. PLASTIC INSULATION 2.00 THK. - PROC. 600724	-----	1 SET
2	EXPANDED METAL 48.000 x 96.000 x .070 THK. - PROC. 600729	10144AB	4 SHEETS

EXAMPLE FOR ORDERING SPRAYED ASBESTOS INSULATION

ITEM	DESCRIPTION	MTL.	REQ.
1	SPRAYED ASBESTOS INSULATION 3.00 THK. - PROC. 600716	54251AQ	950 SQ. FT.

EXAMPLES FOR ORDERING ENCLOSURE, GAUGE BOARD AND COLD WATER SUPPLY PIPING INSULATION

ITEM	DESCRIPTION	MTL.	REQ.
1	SPRAYED INSULATION COMPOUND - PROC. 603111	54251AC	116 GAL.
2	SPRAYED INSULATION COMPOUND PRIMER - PROC. 603111	322300T	2 GAL.
3	GAUGE BOARD INSULATION 1.00 THK. - PROC. 600370	-----	1 SET
4	INSUL. PAINT - PIPE 1.500 x 100 FT. LG. - FINISH SPEC. 315-F	53314TC	1 PINT
5	CORK INSUL. - PIPE 1.500 x 100 FT. LG. - FINISH SPEC. 315-F	22302ED	4-1 24

GENERAL ORDERING INFORMATION:-

1. WHEN ORDERING BLOCK INSULATION FOR PIPE GIVE PIPE SIZE IN O/M.
2. MATERIAL 54251AC SPRAYED INSULATION:- ONE GALLON COVERS 4.50 SQUARE FEET .25 THICK.
3. MATERIAL 322300T SPRAYED INSULATION PRIMER:- ONE GALLON COVERS 300 SQUARE FEET.
4. MATERIAL 53314TC BLACK ADHESIVE PAINT:- ONE QUART COVERS 100 SQUARE FEET.
5. MATERIAL 22302ED GRANULATED CORK:- ONE LB. COVERS 10 SQUARE FEET .12 THICK.
6. EVEN THOUGH AMOUNT OF INSULATION MATERIAL IS NOT SHOWN IN O/M FOR SOME ITEMS, THE LENGTH AND APPROXIMATE AREA TO BE COVERED SHOULD BE SHOWN ON DETAIL DRAWING AS NOTED ON PAGE PH 920.2 GENERAL INFORMATION.

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REF.

PH 920.4

INSULATION - ORDERING INFORMATION

1152
BY-
W DGRF

EXAMPLES FOR ORDERING PIPE, BLOCK AND BLANKET INSULATION

ITEM	DESCRIPTION --	MTL	REQ.
1	MOLDED INSULATION 2-1/2 PIPE 2 IN. THK. PROC. 600433 PT. II	54251AM	1 SET
2	MOLDED INSULATION (DOUBLE LAYER) 2-1/2 PIPE 3 IN. THK. PROC. 600433 PART II	54251AM	1 SET
3	MOLDED INSULATION 2-1/2 PIPE INNER 1-1/2 THK. PROC. 600433 PART II OUTER 1-1/2 THK.	46601BA	1 SET
4	BLOCK INSULATION 2-1/2 IN. THK. - INNER - PROC. 600433 PART I	46601AA	1 SET
5	BLOCK INSULATION 3 IN. THK. - OUTER - PROC. 600433 PART I	46102BB	1 SET
6	BLANKET INSULATION 3-1/2 IN. THK. PROC. 600359 PART IV	---	1 SET
7	PIPE SHEATHING INSULATION PROC. 600790	---	1 SET

- * FOR CROSS-OVER PIPES AND PIPES OVER 20 IN. SEE PAGE PH 920.5
- ** FOR CROSS-UNDER OR OTHER PIPING INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET.

EXAMPLES FOR ORDERING BLOCK & PLASTIC INSULATION

ITEM	DESCRIPTION --	MTL	REQ.
1	BLOCK INSULATION 3 IN. THK. PLASTIC INSULATION 3 IN. THK. PROC. 600729	---	1 SET
2	EXPANDED METAL 48 x 96 x .070 THK. PROC. 600729	2353-7	4 SHEETS

EXAMPLES FOR ORDERING LAGGING, CAUCE BOARD, AND GLAND WATER SUPPLY PIPING INSULATION

ITEM	DESCRIPTION --	MTL	REQ.
1	SPRAYED INSULATION PROC. 600111	54251AC	110 GAL.
2	SPRAYED INSULATION PRIMER PROC. 600111	6449	2 GAL.
3	CAUCE BOARD INSULATION 1 IN. THK. PROC. 600380	---	1 SET
4	INSUL. PAINT - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	53314TG	1 QRTZ
5	CORK INSUL. - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	22302ED	4-1/20

GENERAL ORDERING INFORMATION:

1. WHEN ORDERING BLOCK INSULATION FOR PIPE GIVE PIPE SIZE IN B/M.
2. FOR SHEET METAL COVERS FOR STANDARD PIPE FLANGES SEE PAGE PH 777.1. FOR PRESSURES AND SIZES NOT COVERED BY STANDARD COVERS, USE COVERS AS SHOWN ON PROC. SPEC. 600729.
3. MATERIAL 54251AC SPRAYED INSULATION - ONE GALLON COVERS 4.5 SQUARE FEET 1/4 THICK.
4. MATERIAL 6449 SPRAYED INSULATION PRIMER - ONE GALLON COVERS 300 SQUARE FEET.
5. MATERIAL 53314TG BLACK ADHESIVE PAINT - ONE QUART COVERS 100 SQUARE FEET.
6. MATERIAL 22302ED GRANULATED CORK - ONE LB. COVERS 10 SQUARE FEET 1/8 THICK.
7. EVEN THOUGH AMOUNT OF INSULATION MATERIAL IS NOT SHOWN IN B/M FOR SOME ITEMS, THE LENGTH AND APPROXIMATE AREA TO BE COVERED SHOULD BE SHOWN ON DETAIL DRAWING AS NOTED ON PAGE PH 920.2 GENERAL INFORMATION.

