

Interoffice Memorandum

TO (Name and Location)	C. E. Boswell	DATE	October 28, 1980
FROM (Name and Location)	J. C. Doedyns	REFERENCE NO.	JCD-19-80

cc: J. W. Beasley
E. W. McCollough

C. W. Worcester
C. W. Lee

SUBJECT: STATUS REPORT FROM GILLMAN INSULATION

The following status report was received on October 28, 1980 from David Gottlich of Gillman Insulation:

CONDENSATE PIPE - PO# 41-40016-0:

- 33% complete as of October 28, 1980.
- 100% complete by January 1, 1981.

40# STEAM HEADER SYSTEM:

- To be completed by December 15, 1980.

Gillman currently has a 17 man crew in the plant. They will start another crew on the 40# steam system.

J. C. Doedyns
J. C. Doedyns

JCD/ct

004296



PURCHASE ORDER
EN-860, REV. 3-64

VULCAN-CINCINNATI, INC. AGENTS FOR,
Celanese CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

ORDER DATE
11-26-65

PURCHASE ORDER NO.
330-12059-5

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT **REA 1587**

LA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☐ Motor Truck - To BISHOP, TEXAS
☒ **Best Way**

☐ Railway Express - To BISHOP, TEXAS
☐ Parcel Post - To Box 428, BISHOP, TEX. 78343

Show this number on all
invoices, packages, unpeck-
ed bundles, separate arti-
cles, packing slips, express
receipts, bills of lading and
letters.

Fisher-Governor
c/o Porter and Donahue Co.
P. O. Box 246
Cincinnati, Ohio 45215

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
296335	Engineering	330-1587 E-2	8-12059-5

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
CMP - SC WHICH ARE A PART OF THE ORDER. PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cal. Code No.	Unit Price	Amount
		The provisions and requirements of Vulcan Order Attachments A, 2 and Celanese Clauses attached hereto and made a part hereof are as fully a part of this order as though repeated at length herein. CONFIRMATION - DO NOT DUPLICATE. The following covers diaphragm actuated control valves utilizing the following standard Fisher body designations: Globe - A Split Body - Z High Pressure Angle - 88A Butterfly - Continental Class 2, 3 and 4 All bodies are carbon steel. These valves utilizing transducers shall use Fisher Governor Model 546 Electro-Pneumatic Transducers converting a 10-50 MA D.C. (500 ohms $\pm$ 10%) signal to a 3-15 psi signal. These valves having a 6-30	38-709		

SHIPPING DATE **(see in-body of order)**
TERMS OF PAYMENT **Net 30 days.**
F.O.B. **Marshalltown, Iowa**

TOTAL
AMOUNT **\$45,337.15**

Issued by Vulcan-Cincinnati, Inc.

R. T. Coulson, Director of Purchasing

004297

Project Purchasing Agent

REQUISITIONER

12059

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PURCHASE ORDERPAGE NO. 2NO. **330-12059-3**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
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Fisher-Governor Co./c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		springs shall be supplied with a dual filter regulator, one for the valve positioner set at 30 and one for the transducer set at 20. Filter-regulators shall be Fisher 67 FRT with proper gages. Valves positioners, where specified, shall be Fisher Governor Model 3560, supplied with 3 operating cams. Valves bodies using lens ring flanges shall be supplied with welded nipples that are both x-rayed and Magnaflex inspected. Nipples to be threaded with Class 2 thread with actual flanges supplied by Val-man for mounting by Fisher Governor.			
one (1)		FICV-1001 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Linear. Connection: 300# ASA RF flanged. Packing: Crane 172 SM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$654.00	\$654.00
one (1)		FICV-1003 Fisher Governor Model #667A Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel Micro-Flare 1/2 Connection: 600# ASA RF flanged. Packing: Crane 172 SM Valve Fails: Closed. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$403.50	\$403.50
one (1)		FICV-1004 Fisher Governor Model #657A Double Seated			

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PURCHASE ORDER

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 NO. **130-12059-5**

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Fisher-Governor Co., c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel V-pup . Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Open. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$504.00	\$504.00
One (1)		TRCV-1005 Fisher Governor Model #467A Double Seated Diaphragm Control Valve Style: Globe Size: 4" Trim: 316 stainless steel Linear. Connection: 300# ASA RF flanged . Packing: Crane 172 DM. Valve Fails: Closed. Accessories: 1) Positioner. 2) Filter and Regulator 3) Transducer			
		Price-----		\$642.00	\$642.00
Four (4)		TRCV-1006, TRCV-1027 and TRCV-1030 ^{and TRCV-1032} Fisher Governor Model #457X Single Seated Diaphragm Control Valve. Size: 1" Style: Split Body Trim: 316 stainless steel Micro-Plate Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Open. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$346.50	\$1,386.00

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Fisher-Governor, c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	TRVC-1014 Fisher Governor Model 4657A Single Seated Diaphragm Control Valve. Style: Globe Size: 1-1/2" Trim: 316 SS - Throttle Plug. Connection: 600# ASA RF Packing: Crane 172 EM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Radiating Fin			
		Price-----		\$333.00	\$333.00
	one (1)	FRCV-1016 Fisher Governor Model 4667A Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel Micro-Flute - 1/4" 3 Flute with chrome plated stem. Connection: 600# ASA RJ Flanged Packing: Teflon-asbestos Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$405.00	\$405.00
	one (1)	FCV-1017 Fisher Governor Model 4667A Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel Micro-Flute - 1/4" 3 Flute. Connection: 600# ASA RJ Flanged. Packing: Crane 172EM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Controller 4160 Direct Acting			
		Price-----		\$353.40	\$353.40

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Fisher-Governor Co., c/o Porter and Bombus Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
one (1)		FICV-1018 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 6" Trim: 316 stainless steel V-pap. Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price		\$1,020.	\$1,020.00
one (1)		FICV-1019 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 8" Trim: 316 stainless steel Linear Connection: 300# ASA RF flanged. Packing: Asbestos Graphite Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer 4) Radiating Fin			
		Price		\$1,020.	\$1,020.00
one (1)		FICV-1020 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throt-Plug. Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator			
		Price		\$558.00	\$558.00

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Lebar Governor Co., c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
one (1)		TMCV-1022 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Plug. Connection: 300# ASA RF Flanged. Packing: Crane 1720M Valve Fail: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$654.00	\$654.00
one (1)		TMCV-1023 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Plug Connection: 300# ASA RF Flanged. Packing: Crane 1720M Valve Fail: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$654.00	\$654.00
one (1)		TMCV-1024 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 1-1/2" Trim: 316 stainless steel V-Pop Connection: 600# ASA RF Flanged. Packing: Graphite-Asbestos Valve Fail: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer 4) Radiating Fin			
		Price-----		\$465.00	\$465.00

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PURCHASE ORDER

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Fisher Governor Co., c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
one (1)		FICV-1026 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throt-Ping Connection: 600# ASA NF Flanged. Packing: Crane 172M Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Radiating Fin			
		Price-----		\$474.00	\$474.00
one (1)		FICV-1028 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throt-Ping Connection: 600# ASA NF Flanged. Packing: Asbestos-graphite Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Radiating Fin			
		Price-----		\$474.00	\$474.00
one (1)		FICV-1031 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throttle Ping Connection: 300# ASA NF Flanged. Packing: Asbestos-graphite Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer 4) Radiating Fin			
		Price-----		\$453.00	\$453.00

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unpacked bundles, separate articles, packing
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letters.

Fisher Governor Co., c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	FICV-1032 Fisher Governor Model 4667E Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-Finns 1/4" 3 Finns. Connection: 300# ASA RF Flanged. Packing: Crane 172BM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$292.50	\$292.50
	one (1)	FICV-1033 Fisher Governor Model 4667A Single Seated Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 stainless steel Throt-Plug with chrome plated stem. Connection: 300# ASA RF Flanged. Packing: Teflon Asbestos Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$432.00	\$432.00
	one (1)	FICV-1034 Fisher Governor Model 4667B Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel V-pap-Stallited Connection: 300# ASA RF flanged. Packing: Asbestos graphite Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$384.00	\$384.00

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unpacked bundles, separate articles, packing
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Fisher Governor Co., c/o Porter and Donahue Co.

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
one(1)		FICV-1035 Fisher Governor Model #667-E Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Microform-1/2" Connections: 300# ASA RF Flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$292.50	\$292.50
one(1)		FICV-1036 Fisher Governor Model 667E Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-form-3/8" Connections: 300# ASA RF Flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$292.50	\$292.50
one(1)		FICV-1037-1 Fisher Governor Model 657AC Single Seated Balanced Plug Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 SS-V Pap with Neoprene Seat Connections: 300# ASA RF Packing: Crane 172DM Valve Fails: Open Action: Closed at 15 psi, Full open at 9 psi via Split Ranged Positioner Accessories: 1) Positioner 2) Filter and Regulator			

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PURCHASE ORDER

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Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		NOTE: Gas Transducer of FICV-1037-2.			
		Price-----		\$381.00	\$381.00
one (1)		FICV-1037-2 Fisher Governor Model 657AC Single Seated Balanced Plug Diaphragm Control Valve. Style: Globe Size: 8" Trim: 316 SS-V Pop with Neoprene Seat Connection: 300# ASA RF. Packing: Crane 172DM Valve Fails: Open Action: Closed at 9 psi, full open at 3 psi via Split Ranged Positioner. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$1,482.	\$1,482.
one (1)		FICV-1039 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Plug. Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$642.00	\$642.00
one (1)		FICV-1040 Fisher Governor Model #667A Single Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Plug Connection: 300# ASA RF flanged. Packing: Crane 172DM Valve Fails: Closed A-			

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PURCHASE ORDERPAGE NO. 11NO. 130-12059-5Show this number on all invoices, packages,
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letters.