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PH 920.4

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA, U.S.A.
STEAM DIVISION  STANDARDS ENGINEERING

REF.

EXAMPLES FOR ORDERING PIPE, BLOCK AND BLANKET INSULATION

ITEM	NAME	MTL.	REQ.
1	MOLDED INSULATION 2-1/2 PIPE 2 IN. THK. PROC. 600433 PT. II	54251AM	1 SET
2	MOLDED INSULATION (DOUBLE LAYER) 2-1/2 PIPE 3 IN. THK. PROC. 600433 PART II	54251AM	1 SET
3	MOLDED INSULATION 2-1/2 PIPE INNER 1-1/2 THK. PROC. 600433 PART II OUTER 1-1/2 THK.	46601BA	1 SET
4	BLOCK INSULATION 2-1/2 IN. THK. - INNER - PROC. 600433 PART I	46601AA	1 SET
5	BLOCK INSULATION 3 IN. THK. - OUTER - PROC. 600433 PART I	46102BB	1 SET
6	BLANKET INSULATION 3-1/2 IN. THK. PROC. 600359 PART IV	-----	1 SET
7	PIPE SHEATHING INSULATION PROC. 600790	-----	1 SET

- FOR CROSS-OVER PIPES AND PIPES OVER 20 IN. SEE PAGE PH 920.5
 -- FOR CROSS-UNDER OR OTHER PIPING INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET.

EXAMPLES FOR ORDERING BLOCK & PLASTIC INSULATION

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION 3 IN. THK. PLASTIC INSULATION 2 IN. THK. PROC. 600729	-----	1 SET
2	EXPANDED METAL 48 x 96 x .070 THK. PROC. 600729	2393-2	4 SHEETS

EXAMPLES FOR ORDERING LAGGING, GAUGE BOARD,
AND GLAND WATER SUPPLY PIPING INSULATION

ITEM	NAME	MTL.	REQ.
1	SPRAYED INSULATION PROC. 600111	54251AC	110 GAL.
2	SPRAYED INSULATION PRIMER PROC. 600111	6449	2 GAL.
3	GAUGE BOARD INSULATION 1 IN. THK. PROC. 600360	-----	1 SET
4	INSUL. PAINT - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	9327-1	1 QNT
5	CORK INSUL. - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	6329-4	4-1/20

GENERAL ORDERING INFORMATION:-

1. WHEN ORDERING BLOCK INSULATION FOR PIPE GIVE PIPE SIZE IN B/M.
2. FOR SHEET METAL COVERS FOR STANDARD PIPE FLANGES SEE PAGE PH 777.1. FOR PRESSURES AND SIZES NOT COVERED BY STANDARD COVERS, USE COVERS AS SHOWN ON PROC. SPEC. 600729.
3. MATERIAL 54251AC SPRAYED INSULATION - ONE GALLON COVERS 4.5 SQUARE FEET 1/4 THICK.
4. MATERIAL 6449 SPRAYED INSULATION PRIMER - ONE GALLON COVERS 300 SQUARE FEET.
5. MATERIAL 9327-1 BLACK ADHESIVE PAINT - ONE QUART COVERS 300 SQUARE FEET.
6. MATERIAL 6329-4 GRANULATED CORK - ONE LB. COVERS 10 SQUARE FEET 1/8 THICK.
7. EVEN THOUGH AMOUNT OF INSULATION MATERIAL IS NOT SHOWN IN B/M FOR SOME ITEMS, THE LENGTH AND APPROXIMATE AREA TO BE COVERED SHOULD BE SHOWN ON DETAIL DRAWING AS NOTED ON PAGE PH 920.2 GENERAL INFORMATION.

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P920.4 INSULATION - ORDERING INFORMATION

EXAMPLES FOR ORDERING PIPE, BLOCK AND BLANKET INSULATION

ITEM	NAME	MTL.	REQ.
1	MOLDED INSULATION 2-1/2 PIPE 2 IN. THK. PROC. 600433 PART II	5779	1 SET
2	MOLDED INSULATION 2-1/2 PIPE INNER 1-1/4 THK. OUTER 1-1/2 THK. PROC. 600433 PART II	7310	1 SET
3	BLOCK INSULATION 2 IN. THK. - INNER - PROC. 600433 PART I	7309-1	1 SET
4	BLOCK INSULATION 2-1/2 THK. - OUTER - PROC. 600433 PART I	7308	1 SET
5	BLANKET INSULATION 4 IN. THK. PROC. 600359 PART II	-----	1 SET
6	PIPE SHEATHING INSULATION PROC. 600790	-----	1 SET

- FOR CROSS-OVER PIPES AND PIPES OVER 20 IN. SEE PAGE PH 920.5
- FOR CROSS-UNDER OR OTHER PIPING INTERNAL TO TURBINE EXHAUST OR CONDENSER INLET.

EXAMPLES FOR ORDERING BLOCK & PLASTIC INSULATION

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION 2 IN. THK. PROC. 600729 PLASTIC INSULATION 3 IN. THK.	-----	1 SET
2	EXPANDED METAL 48 x 96 x .070 THK. PROC. 600729	2353-2	4 SHEETS

EXAMPLES FOR ORDERING LAGGING, GAUGE BOARD, AND GLAND WATER SUPPLY PIPING INSULATION

ITEM	NAME	MTL.	REQ.
1	SPRAYED INSULATION PROC. 600111	4057-3	110 GAL.
2	SPRAYED INSULATION PRIMER PROC. 600111	6449	2 GAL.
3	GAUGE BOARD INSULATION 1 IN. THK. 600360	-----	1 SET
4	INSUL. PAINT - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	9327-1	1 PNT
5	CORK INSUL. - PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 315-F	6329-4	4-1/2 0.

GENERAL ORDERING INFORMATION:-

1. WHEN ORDERING BLOCK INSULATION FOR PIPE GIVE PIPE SIZE IN B/M.
2. FOR SHEET METAL COVERS FOR STANDARD PIPE FLANGES SEE PAGE PH 777.1. FOR PRESSURES AND SIZES NOT COVERED BY STANDARD COVERS, USE COVERS AS SHOWN ON PROC. SPEC. 600729.
3. MATERIAL 4057-3 SPRAYED INSULATION CEMENT:-
ONE GALLON COVERS 45 SQUARE FEET 1/4 THICK.
4. MATERIAL 6449 SPRAYED INSULATION PRIMER:-
ONE GALLON COVERS 300 SQUARE FEET.
5. MATERIAL 9327-1 BLACK ADHESIVE PAINT:-
ONE QUART COVERS 100 SQUARE FEET.
6. MATERIAL 6329-4 GRANULATED CORK:-
ONE LB. COVERS 10 SQUARE FEET 1/8 THICK.
7. EVEN THOUGH AMOUNT OF INSULATION MATERIAL IS NOT SHOWN IN B/M FOR SOME ITEMS, THE LENGTH AND APPROXIMATE AREA TO BE COVERED SHOULD BE SHOWN ON DETAIL DRAWING AS NOTED ON PAGE PH 920.2 GENERAL INFORMATION.

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P920.4

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.



H920.4 INSULATION ORDERING INFORMATION

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WOLDED PIPE INSULATION FOR STEAM

ITEM	NAME	MTL.	REQ.
1	WOLDED INSULATION 2-1/2 PIPE (2 IN. THICK) S.P. PROC. 60079 PART 1	1	1.317

WOLDED PIPE INSULATION FOR STEAM

ITEM	NAME	MTL.	REQ.
1	WOLDED INSULATION 2-1/2 PIPE (2 IN. THICK) S.P. PROC. 60079 PART 1	1	1.317

FOR STEAM TRAPS AND OLAND PIPING REQUIRED QUANTITY OF INSULATION NOT IN EXCESS OF 10 FEET.
FOR SHEET METAL COVERS FOR STD. PIPE FLS., REFER TO PH 777.1.
FOR HIGHER PRESS. AND LARGER SIZES, USE 60079 COVERS.

WHEN ORDERING BLOCK INSULATION FOR PIPES, GIVE PIPE SIZE IN D/W.

FOR SHEET METAL COVERS FOR STD. PIPE FLS., REFER TO PH 777.1. FOR HIGHER PRESS. AND LARGER SIZES, USE 60079 COVERS.

BLOCK INSULATION FOR STEAM

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION 2-1/2 IN. THICK S.P. PROC. 60079 PART 1	1	1.317

BLOCK INSULATION FOR STEAM

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION INNER 2 IN. THK. S.P. PROC. 60079 PART 1	7309-1	1.317
2	BLOCK INSULATION OUTER 2 IN. THK. S.P. PROC. 60079 PART 2	7311	1.317

FOR CROSOVER PIPES AND PIPES OVER 10 IN. IF CANVAS OTHER THAN C 22, IS SPECIFIED, NEED IS B.W. OF COVER BY A DCTY ON DRAWING.
7311 ASBESTOS CEMENT IS USED TO SMOOTH OUT JOINTS AND PROVIDE FOR 1/2 IN. FINAL SLAT. 103 LBS. OF 7311 COVERS 50 SQ FT 2 1/2 IN. THICK.

FOR SHEET METAL COVERS FOR STD. PIPE FLS., REFER TO PH 777.1.

BLANKET INSULATION FOR TEMPERATURE TO AND INCLUDING 525°F

ITEM	NAME	MTL.	REQ.
1	BLANKET INSULATION 2-1/2 THK. S.P. PROC. 60035 PART 1	1	1.317

FOR TEMPERATURE OVER 525°F TO 825°F INC.

ITEM	NAME	MTL.	REQ.
1	BLANKET INSULATION 4 THK. S.P. PROC. 60035 PART 2	1	1.317

FOR TEMPERATURE OVER 825°F TO 925°F INC.