Isbar Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Accessories: 1) Positioner 2) Filter and Regulator			
		Price-----		\$558.00	\$558.00
one (1)		FCV-1043 Continental Model #7610 Class 2 Diaphragm Actuated Control Valve. Size 10" Connection: 300# ASB RF flanged. Wafer: 316 stainless steel. Shaft: 17-4 PH Body: Carbon Steel Butterfly. Packing: Crane 172RM Valve Fails: Closed. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$1,150.	\$1,150.00
one (1)		FCV-1049 Fisher Governor Model #6573 Single Seated Diaphragm Control Valve. Style: Split Body. Size: 1-1/2" Trim: 316 stainless steel 1-1/4" Micro-Vorn Connection: 300# ASB RF flanged. Packing: Crane 172RM Valve Fails: Open Accessories: 1) Filter and Regulator 2) Transducer			
		Price-----		\$270.00	\$270.00
one (1)		FCV-1053-2 Continental Model 9110 RRL Diaphragm Actuated Control Valve. Size: 6" Wafer: 316 SS Shaft: 316 SS Body: Carbon Steel with Resin Cured Du PRL Liner			

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PURCHASE ORDER

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NO. **330-12059-3**

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Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Packing: "O" Ring Seal Connection: 3000 ASA NF Valve Fails: Closed Action: Closed at 9 psi, full open at 15 psi via Split Ranged Positioner. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$661.00	\$661.00
one (1)		FRCV-1053-1 Fisher Governor Model 667A Single Seated, Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 SS, V-Pop - Neoprene Seat Connection: 3000 ASA NF Packing: Crane 172EM Valve Fails: Closed Action: Closed at 3 psi, full open at 9 psi via Split Ranged Positioner. Accessories: 1) Positioner 2) Filter and Regulator NOTE: Uses Transducer on FRCV-1053-2. Price-----		\$516.00	\$516.00
one (1)		FRCV-1055-1 Fisher Governor Model 667B Single Seated Diaphragm Control Valve . Style: Split Body Size: 1" Trim: 316 SS, Micro-Flute, 3/4" Connection: 3000 ASA NF Packing: Crane 172EM Valve Fails: Closed Action: Closed at 3 psi, full open at 9 psi via Split Ranged Positioner. Accessories: 1) Positioner 2) Filter and Regulator			

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PURCHASE ORDERPAGE NO. 13NO. **330-12059-5**Show this number on all invoices, packages,
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slips, express receipts, bills of lading, and
letters.**Star Governor Co., c/o Porter and Donahoe**

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		NOTE: Uses Transducer mounted on FRCV-1055-2.			
		Price-----		\$208.50	\$208.50
one (1)		FRCV-1053-2 Fisher Governor Model #667A Single Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 SS, T-Pop Connection: 300# ASA RF Packing: Crane 172M Valve Fails: Closed Action: Closed at 9 psi, full open at 15 psi via Split Ranged Positioner. Accessories: 1) Positioner, 2) Filter and Regulator 3) Transducer			
		Price-----		\$516.00	\$516.00
one (1)		FRCV-1062 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Plug. Connection: 300# ASA RF Flanged. Packing: Crane 172M Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$642.00	\$642.00
one (1)		LRCV-1064 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel throttle plug. Connection: 300# ASA RF Flanged. Packing: Crane 172M			

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Fisher Governor co., c/o Porter and Donahoe

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator Price-----		\$408.00	\$408.00
one (1)		FRCV-1065 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel throttle plug Connection: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$304.00	\$304.00
one (1)		FRCV-1070 Fisher Governor Model #667A Single Seated Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 stainless steel Throttle Plug. Connections 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$411.00	\$411.00
one (1)		FRCV-2009 Fisher Governor Model #657 DSA Single Seated Diaphragm Control Valve. Style: Angle Size: 2" Trim: 316 stainless steel Micro-form 1" Stellite. Connections: 2" 1500# ASA RTJ Packing: Teflon Asbestos			

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Fisher Governor, c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$817.50	\$817.50
one(1)		HCV-2010 Fisher Governor Model #657 DSA Single Seated Diaphragm Control Valve. Style: Angle. Size: 2" Trim: 316 stainless steel Micro-form 1" stalled. Connection: 2" 1500# ASA RTJ Packing: Teflon Asbestos Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator Price-----		\$721.50	\$721.50
one(1)		HCV-2013 Fisher Governor Model #667-DSA Single Seated Diaphragm Control Valve. Style: Angle Size: 1-1/2" Trim: 316 stainless steel Micro-form 3/4" stalled. Connection: 1-1/2" 1500# ASA Lens Ring, per Qty. A-449- SK-C501. Packing: Teflon Asbestos Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel Price-----		\$1,536.	\$1,536.00
one(1)		HCV-2015 Fisher Governor Model #667-DSA Single Seated Diaphragm Control Valve. Style: Angle Size: 1-1/2" Trim: 316 stainless steel Micro-form 3/4" stalled. Connection: 1-1/2" 1500# ASA Lens Ring.			

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Fisher Governor c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		per Dwg. A-448-SK-C301. Packing: Teflon Asbestos Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel Price-----		\$1,536.	\$1,536.00
one(1)		LICV-3024-1 Fisher Governor Model #657-DMA Single Seated Diaphragm Control Valve. Style: Angle Size: 1" Trim: 316 stainless steel Micro-form 3/4" Connection: 1500# ASA Lens Ring per Dwg. A-448-SK-C301. Packing: Teflon V-Ring Valve Fails: Open. Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel 4) Transducer Price-----		\$1,815.	\$1,815.00
one(1)		LICV-3024-2 Fisher Governor Model #657-DMA Single Seated Diaphragm Control Valve. Style: Angle Size: 1" Trim: 316 stainless steel Micro-form 3/4" Connection: 1500# ASA Lens Ring per Dwg. A-448-SK-C301. Packing: Teflon V-Ring. Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel 4) Transducer Price-----		\$1,815.	\$1,815.00
one(1)		PACV-3025 Fisher Governor Model #667-DMA Single Seated Diaphragm Control Valve. Style: Angle			

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Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Size: 1" Trim: 316 stainless steel Micro Flute - 1/4" Connection: 1500# ASA Lens Ring per Dwg. A-448-SK-C501. Packing: Teflon V-Ring. Valve Fails: Closed. Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price-----		\$1,626.	\$1,626.00
one (1)		LICV-3026-1 Fisher Governor Model #657 DSA Single Seated Diaphragm Control Valve. Style: Angle Size: 1" Trim: 316 stainless steel Micro-form - 3/4" Connection: 1500# ASA Lens Ring per Dwg. A-448-SK-C501. Packing: Teflon V-Ring. Valve Fails: Open. Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel 4) Transducer Price-----		\$1,815.	\$1,815.00
one (1)		LICV-3028-2 Fisher Governor Model #667 DSA Single Seated Diaphragm Control Valve. Style: Angle Size: 1" Trim: 316 stainless steel Micro-form 3/4" Connection: 1500# ASA Lens Ring per Dwg. A-448-SK-C501. Packing: Teflon V-Ring Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Side Mounted Handwheel 4) Transducer Price-----		\$1,815.	\$1,815.00

004313

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 18NO. 130-13059-5Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	FRCV-3027 Fisher Governor Model #657-BMA Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel Micro-Flute - 1/4" Connection: 1500# ASA Lens Ring per Day. A-442-SK-C501. Packing: Teflon V-Ring. Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$1,686.	\$1,686.00
	one (1)	FRCV-3029 Fisher Governor Model 657-Z Single Seated Diaphragm Control Valve. Style: Split Body. Size: 2" Trim: 316 SS, Micro-Porn- 1-1/4" Connection: 300# ASA RF Packing: Crane 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$354.00	\$354.00
	one (1)	FRCV-3030 Fisher Governor Model #657 A Single Seated Diaphragm Control Valve. Style: Globe Size: 1" Trim: 316 stainless steel-Throttle Plug-1" stainless. Connection: 300# ASA RF Flanged. Packing: Crane 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$373.75	\$373.75