ITEM	NAME	MTL.	REQ.
1	BLANKET INSULATION 5 THK. S.P. PROC. 60035 PART 3	1	1.317

WHEN METAL COVERS FOR STD. PIPE FLS. ARE REQUIRED, REFER TO PH 777.1.
FOR HIGHER PRESS. AND LARGER SIZES, USE 60079 COVERS.

PLASTIC INSULATION

ITEM	NAME	MTL.	REQ.
1	PLASTIC INSULATION 5 THK. S.P. PROCES 600162	1	1.317

1250 (INCLUDES 256 VASTAGE) OF 6007-1 WILL COVER 50 SQ FT 1 IN. THK.

BLOCK AND PLASTIC INSULATION

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION 2" THICK) PLASTIC INSULATION 3" THICK) S.P. PROCES 600729	1	1.487
2	EXPANDED METAL 48 X 96 X .070 THK.	7351-2	312713

* ORDER WHEN REQUIRED.

SHEETING INSULATION FOR TEMPERATURE OVER 925°F

ITEM	NAME	MTL.	REQ.
1	JACKET INSULATION 1 INCH THK. S.P. PROC. 600360	1	1.317

OLAND WATER SUPPLY PIPING INSULATION

ITEM	NAME	MTL.	REQ.
1	PIPE 1-1/2 X 100 FT. LG. FINISH SPEC. 3:5-P	7327-1 4:51-4	1.317 1-1/2

6329-4 GRANULATED COPEL- ONE LB. COVERS 20 SQ FT 1/8 THICK (REQ. THK.)

9327-1 BLACK ADHESIVE PAINT- ONE GALLON COVERS 100 SQ. FT.

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H920.4

WESTINGHOUSE ELECTRIC CORPORATION PHILA. PA. U.S.A.
STEAM DIVISION

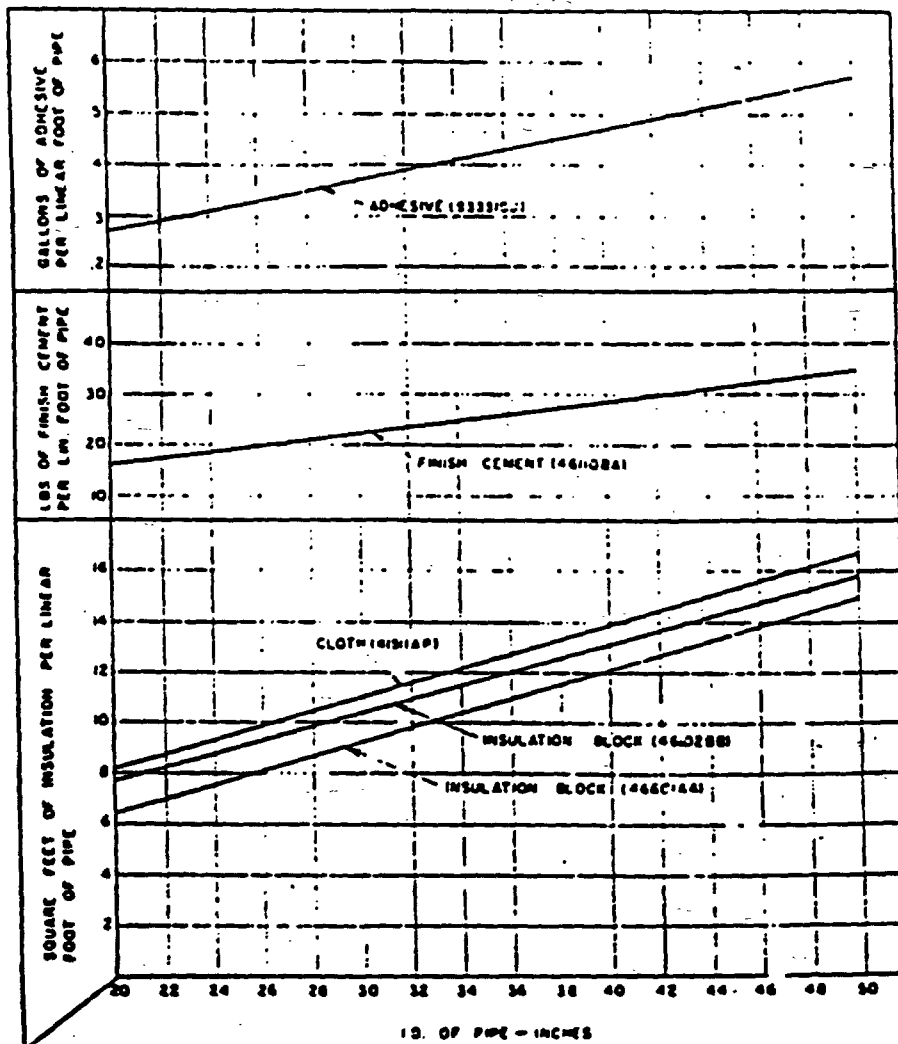
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INSULATION - ORDERING INFORMATION FOR LARGE PIPES PH 920.5

THE CURVES SHOWN BELOW SHOULD BE USED TO DETERMINE THE QUANTITY OF INSULATION MATERIALS TO BE ORDERED ON CROSS-OVER OR OTHER LARGE INSULATED PIPES.

THE AMOUNTS SHOWN INCLUDE AN ADDITIONAL 10 PER CENT FOR WASTAGE, IRREGULAR SHAPES AND FLANGES.