004314

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 19NO. 130-12059-5Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	LICV-3031 Fisher Governor Model #657A Single Seated Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 stainless steel, Linear, stellited Connection: 300# ASA RF flanged. Packing: Cream 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer Price		\$496.50	\$496.50
	one (1)	LICV-4001 Fisher Governor Model #657-A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throttle Plug Stellited Connection: 300# ASA RF flanged Packing: Cream 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator Price		\$420.00	\$420.00
	one (1)	LICV-4002 Fisher Governor Model #657B Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-form Connection: 300# ASA RF flanged. Packing: Teflon Asbestos Valve Fails: Closed Accessories: 1) 2-mode PV Controller-Fisher Wizard II Model 4160X 0-100 psig Range Price		\$262.50	\$262.50

004315

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. **20**NO. **33-12859-3**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	FICV-4003 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throttle Plug Connection: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$504.00	\$504.00
	one (1)	FICV-4004 Continental Model #7610 Class 2 Diaphragm Actuated Control Valve. Size: 3" Connection: 300# ASA RF flanged. Wafer: 316 stainless steel Shaft: 316 stainless steel Body: Carbon Steel H.D. Butterfly Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$919.00	\$919.00
	one (1)	LICV-4003 Fisher Governor Model #667A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throttle Plug Connection: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$504.00	\$504.00

004316

12069

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 21NO. **330-12059-5**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
one (1)		FICV-4007 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel linear Connection: 300# ASA RF Flanged. Packing: Crane 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price		\$504.00	\$504.00
one (1)		LICV-4008 Fisher Governor Model #657A Double Seated Diaphragm Control Valve. Style: Globe Size: 3" Trim: 316 stainless steel Throttle Connection: 300# ASA RF Flanged Packing: Crane 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price		\$504.00	\$504.00
one (1)		FICV-4010 Fisher Governor Model #667Z Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-form - 1/8" Connection: 300# ASA RF Flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Filter and Regulator 2) Transducer			
		Price		\$238.50	\$238.50
one (1)		FICV-4012 Fisher Governor Model #667Z Single Seated Diaphragm Control Valve.			

004317

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 22NO. 330-1259-1Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor, c/o Porter and Bonabue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Style: Split Body Size: 1" Trim: 316 stainless steel Micro-Flute - 3/4" Connections: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: closed Accessories: 1) Filter and Regulator 2) Valve Transducer			
		Price-----		\$238.50	\$238.50
one (1)		FICV-4013 Fisher Governor Model #6673 Single Seated Diaphragm Control Valves. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-Flute - 3/4" Connections: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Filter and Regulator 2) Transducer			
		Price-----		\$238.50	\$238.50
one (1)		FICV-4014 Continental Model #7610 Class 2 Diaphragm Actuated Control Valve. Size: 14" Connections: 300# ASA RF Flanged Wafer: 316 stainless steel Shaft: 316 stainless steel Body: Carbon Steel Butterfly Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$1,438.	\$1,438.00
one (1)		LICV-4015 Fisher Governor Model #6673 Single Seated			

004318

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. **23**NO. **330-12059-6**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahoe

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-form-1" Connections: 300# ASA RF Flanged. Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Filter and Regulator 2) Transducer			
		Price-----		\$238.50	\$238.50
one(1)		FICV-4016 Fisher Governor Model #667A Single Seated Diaphragm Control Valve. Style: Globe Size: 2" Trim: 316 stainless steel Throttle Plug Connections: 300#ASA RF Flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$411.00	\$411.00
one(1)		FICV-4017-1 Fisher Governor Model #667E Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro-Flute 1/8" Connection: 300# ASA RF flanged Packing: Crane 172DM Valve Fails: Closed 9-15 psi Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$292.50	\$292.50

004319

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. **24**NO. **330-22059-3**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	FCV-4217-2 Fisher Governor Model #4572 Single Seated Diaphragm Control Valve. Style: Split Body Size: 1" Trim: 316 stainless steel Micro Form 1/4" Connection: 300# ASA RF Flanged Packing: Crane 172DM Valve Fails: Open 3-10 psi Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$286.50	\$286.50
	one (1)	LICV-4018 Fisher Governor Model #457A Double Seated Diaphragm Control Valve. Style: Globe Size: 4" Trim: 316 stainless steel Throttle Connection: 300# ASA RF Flanged Packing: Crane 172DM Valve Fails: Open Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$642.00	\$642.00
	one (1)	FCV-4021 Fisher Governor Model #467A Double Seated Diaphragm Control Valve. Style : Globe Size: 3" Trim: 316 stainless steel Throttle Plug Connection: 300# ASA RF Flanged Packing: Crane 172DM Valve Fails: Closed Accessories: 1) Positioner 2) Filter and Regulator 3) Transducer			
		Price-----		\$504.00	\$504.00

004320

12059

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. **25**NO. **336-12859-3**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
	one (1)	FICV-4024 Fisher Governor Model 667-2 Single Seated Diaphragm Control Valve. Style: Split Body Size: 3/4" Trim: 316 SS-Micro-Flute 1/8" Connections: 3006 ASA NF Packing: Crane 1720H Valve Fail: Closed Accessories: 1) Filter-Regulator 2) Valve Transducer			
		Price-----		\$226.50	\$226.50
		TOTAL FIRM PRICE THIS ORDER (no escalation allowed)-----			\$45,337.15
		NOTES:			
		1. The enclosed specification sheets listed below are a part of this order. In case of conflict between this order and the specification sheet, the latter shall govern.			
		INDEX FICV-1001 FICV-1003 FICV-1004 FICV-1005 FICV-1006 FICV-1016 FCU-1017 FICV-1018 FICV-1019 FICV-1020 FICV-1022 FICV-1023 FICV-1024 FICV-1026 FICV-1028 FICV-1027 FICV-1031	INDEX 8-21-63 9-7 8-23 8-23 9-16 8-24 8-26 8-23 8-23 8-23 8-23 8-23 9-27 8-23 8-23 10-13 8-26		

004321

12003

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. **26**NO. **330-12059-5**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

Fisher Governor Co., c/o Porter and Donahue

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
SHOE		SHOE			
PACT-1032		8-26			
PACT-1033		8-26			
PACT-1034		8-26			
PACT-1035		8-22			
PACT-1036		8-27			
PACT-1037	1 & 2	8-27			
PACT-1038		10-13			
PACT-1039		8-27			
PACT-1040		8-27			
PACT-1045		8-27			
PACT-1048		10-13			
PACT-1049		8-2			
PACT-1053	1 & 2	8-27			
PACT-1055	- 1 & 2	8-3			
PACT-1062		8-27			
PACT-1064		8-8			
PACT-1065		8-10			
PACT-1070		8-23			
PACT-2009		8-2			
PACT-2010		8-23			
PACT-2013		8-3			
PACT-2015		8-3			
PACT-3024-1		8-16			
PACT-3024-2		8-16			
PACT-3025		8-10			
PACT-3026-1		8-16			
PACT-3026-2		8-16			
PACT-3027		8-16			
PACT-3029		10-13			
PACT-3030		8-10			
PACT-3031		8-10			
PACT-4001		8-7			
PACT-4002		8-10			
PACT-4003		8-3			
PACT-4004		8-4			
PACT-4005		8-7			
PACT-4007		8-10			
PACT-4008		8-10			

004322

12059

CONTINUATION SHEET
PURCHASE ORDER

NO. **230-12859-3**

Show this number on all invoices, packages, unpacked bundles, separate articles, packing slips, express receipts, bills of lading, and letters.

Fisher Governor, c/o Porter and Bonshaw

ITEM	QUANTITY	DESCRIPTION	CALANES CODE NO.	UNIT PRICE	AMOUNT
		NOTE:			
		NOTE:			
		FXCV-4010	0-4		
		FXCV-4012	0-14		
		FXCV-4013	0-14		
		FXCV-4014	0-11		
		LICV-4015	0-10		
		FXCV-4016	0-10		
		FXCV-4017-1	0-11		
		FXCV-4017-2	0-11		
		LICV-4018	0-10		
		FXCV-4021	0-11		
		FXCV-4034	10-13		
		2. Tag each item with Calanese item number.			
		3. The paragraph "Mill Gears" listed in order attachment #2 is hereby voided.			
		Valve Accounting was:			
		This purchase order should be charged as follows:			
		440-907A		\$20,492.96	
		440-907B		4,611.00	
		440-907C		11,870.25	
		440-907D		2,372.00	
		SHIPPING DATES:			
		A Bodies 12-12-63			
		B Bodies 12-26-63			
		Butterfly Valves 1-9-64			
		"AAA" Bodies 2-20-64			
		Valves with HX Flanges 3-20-64.			

004323

1209

MAIL INVOICES IN
DUPLICATE TO



CELANESE PLASTICS COMPANY
A DIVISION OF CELANESE CORPORATION
BOX 423, BISHOP, TEXAS 78343

CORPORATE PURCHASE
PURCHASE ORDER NUMBER
MUST BE SHOWN ON ALL SHIPMENTS,
INVOICES, AND OTHER DOCUMENTS.

NO. 070-076 17566-5

DATE 5-5-76	SHIPPING DATE 5-9-76	F.O.B. BISHOP	TERMS OF PAYMENT NET
ENDOR NO.	CONTRACT NO.	RFA NO.	BUYER TERMS F.O.B. REQ. NO.
W.O./EST./ACCT. NO.	DEPT.		
076-1706 602	401	RPG	

SHIP TO:

Y
E
N
D
O
R

SABINE INSULATION
P.O. BOX 7339
CORPUS CHRISTI, TEXAS

- ☐ RAIL FREIGHT -MP RAILWAY CHEMCEL, TEXAS
- ☒ MOTOR TRUCK -BISHOP, TEXAS
- ☐ RAILWAY EXP. -BISHOP, TEXAS
- ☐ PARCEL POST -BOX 423, BISHOP, TEXAS 78343

#2 5TH

ITEM	COMMODITY NUMBER	MPG. CODE	BY OR	DESCRIPTION	QUANTITY	UNIT OF MEAS.	UNIT PRICE	AMOUNT
				FIBERGLASS INSULATION 1 in. THICK 300	12	54		\$192.00
				FOR 2 in. Dia. Pipe.				
				FIBERGLASS INSULATION 1 in. THICK 30	12	481		14.40
				FOR 1 in. DIA. PIPE				
				FIBERGLASS INSULATION 1 in. THICK 560	12	453		253.68
				FOR 3/4 in. PIPE.				
				CRIMPED ALUMINUM SHEETING 315	1200	24.87	71.28	
				IN. THICK X 36 in. WIDE				285.12
CONFIRMING TO MR. ARMSTRONG 5-4-76 AS PER CONTRACT								
COMPLETE								

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF
AND ATTACHED HERETO BY BUYER, ALL OF WHICH ARE A PART OF THIS ORDER.

TOTAL
AMOUNT

2745.00

RECEIPTS						PAYMENTS					
DATE	CARRIER	P.F.	COLLECT	PRO. NO.	WT.	REC'D BY	INVOICE DATE	QUANTITY	AMOUNT	PAID TO DATE	VOUCHER NO.
5-5-76	Alamo					220					

BY *[Signature]*

004324

ORDER NO. 2100

CELANESE CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION
P. O. BOX 1238, KINGSVILLE, TEXAS 78363

MUST BE SHOWN ON ALL SHIPMENTS, INVOICES, AND OTHER DOCUMENTS.

No. 40021-50129 Sup

9-19-75	SHIPPING DATE 11-10-75	JOBSITE-BISHOP, TEXAS	TERMS OF PAYMENT Net 30 Days
VEALOR NO.	CONTRACT NO.	REG. NO. R64A2	W.O./EST./ACCT. NO. 2-1929-149-402

GARLOCK, INC.
MECHANICAL RUBBER DIVISION
DIVISION STREET
PALMYRA, NEW YORK 14522

SHIP TO: CELANESE CHEMICAL COMPANY

- ☐ RAIL FREIGHT - MP RAILWAY, CHEMECEL, TEXAS
☒ MOTOR TRUCK - BISHOP, TEXAS
☐ RAILWAY EXP. - BISHOP, TEXAS
☐ PARCEL POST - BOX 1238, KINGSVILLE, TEXAS 78363

DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
This supplement is issued to change original purchase as follows:				
Tag No. HE-2530-21 Expansion Joint MK-EJ-8 Joint Type Revised From Fiberglass/Silicone to Series 800				
REVISED UNIT PRICE	530.00 ea.			
PREVIOUS UNIT PRICE	355.00 ea.			
NET UNIT PRICE				
INCREASE	175.00 ea.	95	ea.	16,625.1
Change Drawing 4207-01-V0705, Sheet 1 of 1, Revision 0, Dated 7-9-75 to read: 4207-01-V0701, Sheet 1 of 1, Revision 1, Dated 9-8-75.			N/C	
RECAP FOR ACCOUNTING PURPOSES ONLY Previous P.O. Total 39,902.00 Added this Supp. "A" 16,625.00 Revised P.O. Total 56,527.00				

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY BUYER, ALL OF WHICH ARE A PART OF THIS ORDER. 444 TOTAL AMOUNT pb

RECEIPTS						PAYMENTS					
CARRIER	P.F.	COLLECT	POB NO.	WT.	REC'D BY	INVOICE DATE	QUANTITY	AMOUNT	PAID TO DATE	VOUCHER NO.	IN.

004325

BY R. C. Robbins
C. A. Robbins

PURCHASE ORDER

REV. 3-64

Celanese CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS

ORDER DATE
5-2-66PURCHASE ORDER NO.
330-13250-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☒ Motor Truck - To BISHOP, TEXAS☐ Railway Express -
☐ Parcel Post -

To BISHOP, TEXAS

-To Box 428, BISHOP, TEX. 78343

Show this number on all
invoices, packages, unpack-
ed bundles, separate arti-
cles, packing slips, express
receipts, bills of lading and
letters.

CORPUS CHRISTI GASKET & PACKING CO.
P. O. BOX 4074
CORPUS CHRISTI, TEXAS

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
204961	902	5-1587 F2 HE-1468	330-13250-6

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
1	200	EA - 5" 300# ASBESTOS RING GASKETS BELMONT 585	55-119	7.07	94.14

CONFIRMING - DO NOT DUPLICATE
TO MR. LAFORS

SHIPPING DATE
TERMS OF PAYMENT
F.O.B.

5-2-66
NET
BISHOP

TOTAL
AMOUNT 94.14

004326

REQUISITIONER

PURCHASE ORDER
ORD. 262 REV. 3-66

Celanese CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS

ORDER DATE
2-11-66

PURCHASE ORDER NO.
330-13895-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☒ Motor Truck - To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

To BISHOP, TEXAS
-To Box 428, BISHOP, TEX. 78343

Show this number on all
invoices, packages, unpack-
ed bundles, separate arti-
cles, packing slips, express
receipts, bills of lading and
letters.

INDUSTRIAL INSULATORS, INCORPORATED
P. O. BOX 3388
HOUSTON, TEXAS 77001

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
WITH SHIPPING RECEIPTS AND PACKING LIST, TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
401380	ENGR.	LISTED	8-13895-6

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
1	36	<u>5-1587 J-5</u> FT. INSULATION, 4" X 14" THICK KAYLO	40-129	.987	35.53
2	4	EA. ELLS, 4" X 14" THICK KAYLO		2.01	8.04
3	4	EA. 4 X 14" ALUMINELS		2.54	10.16
4	10	<u>5-1568 J-5</u> ROLLS ALUMINUM JACKETING X .016" THICK		31.70	317.00

SHIPPING DATE
TERMS OF PAYMENT
F.O.B.

AT ONCE PLEASE
1-10-30
SHIPPING POINT - FREIGHT ALLOWED

TOTAL
AMOUNT **378.73**

004327

REQUISITIONER

13095

PURCHASE ORDER SUPPLEMENT
GEN-42 REV. 7-63

Celanese CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

SUPPLEMENT NO. 1 SUPP. DATE 4-18-66

ORDER DATE
3-3-66

PURCHASE ORDER NO.
333-12656-6

Show this number on all
invoices, packages, unpeck-
ed bundles, separate arti-
cles, packing slips, express
receipts, bills of lading and
letters.

INDUSTRIAL INSULATORS, INC.
P. O. BOX 1188
HOUSTON, TEXAS 77001

EXCEPT TO THE EXTENT THAT THEY ARE INCONSISTENT HERE-
WITH, ALL THE TERMS AND CONDITIONS OF THE ORIGINAL
PURCHASE ORDER (INCLUDING AMENDMENTS, IF ANY) SHALL
APPLY TO THIS SUPPLEMENT.

VENDOR CODE	DEPARTMENT	W.O./EST./ ACCT. NO.	REQUISITION NO.
981580	902	330-1587 LISTED	5-12650-6

ADD THE FOLLOWING TO SUBJECT PURCHASE ORDER:

95	23	FT. 16" IPE X 2" THK FOAMGLAS PIPE INSULATION	40-129	3.73	87.17
96	9	SP 18" X 24" X 2" THK FOAMGLAS BLOCK		.398	3.57

CONFIRMING-DO NOT DUPLICATE.

ORIGINAL AMOUNT	\$14,437.53
INCREASE THIS SUPP.	<u>98.84</u>
NEW TOTAL	\$14,536.37

M. S. SEALY

REASON FOR SUPPLEMENT

ADDITIONAL INSULATION NEEDED FOR CONSTRUCTION

004328

REQUISITIONER

PURCHASE ORDER

OCT. 1965 REV. 3-64

Celanese

 CHEMICAL COMPANY
 A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

 ORDER DATE
4-25-66

PURCHASE ORDER NO.

330-13236-6
 Show this number on all
 invoices, packages, unpack-
 ed bundles, separate arti-
 cles, packing slips, express
 receipts, bills of lading and
 letters.