TO ORDER INSULATION MATERIALS DETERMINE TOTAL DEVELOPED LENGTH OF PIPE. FROM CHART BELOW, OVER PROPER PIPE DIAMETER, OBTAIN MATERIAL COVERAGE FIGURE FOR ONE LINEAR FOOT OF PIPE. MULTIPLY THIS FIGURE BY THE LENGTH OF PIPE PREVIOUSLY OBTAINED TO GET TOTAL AREA OF COVERAGE (SEE EXAMPLE BELOW)



EXAMPLE OF INSULATION MATERIAL ORDERING FOR 37 IN. I.D. PIPE BY 57 FT. DEVELOPED LENGTH AT 70°F. TEMP.

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION (DOUBLE LAYER) 3-1/2 TOTAL THK. P. S. 40C453 PT. 1	466028B	740 SQ. FT.
2	ASBESTOS CLOTH	41511A-1	770 SQ. FT.
3	INSULATION CEMENT	461028A	1600 LBS.
4	ADHESIVE	193310-1	76 GAL.

IF SPRAYED ASBESTOS INSULATION IS USED ON CROSS-OVER PIPE ORDER AS SHOWN BELOW.

1	SPRAYED ASBESTOS INSUL. 3-1/2 THK. P. S. 40D71A	54241A-1	740 SQ. FT.
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* NOTE: FOR TEMPERATURE, MATERIALS, THICKNESSES AND NUMBER OF LAYERS SEE PH 920.3; FOR CLASSES, APPLICATION AND ADDITIONAL PIPE INSULATION ORDERING INFO. SEE PH 920.1, 920.2 AND 920.4.

WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM DIVISION



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INSULATION - ORDERING INFORMATION FOR LARGE PIPES P_H 920.5

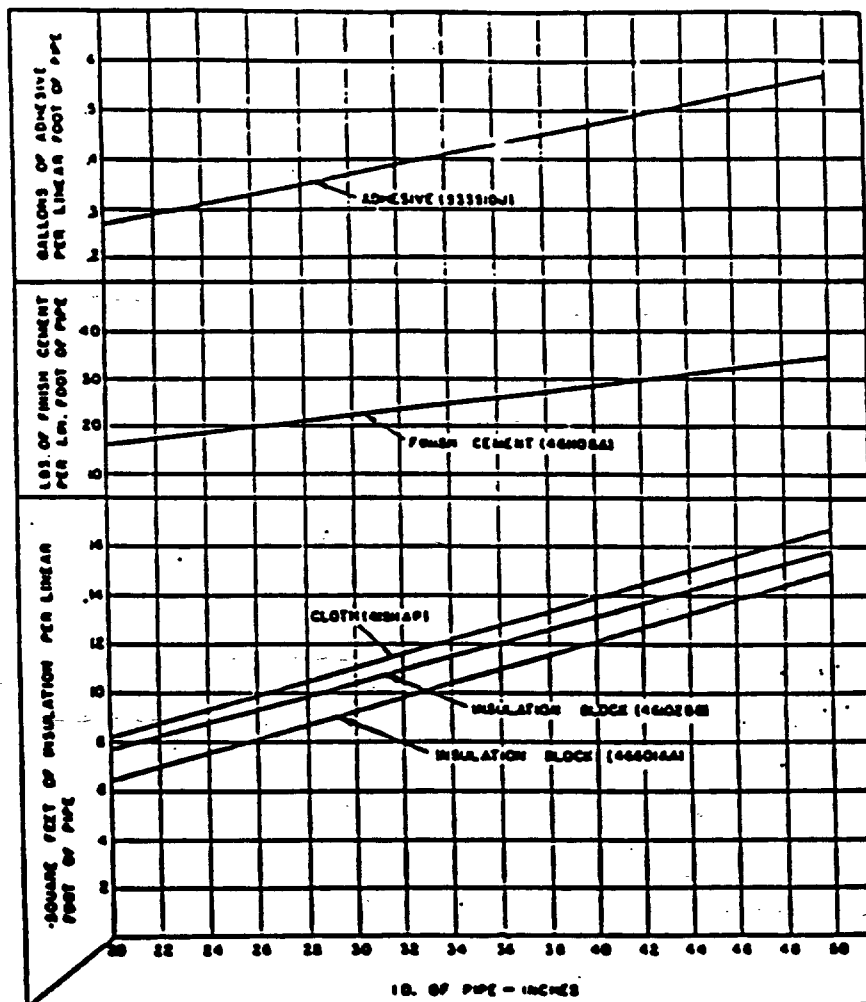
THE CURVES SHOWN BELOW SHOULD BE USED TO DETERMINE THE QUANTITY OF INSULATION MATERIALS TO BE ORDERED ON CROSS-OVER OR OTHER LARGE INSULATED PIPES.

THE AMOUNTS SHOWN INCLUDE AN ADDITIONAL 10 PER CENT FOR WASTAGE, IRREGULAR SHAPES AND FLANGES.