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

 VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☐ Motor Truck - To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

To BISHOP, TEXAS

-To Box 428, BISHOP, TEX. 78343

XX BEST WAY
PEDER IRON & STEEL COMPANY
P. O. BOX 1891
HOUSTON, TEXAS

 MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
 WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
 CELANESE CHEMICAL COMPANY
 BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
592379	902	5-1587	LISTED

 SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
 WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cal. Code No.	Unit Price	Amount
		<u>330-13236-6/J2</u>			
1	3	EA - 4" WELD TEE, SCH 40	60-109	7.51	22.53
2	1	EA - 6" BITTS		EA	13.71
	10	EA - 6" 90° WELD ELLS, SCH 40		6.71	67.10
4	1	EA - 6" 90° WELD ELL, .718"		EA	42.60
5	1	EA - 6" 90° WELD ELL, .432"		EA	8.72
6	1	EA - 10" 150# FLANGE, R.F. W. STD. BORE		EA	16.41
7	2	EA - 1 1/2" X 2" SWAGE, TEE X-HVT		3.27	6.54
8	6	EA - 4" 90° WELD ELL SCH 40		2.70	16.20
9	10	EA - 12" 300# FLEXITALLIC GASKETS		3.18	31.80
10	3	EA - 3" WELD CAP, STD. WT.		.92	2.76
		<u>8-13833-6/(L.P.)/D2</u>			
11	1	ONLY - FLANGE, 2" 150# C/S R.F. S.O.		EA	1.1.65

CONTINUED . . .

 SHIPPING DATE
 TERMS OF PAYMENT
 F.O.B.

1 WEEK
2-10-6-30
BISHOP

 TOTAL
 AMOUNT

004329

REQUISITIONER

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 2NO. **330-13236-6**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.**PEDEN IRON & STEEL CO./902/5-1587/LISTED/CHR/4-25-66**

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		<u>8-13883-6/(J.P)/D2</u>			
12	3	ONLY - FLANGE, 3" 150# C/S R.F. S.B.	60-109	2.35	7.05
13	1	ONLY - 6" DITTO		EA	4.56
14	1	ONLY - 10" DITTO		EA	11/65
		CONFIRMING - DO NOT DUPLICATE			
			TOTAL AMOUNT		255.28

004330

PURCHASE ORDER

GEN. 968 REV. 3-64

Celanese

CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS

ORDER DATE

3-3-66

PURCHASE ORDER NO.

330-12650-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS☐ Railway Express -

To BISHOP, TEXAS

☐ Motor Truck - To BISHOP, TEXAS☐ Parcel Post -

-To Box 428, BISHOP, TEX. 78343

☒ MOTOR FREIGHT

INDUSTRIAL INSULATORS, INC.
P. O. BOX 3388
HOUSTON, TEXAS 77001

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
401580	902	330-1507-LISTED	8-12650-6

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
		BOILER TUBES 8-2, HE-1470			
1	48	SUPERHEATER: L.F. KAYLO PIPE INSULATION 12" IPS X 2 1/2" THK	40-129	3.57	171.36
2	198	UPPER DRUM - REFORMER BOILER: S.F. 2" THK. FIBERGLAS LAGS - 6" WIDE BEVELLED TO FIT 65" O.D.		.501	99.20
3	85	S.F. 2" THK. FIBERGLAS FLAT BLOCK		.398	33.83
4	65	LOWER DRUM - REFORMER BOILER: S.F. 2" THK. FIBERGLAS LAGS - 3" WIDE BEVELLED TO FIT 40" O.D.		.58	37.70
5	32	S.F. 2" THK. FIBERGLAS FLAT BLOCK		.398	12.74
6	165	BOILER TO I.D. FAN: S.F. 2" THK. KAYLO FLAT BLOCK		.558	92.07
7	275	S.F. 2" THK. FIBERGLAS METAL MESH BLANKET		.48	132.00
8	225	I. D. FAN: 6-2, C-167 S.F. 2" THK. KAYLO FLAT BLOCK		.558	125.55
9	475	S.F. 2" THK. FIBERGLAS METAL MESH BLANKET		.48	228.00

CONTINUED...

SHIPPING DATE
TERMS OF PAYMENT
F.O.B.

AS SCHEDULED

12 10TH PROX., NET 30TH PROX.

SHIPPING POINT FREIGHT ALLOWED TO BISHOP

TOTAL
AMOUNT

004331

12650

REQUISITIONER

CONTINUATION SHEET
PURCHASE ORDER

PAGE NO. 2

NO. **330-12650-6**

Show this number on all invoices, packages, unpacked bundles, separate articles, packing slips, express receipts, bills of lading, and letters.

INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-12650-6/ 3-3-66/ HSS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		<u>BOILER F-2, HE-1501</u>			
		<u>I.D. FAN TO ECON:</u>			
10	70	S.F. 2" THK. KAYLO FLAT BLOCK	40-129	.558	39.06
11	720	S.F. 2" THK. FIBERGLAS METAL MESH BLANKET		.48	345.60
		<u>ECONOMIZER:</u>			
12	225	S.F. 2" THK. KAYLO FLAT BLOCK		.558	125.55
13	1,450	S.F. 2" THK. FIBERGLAS METAL MESH BLANKET		.48	696.00
		<u>ECONOMIZER TO G.T. BOILER</u>			
14	127	S.F. 2" THK. KAYLO FLAT BLOCK		.558	70.87
15	350	S.F. 2" THK. FIBERGLAS METAL MESH BLANKET		.48	168.00
		<u>G.T. BOILER - UPPER DRUM:</u>			
16	195	S.F. 2" THK. FOAMGLAS LAGS - 6" WIDE BEVELLED TO FIT 72" O.D.		.501	97.70
17	100	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	39.80
		<u>G.T. BOILER - LOWER DRUM:</u>			
18	85	S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 46" O.D.		.58	49.30
19	45	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	17.91
		FOR THE BELOW ITEMS CHARGE \$1,000.00 TO HE-1470, \$1,005.30 TO HE-1501			
20	610	S.F. 3" THK. FIBERGLAS METAL MESH BLANKET		.61	372.10
21	40	LBS. 3/4" X .020" THK S/S BAND	19-769	.67	26.80
22	400	EA. 3/4" S/S SEALS		19.75M	7.90
23	14	ROLLS 20-20 MESH BLACK GLASFAB (36" X 150")	40-129	10.50M	147.00
24	880	GALS. B-F 90-07 H.I. MASTIC	40-439	.80	704.00
25	150	LBS. 16 GA. SOFT ANNEALLED GALV. WIRE	42-849	1.20	180.00
26	1,200	S.F. 1" MESH GALV. POULTRY NETTING (48" WIDE)		.025	30.00
27	75	BAGS 50# EA. DETRICK THERMAL UTILITY FIN. CEMENT	40-439	4.50	337.50
28	10,000	EA. SPEED CLIPS FOR 9 GA. WIRE	19-769	.02	200.00
		CONTINUED...			

004332

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 3

NO. 330-12650-6

Show this number on all invoices, package
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-12650-6/ 3-3-66/ HSS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
29	1,690	C-2, ITEM NO. T-278: S.F. 2" THK FOAMGLAS LAGS-6" WIDE BEVELLED TO FIT 84" O.D.	40-129	.501	846.69
30	132	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	52.54
31	1,850	C-2, ITEM NO. T-279: S.F. 2" THK FOAMGLAS LAGS-6" WIDE BEVELLED TO FIT 90" O.D.		.501	926.85
32	145	S.F. 2" THK FOAMGLAS FLAT BLOCK		.398	57.71
33	3,900	C-2, ITEM NO. T-280: S.F. 2" THK. FOAMGLAS LAGS-6" WIDE BEVELLED TO FIT 132" O.D.		.501	1,953.90
34	315	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	125.37
35	108	B-2, ITEM NO. V-1369: S.F. 3" THK. KAYLO LAGS-3" WIDE BEVELLED TO FIT 36" O.D.		.58	62.64
36	35	S.F. 3" THICK KAYLO FLAT BLOCK		.398	13.93
37	250	B-2, ITEM NO. V-1370: S.F. 3" THK KAYLO LAGS-3" WIDE BEVELLED TO FIT 60" O.D.		1.08	270.00
38	40	S.F. 3" THK KAYLO FLAT BLOCK		.837	33.48
39	285	S.F. 2" THK FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 60" O.D.		.58	165.30
40	35	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	13.93
41	59	B-2, ITEM NO. V-1374: S.F. 2" THICK FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 36" O.D.		.58	34.22
42	32	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	12.74
43	130	B-2, ITEM NO. V-1394: S.F. 2 1/2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 42" O.D.		.72	93.60
44	45	S.F. 2 1/2" THK. FOAMGLAS FLAT BLOCK		.597	26.87

CONTINUED...

004333

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 4

NO. 330-12650-6

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
labels.

INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-12650-6/ 3-3-65/ MSS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
45	130	D-2, ITEM NO. V-1395: S.F. 2 1/2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 42" O.D.	40-129	.72	93.60
46	45	S.F. 2 1/2" THK. FOAMGLAS FLAT BLOCK		.597	26.87
47	175	D-2, ITEM NO. V-1397: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 48" O.D.		.58	101.50
48	55	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	21.89
49	175	D-2, ITEM NO. V-1398: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 48" O.D.		.58	101.50
50	55	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	21.89
51	24	F-2, ITEM NO. HE-1469: S.F. 4" THK. KAYLO FLAT BLOCK		1.11	26.64
52	358	S.F. 3" THK. KAYLO LAGS - 3" WIDE BEVELLED TO FIT 45" O.D.		1.08	386.64
53	25	F-2, ITEM NO. HE-1469: S.F. 3" THK. KAYLO FLAT BLOCK		.837	20.93
54	240	F-2, ITEM NO. HE-1471: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 28" O.D.		.58	139.20
55	22	S.F. 1" THICK FOAMGLAS FLAT BLOCK		.398	8.76
56	186	F-2, ITEM NO. HE-1480: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 42" O.D.		.58	107.88
57	40	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	15.92
58	18	F-2, ITEM NO. HE-1481: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 26" O.D.		.58	10.44
59	8	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	3.18

CONTINUED...

004334

CONTINUATION SHEET
PURCHASE ORDER

PAGE NO. 5

NO. 330-12650-6

Show this number on all invoices, packages
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-12650-6/ 3-3-65/ HSS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
60	180	F-2, ITEM NO. HE-1483: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 26" O.D.	40-129	.58	104.40
61	15	S.F. 2" THICK FOAMGLAS FLAT BLOCK		.398	5.97
62	180	F-2, ITEM NO. HE-1484: S.F. 2" THICK FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 26" O.D.		.58	104.40
63	15	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	5.97
64	180	F-2, ITEM NO. HE-1485: S.F. 2" THK. FOAMGLAS LAGS-3" WIDE BEVELLED TO FIT 26" O.D.		.58	104.40
65	15	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	5.97
66	155	F-2, ITEM NO. HE-1486: S.F. 2" THICK FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 36" O.D.		.58	89.90
67	34	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	13.53
68	220	F-2, ITEM NO. HE-1496: S.F. 2" THK. FOAMGLAS - 3" WIDE BEVELLED TO FIT 42" O.D.		.58	127.60
69	42	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	16.72
70	220	F-2, ITEM NO. HE-1497: S.F. 2" THK. FOAMGLAS LAGS - 3" WIDE BEVELLED TO FIT 42" O.D.		.58	127.60
71	42	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	16.72
72	21	F-2, ITEM NO. HE-1502: L.F. FOAMGLAS PIPE INSULATION, 14" IPS X 2" THK		3.45	72.45
73	6	S.F. 2" THK. FOAMGLAS FLAT BLOCK		.398	2.39

CONTINUED...

004335

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 6NO. **330-12650-6**Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.**INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-2650-6/ 3-3-66/ HSS**

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
74	24	F-2, ITEM NO. HE-1535: L.F. FOAMELAS PIPE INSULATION, 10" IPS X 2" THK.	40-129	2.76	66.24
75	6	S.F. 2" THK. FOAMELAS FLAT BLOCK		.398	2.39
76	135	F-2, ITEM NO. HE-1536: S.F. 2" THK. FOAMELAS LAGS - 3" WIDE BEVELLED TO FIT 30" O.D.		.58	78.30
77	24	S.F. 2" THK. FOAMELAS FLAT BLOCK		.398	9.55
78	24	F-2, ITEM NO. HE-1542: L.F. FOAMELAS PIPE INSULATION, 18" IPS X 2" THK.		4.14	99.36
79	10	S.F. 2" THICK FOAMELAS FLAT BLOCK		.398	3.98
80	25	F-2, ITEM NO. HE-1543: L.F. FOAMELAS PIPE INSULATION - 18" IPS X 2" THK.		4.14	103.50
81	10	S.F. 2" THK. FOAMELAS FLAT BLOCK		.398	3.98
FOR THE ITEMS BELOW CHARGE THE FOLLOWING AMOUNTS TO EQUIPMENT AS NOTED:					
T-278 (\$400.00) T-279 (\$400.00) T-280 (\$700.00)					
HE-1470 (\$200.00) HE-1501 (\$300.00) V-1369 (\$30.00)					
V-1370 (\$121.00) V-1374 (\$20.00) V-1394 (\$30.00)					
V-1395 (\$30.00) V-1397 (\$35.00) V-1398 (\$35.00)					
HE-1469 (\$80.00) HE-1471 (\$40.00) HE-1480 (\$35.00)					
HE-1481 (\$15.00) HE-1483 (\$35.00) HE-1484 (\$35.00)					
HE-1485 (\$35.00) HE-1488 (\$30.00) HE-1496 (\$40.00)					
HE-1497 (\$40.00) HE-1502 (\$20.00) HE-1535 (\$20.00)					
HE-1536 (\$30.00) HE-1542 (\$20.00) HE-1543 (\$20.00)					
82	1050	LBS. 3/4" X .020" THK S/S BAND	19-769	.67	703.50
83	3000	EA. 3/4" S/S SEALS		19.75M	59.25
84	200	LBS. 1/2" X .020" THK S/S BAND		.67	134.00
85	1200	EA. 1/2" S/S SEALS		15.75M	18.90
86	50	LBS. 16 GA. S/S WIRE	42-849	1.20	60.00

CONTINUED...

004336

CONTINUATION SHEET
PURCHASE ORDER

PAGE NO. 7

NO. **330-12650-6**

Show this number on all invoices, packages, unpacked bundles, separate articles, packing slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/ 902/ 330-1587-LISTED/ 8-12650-6/ 3-3-68/ MSS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
87	28	RLS. 20-20 MESH GLASFAB - 36" X 150"	40-129	10.50 ROLL	294.00
88	1210	GAL. (55-GAL) LION OIL NOKORODE SEALKOTE (SPRAY)	40-439	.9325	1,128.3
89	50	GALS. GILSONITE 507		2.25	112.50
90	50	GR #8 X 1/2" ALUMINUM SHEET METAL SCREWS	06-119	.65/GR	32.50
91	4	RLS. .016 THK X 36" X 100" 3/16" SHALLOW CRIMPED CORRUGATED ALUMINUM NO. H/B	40-439	31.70	126.80
92	4	RLS. .016" THK X 36" X 100" SMOOTH ALUMINUM NO MOISTURE BARRIER		31.70	126.80
93	15	G-2, TURBINES PT-974, PT-975, PT-943 EA. 50# BAGS BETTRICK THERMAL UTILITY FINISH CEMENT		4.50	67.50
94	55	GALS. B-F 90-07 H.I. MASTIC		.80/GAL	44.00
TOTAL 1/2 AMOUNT					14,437.5

004337

PURCHASE ORDER

GEN. 968 REV. 3-64

Celanese

CHEMICAL COMPANY

A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

MS5

ORDER DATE
3-21-66

PURCHASE ORDER NO.

338-12663-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

 VIA: ☒ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☐ Motor Truck - To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

 To BISHOP, TEXAS
 -To Box 428, BISHOP, TEX. 78343

 Show this number on all
 invoices, packages, unpacked
 bundles, separate arti-
 cles, packing slips, express
 receipts, bills of lading and
 letters.

 MORVELL-WILDER SUPPLY COMPANY
 P. O. BOX 777
 CORPUS CHRISTI, TEXAS

 MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
 WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
 CELANESE CHEMICAL COMPANY
 BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
565898	982	330-1587 J2	8-12663-6

 SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
 WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cal. Code No.	Unit Price	Amount
		GASKETS		C	
1	4	1" 25001 FLEXITALLIC GASKET ICG-25D	55-113	52.20	2.09
2	3	3/4" 1501 FLEXITALLIC ICG-1C		36.00	1.08
3	7	1 1/2", 3001 FLEXITALLIC GASKET ICG-3F		46.80	3.28
4	5	1" DITTO ICG-3D		36.00	1.80
5	6	3/4" DITTO ICG-3C		36.00	2.16
6	3	1 1/2" DITTO ICG-3T		432.00	12.96
7	7	12", DITTO, ICG-35		365.00	25.55
8	25	6", DITTO ICG-3P		147.00	36.75
9	24	4" DITTO, CG-3E		98.80	12.60
10	11	1", 1500 FLEXITALLIC GASKET CG-1D		36.00	3.96
11	1	12", DITTO CG-1V		518.00	5.18
12	8	8" DITTO CG-1Q		159.00	12.72
13	1	4", DITTO CG-1L		81.00	.81

CONTINUED...

 SHIPPING DATE 3-22-66
 TERMS OF PAYMENT 2-15-30
 F.O.B. BISHOP
TOTAL
AMOUNT

004338

REQUISITIONER

12663

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 2

NO. 330-12663-6

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
invoicing.