TO ORDER INSULATION MATERIALS DETERMINE TOTAL DEVELOPED LENGTH OF PIPE, FROM CHART BELOW, OVER PROPER PIPE DIAMETER, OBTAIN MATERIAL COVERAGE FIGURE FOR ONE LINEAR FOOT OF PIPE. MULTIPLY THIS FIGURE BY THE LENGTH OF PIPE PREVIOUSLY OBTAINED TO GET TOTAL AREA OF COVERAGE. (SEE EXAMPLE BELOW)

CHANGED

7/20/50	2
12/20/54	3
9/5/62	4



EXAMPLE OF INSULATION MATERIAL ORDERING FOR 30 IN. I.D. PIPE
BY 57 FT. DEVELOPED LENGTH AT 700°F. TEMP. °

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION (CUB. LAYER) 3-1/2" TOTAL THK. P. S. 400433 FT. 1	4610288	740 SQ. FT.
2	ASBESTOS CLOTH	41911AP	770 SQ. FT.
3	INSULATION CEMENT	461108A	1000 LBS.
4	ADHESIVE	333510W	20 GAL.

* NOTE: FOR TEMPERATURE, MATERIALS AND THICKNESSES, ALSO NUMBER OF LAYERS SEE PAGE PH 920.3; FOR CLASSES, APPLICATION AND ADDITIONAL PIPE INSULATION ORDERING INFORMATION SEE PAGES PH 920.1, 920.2 AND 920.4.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

P_H 920.5

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INSULATION - ORDERING INFORMATION FOR LARGE PIPES P 920.

THE CURVES SHOWN BELOW SHOULD BE USED TO DETERMINE THE QUANTITY OF INSULATION MATERIALS TO BE ORDERED ON CROSS-OVER OR OTHER LARGE INSULATED PIPES.

THE AMOUNTS SHOWN INCLUDE AN ADDITIONAL 10 PER CENT FOR WASTAGE, IRREGULAR SHAPES AND FLANGES.

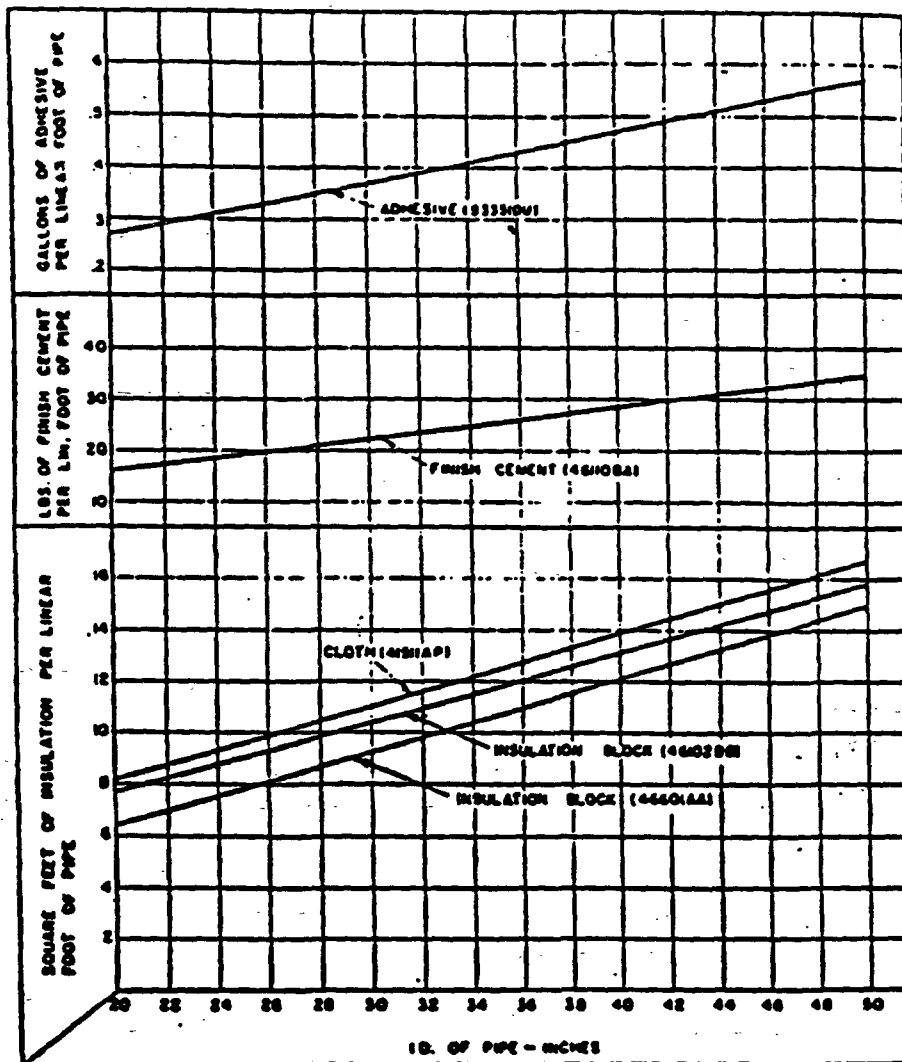
TO ORDER INSULATION MATERIALS DETERMINE TOTAL DEVELOPED LENGTH OF PIPE. FROM CHART BELOW, OVER PROPER PIPE DIAMETER, OBTAIN MATERIAL COVERAGE FIGURE FOR ONE LINEAR FOOT OF PIPE. MULTIPLY THIS FIGURE BY THE LENGTH OF PIPE PREVIOUSLY OBTAINED TO GET TOTAL AREA OF COVERAGE. (SEE EXAMPLE BELOW)

CHANGED

7/10/60 2

12/22/61 3

9/5/62 4



EXAMPLE OF INSULATION MATERIAL ORDERING FOR 39 IN. I.D. PIPE BY 57 FT. DEVELOPED LENGTH AT 700°F. TEMP.