NORVELL-WILDER SUPPLY CO./302/334-1567 J2/8-12663-6/3-21-66/BS

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
14	2	3/4" 9001 FLEXITALLIC GASKET CG-9C	55-119	40.80 C	.32
15	3	3", 3001 FLEXITALLIC ICG-3J		73.20	2.21
16	2	14" 6001 DITTO, ICG-5C		477.80	9.54
17	1	12" DITTO, CG-66		417.00	4.17
18	6	10", DITTO CG-6R		288.00	17.28
19	4	8", 6001 DITTO, CG-6Q		231.00	9.24
20	6	6", DITTO CG-6P		165.00	9.90
21	1	4", DITTO CG-6L		99.00	.99
22	9	2" DITTO, CG-6C		51.00	4.59
23	8	6" 15001 OVAL RING GASKET IR-4G		5.27	42.16
	4	2", DITTO IR-24		1.89	7.56
25	10	1" 25001 DITTO IR-18		1.92	19.20
CONFIRMING-DO NOT DUPLICATE. TO MR. SPARKS					
TOTAL AMOUNT					248.38

004339

12663

PURCHASE ORDER

CEL. 945 REV. 3-64

Celanese

 CHEMICAL CO. PANY
 A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS

ORDER DATE
3-21-66PURCHASE ORDER NO.
330-12661-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

 VIA: ☐ Rail Freight—M. P. Railway—To BISHOP, TEXAS
☒ Motor Truck—To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

 To BISHOP, TEXAS
 —To Box 428, BISHOP, TEX. 78343

 Show this number on all
 invoices, packages, unpack-
 ed bundles, separate arti-
 cles, packing slips, express
 receipts, bills of lading and
 letters.

 CDC GASKET PACKING CO.
 341 WESTCHESTER
 CORPUS CHRISTI, TEXAS

 MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
 WITH SHIPPING RECEIPTS AND PACKING LIST, TO:
 CELANESE CHEMICAL COMPANY
 BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
	902	330-1587 J2	8-12661-6

 SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
 WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
1	14	2 1/2" 150# RING BELMONT #585	55-119	16.17 C	2.26
2	7	16" 300# RING BELMONT #585		2.41	16.87
	14	3/4" DITTO		5.80 C	.81
4	12	2 1/2" DITTO		18.81 C	2.26
5	9	1 1/2" DITTO		11.80 C	1.07
6	24	3" 150# FULL FACE BELMONT #585		34.920 C	9.41
7	4	2" 600# RING BELMONT 585		13.93 C	.56
8	25	1" 150# FULL FACE BELMONT #585		13.07	3.27
9	2	16" DITTO		297.00 C	5.94
(CONTINUED).....					

 SHIPPING DATE
 TERMS OF PAYMENT
 F.O.B.

 1 WK.
 NET
 BISHOP

 TOTAL
 AMOUNT

004340

REQUISITIONER

12661

CONTINUATION SHEET
PURCHASE ORDERPAGE NO. 2NO. 330-12661-6Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

CSC GASKET & PACKING CO. / 902 / 330-1587 J2/ 8-12661-6

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
10	2	10" 150# FULL FACE BELMONT #585	55-119	133.32 C	2.27
11	6	8" DITTO		98.01 C	5.88
12	9	2" DITTO		26.14C	2.35
13	11	6" DITTO		70.09C	7.71
14	8	3/4" DITTO		11.62C	.93
15	6	1/2" DITTO		11.62C	.70
16	3	4" DITTO		53.26C	1.60
17	7	1" 300# FULL FACE BELMONT #585		16.41C	1.15
18	2	1/2" DITTO		16.41C	.33
CONFIRMING TO MR. BRUCE.			TOTAL AMOUNT		65.37

004341

12661

PURCHASE ORDER

GEN. 505 REV. 3-54

Celanese

CHEMICAL CO. PANY
 A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS ORDER DATE
3-22-66

PURCHASE ORDER NO.

330-12679-6

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

 VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☒ Motor Truck - To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

 To BISHOP, TEXAS
 -To Box 428, BISHOP, TEX. 78343

 Show this number on all
 invoices, packages, unpack-
 ed bundles, separate arti-
 cles, packing slips, express
 receipts, bills of lading and
 letters.

INDUSTRIAL INSULATORS
P.O. BOX 3388
HOUSTON, TEXAS 77001

 MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
 WITH SHIPPING RECEIPTS AND PACKING LIST, TO:
 CELANESE CHEMICAL COMPANY
 BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
401580	902 (SOWARD)	330-1587 J-2	6-12679-6

 SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF
 WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
		ESTD #10" PIPE INSULATION:			
1	90	LF 3/4" IPS X 1" THICK	40-129	.252	22.68
2	450	" 1" IPS X 1" THICK		.283	127.35
3	75	" 1-1/2" IPS X 1" THICK		.346	25.95
4	960	" 2" IPS X 1" THICK		.378	136.08
5	144	" 3" IPS X 1" THICK		.472	67.97
6	324	" 4" IPS X 1" THICK		.63	204.12
7	288	" 6" IPS X 1" THICK		.84	241.92
8	75	" 3/4" IPS X 1-1/2" THICK		.514	38.55
9	60	" 1" IPS X 1-1/2" THICK		.546	32.76
10	96	" 1-1/2" IPS X 1-1/2" THICK		.63	60.48
11	288	" 2" IPS X 1-1/2" THICK		.672	193.54
12	135	" 3" IPS X 1-1/2" THICK		.798	107.73
13	1,008	" 4" IPS X 1-1/2" THICK		.924	931.39

(CONTINUED).....

 SHIPPING DATE
 TERMS OF PAYMENT
 F.O.B.

AS REQUESTED
1-10-30
SHIPPING POINT - FREIGHT ALLOWED

 TOTAL
 AMOUNT

004342

REQUISITIONER

12679

PAGE NO. 2NO. 330-12679-6Show this number on all invoices, packages
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/902 (SOWARD)/ 330-1587 J-2/ 8-12679-6/ HSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
14	984	" 6" IPS X 1- $\frac{1}{2}$ " THICK	40-129	1.15	1,131.60
15	534	" 8" IPS X 1- $\frac{1}{2}$ " THICK		1.41	752.94
16	678	" 10" IPS X 1- $\frac{1}{2}$ " THICK		1.73	1,172.94
17	237	" 12" IPS X 1- $\frac{1}{2}$ " THICK		1.94	459.78
18	424	" 14" IPS X 1- $\frac{1}{2}$ " THICK		2.20	932.80
19	392	" 20" IPS X 1- $\frac{1}{2}$ " THICK		2.99	1,172.98
20	90	" 3/4" IPS X 2" THICK		.84	75.00
21	162	" 2" IPS X 2" THICK		1.05	170.10
22	288	" 3" IPS X 2" THICK		1.20	345.60
23	84	" 4" IPS X 2" THICK		1.41	118.44
24	78	" 6" IPS X 2" THICK		1.78	138.84
25	108	" 8" IPS X 2" THICK		2.10	226.80
26	273	" 10" IPS X 2" THICK		2.52	687.96
27	48	" 12" IPS X 2" THICK		2.83	135.84
28	198	LF 4" IPS X 3" THICK		2.31	457.38
29	648	" 6" IPS X 3" THICK		2.83	1,833.84
30	312	" 8" IPS X 3" THICK		3.30	1,029.60
31	250	" 10" IPS X 3" THICK		3.83	957.50
32	309	" 12" IPS X 3" THICK		4.30	1,328.70
33	40	" 14" IPS X 3" THICK		4.83	193.20
34	84	<u>UNIBESTOS PIPE INSULATION:</u> LF 1" IPS X 1" THICK		.31	26.04
35	75	LF 1- $\frac{1}{2}$ " IPS X 1" THICK		.379	28.43
36	42	" 2" IPS X 1" THICK		.414	17.39
37	72	" 3" IPS X 1" THICK		.517	37.22

(CONTINUED).....

004343

12679

PAGE NO. 3

NO. 330-12679-6

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
letters.

INDUSTRIAL INSULATORS/ 902 (SOMARD)/ 330-1587 J-2/ 8-12679-6 / MSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
38	27	LF 4" IPS X 1" THICK	40-129	.69	18.63
39	96	" 2" IPS X 2" THICK		1.15	110.40
40	18	" 10" IPS X 2" THICK		2.76	49.68
41	54	" 8" IPS X 3" THICK		3.62	195.48
42	111	" 12" IPS X 3" THICK		4.71	522.81
43	48	" 13-1/8" O.D. X 3" THICK		5.29	253.92
44	3	" 20" IPS X 3" THICK		6.90	20.70
45	147	" 24" IPS X 3" THICK		8.05	1,183.35
46	22	KAYLO LR 90° WELD ELBS: (EA) 3" IPS X 1" THICK		1.09	23.98
47	1	" 3" IPS X 1" THICK 45°		1.09	1.09
48	27	" 4" IPS X 1" THICK		8.44	227.88
49	4	" 4" IPS X 1" THICK 45°		1.44	5.76
50	13	" 6" IPS X 1" THICK		2.18	28.34
51	3	" 6" IPS X 1" THICK 45°		2.18	6.54
52	11	" 3" IPS X 1-1/2" THICK		1.43	15.73
53	80	" 4" IPS X 1-1/2" THICK		2.01	160.80
54	4	" 4" IPS X 1-1/2" THICK 45°		2.01	8.04
55	60	" 6" IPS X 1-1/2" THICK		2.82	169.20
56	7	" 6" IPS X 1-1/2" THICK 45°		2.82	19.74
57	38	" 8" IPS X 1-1/2" THICK		4.60	174.80
58	5	" 8" IPS X 1-1/2" THICK 45°		4.60	23.00
59	46	" 10" IPS X 1-1/2" THICK		7.48	344.08
60	6	" 10" IPS X 1-1/2" THICK 45°		7.48	44.88

(CONTINUED).....