ITEM	NAME	MTL.	REQ.
1	BLOCK INSULATION (DOUBLE LAYER) 3-1/2" TOTAL THK. P. S. 608433 PT. 1	4610288	740 SQ. FT.
2	ASBESTOS CLOTH	41511AP	770 SQ. FT.
3	INSULATION CEMENT	461108A	1600 LBS.
4	ADHESIVE	533510V	76 GAL.

* NOTE: FOR TEMPERATURE, MATERIALS AND THICKNESSES, AND NUMBER OF LAYERS SEE PAGE PH 920.3; FOR CLASSES, APPLICATION AND ADDITIONAL PIPE INSULATION ORDERING INFORMATION SEE PAGES PH 920.1, 920.2 AND 920.4.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM INSULATION STANDARD SYMBOL

P 920.5

33460
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DORFMAN

INSULATION - ORDERING INFORMATION FOR LARGE PIPES PH 920.1

THE CURVES SHOWN BELOW SHOULD BE USED TO DETERMINE THE QUANTITY OF INSULATION MATERIALS TO BE ORDERED ON CROSS-OVER OR OTHER LARGE INSULATED PIPES.

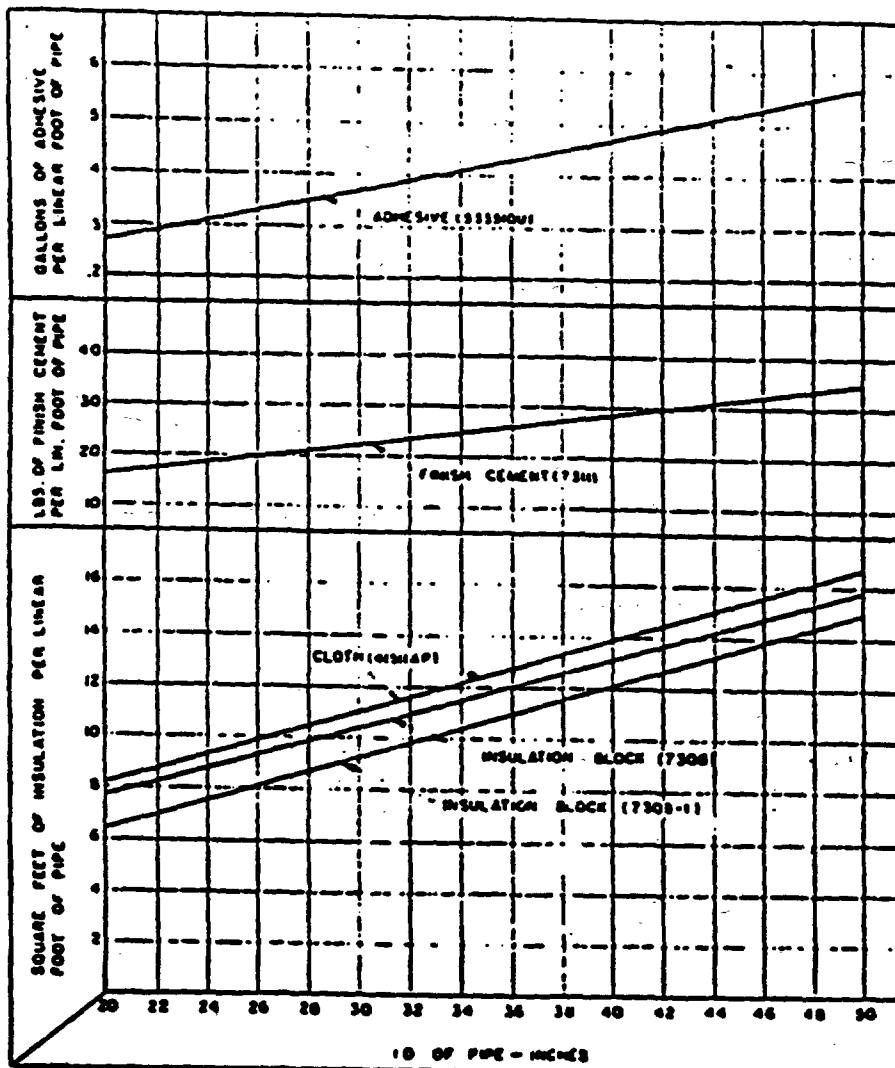
THE AMOUNTS SHOWN INCLUDE AN ADDITIONAL 10 PER CENT FOR WASTAGE, IRREGULAR SHAPES AND FLANGES.

TO ORDER INSULATION MATERIALS DETERMINE TOTAL DEVELOPED LENGTH OF PIPE. FROM CHART BELOW, OVER PROPER PIPE DIAMETER, OBTAIN MATERIAL COVERAGE FIGURE FOR ONE LINEAR FOOT OF PIPE. MULTIPLY THIS FIGURE BY THE LENGTH OF PIPE PREVIOUSLY OBTAINED TO GET TOTAL AREA OF COVERAGE (SEE EXAMPLE BELOW)

CHANGED

7/20/50 2

7/20/50 3



EXAMPLE OF INSULATION MATERIAL ORDERING FOR 39 IN. I.D. PIPE BY 57 FT. DEVELOPED LENGTH.

ITEM	NAME	MTL.	REQ.
1	INSULATION BLOCK - INNER (CURVED)	P.S. 7309-1	690 SQ. FT.
2	INSULATION BLOCK - OUTER (CURVED)	600433 PT. 1 7308	740 SQ. FT.
3	ASBESTOS CLOTH	41511AP	770 SQ. FT.
4	INSULATION CEMENT	7311	1600 LBS.
5	ADHESIVE	533510W	76 GAL.

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WESTINGHOUSE ELECTRIC CORPORATION, LESTER, PA., U.S.A.

STEAM ENGINEERING ELECTRICAL ENGINEERING

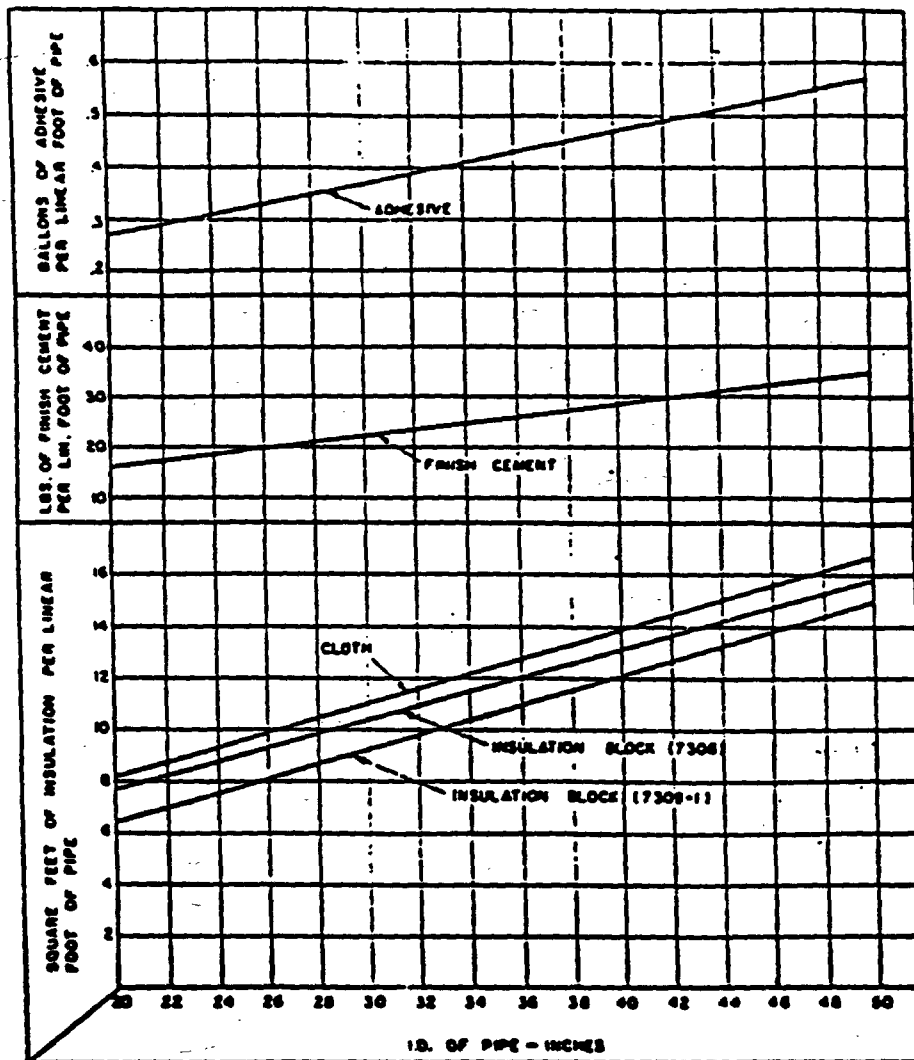
PH 920.5

INSULATION - ORDERING INFORMATION FOR LARGE PIPES PH 920.5

THE CURVES SHOWN BELOW SHOULD BE USED TO DETERMINE THE QUANTITY OF INSULATION MATERIALS TO BE ORDERED ON CROSS-OVER OR OTHER LARGE INSULATED PIPES.

THE AMOUNTS SHOWN INCLUDE AN ADDITIONAL 10 PER CENT FOR WASTAGE, IRREGULAR SHAPES AND FLANGES.

TO ORDER INSULATION MATERIALS DETERMINE TOTAL DEVELOPED LENGTH OF PIPE. FROM CHART BELOW, OVER PROPER PIPE DIAMETER, OBTAIN MATERIAL COVERAGE FIGURE FOR ONE LINEAR FOOT OF PIPE. MULTIPLY THIS FIGURE BY THE LENGTH OF PIPE PREVIOUSLY OBTAINED TO GET TOTAL AREA OF COVERAGE. (SEE EXAMPLE BELOW)



EXAMPLE OF INSULATION MATERIAL ORDERING FOR 39 IN. I.D. PIPE BY 37 FT. DEVELOPED LENGTH.

ITEM	NAME	MTL.	REQ.
1	INSULATION BLOCK (CURVED)	7309-1	690 SQ. FT.
2	INSULATION BLOCK (CURVED)	7308	740 SQ. FT.
3	ASBESTOS CLOTH (12 OZ. UNDERWRITERS GRADE)	41511AP	770 SQ. FT.
4	INSULATION CEMENT	7312	1600 LBS.
5	ADHESIVE	533510U	26 GAL.

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WESTINGHOUSE ELECTRIC CORPORATION PHILA. PA. U.S.A.
STEAM DIVISION

STANDARD SFT

PH 920.5