004344

12679

NO. 330-12679-6

PAGE NO. 4

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/ 902 (SOWARD)/ 330-1587 J-2/ 8-12679-6/ HSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
61	1	(EA) 12" IPS X 1- $\frac{1}{2}$ " THICK	40-129	9.20	9.20
62	1	" 12" IPS X 1- $\frac{1}{2}$ " THICK 45°		9.20	9.20
63	17	" 14" IPS X 1- $\frac{1}{2}$ " THICK		10.92	185.64
64	5	" 20" IPS E 1- $\frac{1}{2}$ " THICK		21.28	106.40
65	14	" 3" IPS X 2" THICK		2.01	28.14
66	4	" 3" IPS X 2" THICK 45°		2.01	8.04
67	12	" 4" IPS X 2" THICK		2.59	31.08
68	15	" 6" IPS X 2" THICK		3.79	56.85
69	16	" 8" IPS X 2" THICK		6.32	101.12
70	4	" 8" IPS X 2" THICK SR 90°		6.32	25.28
71	20	" 10" IPS X 2" THICK		9.77	195.40
72	1	" 10" IPS X 2" THICK 45°		9.77	9.77
73	3	" 12" IPS X 2" THICK		11.50	34.50
74	21	" 4" IPS X 3" THICK		4.60	96.60
75	36	" 6" IPS X 3" THICK		8.50	306.00
76	4	" 6" IPS X 3" THICK 45°		8.00	32.00
77	20	" 8" IPS X 3" THICK		12.50	250.00
78	14	" 10" IPS X 3" THICK		18.00	252.00
79	1	KAYLO LB 90° WELD ELLS: " 18" IPS X 3" THICK 45°		16.00	16.00
80	7	" 12" IPS X 3" THICK		23.00	161.00
81	2	" 12" IPS X 3" THICK 45°		20.50	41.00
82	3	" 14" IPS X 3" THICK		32.20	96.60
83	4	UNIBESTOS LB 90° WELD ELLS: (EA) 3" IPS X 1" THICK		1.33	5.32

(CONTINUED).....

004345

12679

PAGE NO. 5

NO. 330-12679-6

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, etc. to identify bill of lading, and

INDUSTRIAL INSULATORS/ 902 (SOWARD)/ 330-1587 J-2/ 8-12679-6/ HSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
		UNIBESTOS LR 90° WELD ELLS: (CONTINUED)	40-129		
84	5	(EA) 4" IPS X 1" THICK		2.28	11.40
85	1	" 4" IPS X 1" THICK 45°		2.28	2.28
86	1	" 10" IPS X 2" THICK		15.41	15.41
87	3	" 8" IPS X 3" THICK		17.86	53.58
88	4	" 12" IPS X 3" THICK SR 90°		25.94	103.76
89	2	" 20" IPS X 3" THICK		62.88	125.76
90	6	" 24" IPS X 3" THICK		84.69	508.14
		ALUMINUM LR 90° WELD ELL COVERS:	40.439		
91	4	" 3/4" IPS X 1" THICK		.91	3.64
92	44	" 1" IPS X 1" THICK		.96	42.24
93	1	" 1" IPS X 1" THICK 45°		.96	.96
94	17	" 1-1/2" IPS X 1" THICK		1.02	17.34
95	44	" 2" IPS X 1" THICK		1.17	51.48
96	26	" 3" IPS X 1" THICK		1.54	40.04
97	1	" 3" IPS X 1" THICK 45°		1.54	1.54
98	32	" 4" IPS X 1" THICK		2.27	72.64
99	5	" 4" IPS X 1" THICK 45°		2.27	11.35
100	13	" 6" IPS X 1" THICK		3.43	44.59
101	3	" 6" IPS X 1" THICK 45°		3.43	10.29
102	2	" 3/4" IPS X 1-1/2" THICK		1.17	2.34
103	34	" 2" IPS X 1-1/2" THICK		1.21	41.14
104	11	" 3" IPS X 1-1/2" THICK		2.33	25.63
105	80	" 4" IPS X 1-1/2" THICK		2.54	203.20
106	4	" 4" IPS X 1-1/2" THICK 45°		2.54	10.16
END		(CONTINUED).....			

004346

12679

PAGE NO. 6

NO 330-12679-6

Show this number on all invoices, packages,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and
inmars.

INDUSTRIAL INSULATORS/ 902 (SOWARD/ 330-1587 J-2/ 8-12679-6/ HSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
ALUMINUM LR 90° WELD ELL COVERS: (CONTINUED)...					
107	60	(EA) 6" IPS X 1-1/2" THICK	40-439	3.74	224.40
108	7	" 6" IPS X 1-1/2" THICK 45°		3.74	26.18
109	38	" 8" IPS X 1-1/2" THICK		5.08	193.04
110	5	" 8" IPS X 1-1/2" THICK 45°		5.08	25.40
111	46	" 10" IPS X 1-1/2" THICK		6.57	302.22
112	6	" 10" IPS X 1-1/2" THICK 45°		6.57	39.42
113	1	" 12" IPS X 1-1/2" THICK		10.01	10.01
114	1	" 12" IPS X 1-1/2" THICK 45°		10.01	10.01
115	17	" 14" IPS X 1-1/2" THICK		10.97	186.49
116	5	" 20" IPS X 1-1/2" THICK		15.62	78.10
117	15	" 3/4" IPS X 2" THICK		1.21	18.15
118	24	" 2" IPS X 2" THICK		1.97	47.28
119	14	" 3" IPS X 2" THICK		2.54	35.56
120	4	" 3" IPS X 2" THICK 45°		2.54	10.16
121	12	" 4" IPS X 2" THICK		2.85	34.20
122	15	" 6" IPS X 2" THICK		4.04	60.60
123	16	" 8" IPS X 2" THICK		5.58	89.28
124	21	" 10" IPS X 2" THICK		6.90	144.90
125	1	" 10" IPS X 2" THICK 45°		6.90	6.90
126	3	" 12" IPS X 2" THICK		10.88	32.64
127	21	" 4" IPS X 3" THICK		3.43	72.03
128	36	" 6" IPS X 3" THICK		5.58	200.88
129	6	" 6" IPS X 3" THICK 45°		5.58	33.48

(CONTINUED).....

004347

12679

PAGE NO. 7

NO. 330-12679-6

Show this number on all invoices, package,
unpacked bundles, separate articles, packing
slips, express receipts, bills of lading, and

INDUSTRIAL INSULATORS/ 902 (SOWARD)/ 330-1587 J-2 / 8-12679-E/ HSS 3-22-66

ITEM	QUANTITY	DESCRIPTION	CELANESE CODE NO.	UNIT PRICE	AMOUNT
ALUMINUM LR 90° WELD ELL COVERS: (CONTINUED)					
130	17	(EA) 8" IPS X 3" THICK	40-439	6.55	111.35
131	14	(EA) 10" IPS X 3" THICK		7.99	111.86
132	1	" 10" IPS X 3" THICK 45°		7.99	7.99
133	7	" 12" IPS X 3" THICK		11.94	83.58
134	2	" 12" IPS X 3" THICK 45°		11.94	23.88
135	3	" 14" IPS X 3" THICK		12.53	37.59
136	2	" 20" IPS X 3" THICK		17.77	35.54
137	6	" 24" IPS X 3" THICK		22.23	133.38
138	400 (LBS)	16 GA. STAINLESS STEEL WIRE	42-849	1.20	480.00
139	350	" 3/8" X 1/2" X .020" THICK ALUMINUM BAND		.85	297.5
140	15,000 (EA)	3/8" ALUMINUM SEALS	19-769	9.00M	135.00
141	120	RLS .016" THICK X 36" X 100" 3/16" SHALLOW CROSS CORRUGATED ALUMINUM, NO. H/B	40-439	31.70/RL	3,804
142	60	GR #8 X 1/2" ALUMINUM S/H SCREWS	06-119	.65	39.00
143	5	(EA) 50# BAGS BETRICK THERMAL UTILITY FINISH CEMENT	40-439	4.50-B	22.50
144	1	R1 20-20 BLACK GLASFAB 36" X 150"	40-129	10.50 R1	10.50
145	25	(GAL) BENJENIN FOSTER 90-07 H.I. MASTIC	40-439	.90	22.50
TOTAL AMOUNT					29,734.5

004348

12679

PURCHASE ORDER

GEN. 948 REV. 3-64

Celanese CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

HSS

ORDER DATE
6-14-66

PURCHASE ORDER NO.

330-13361-1

Show this number on all
invoices, packages, unpack-
ed bundles, separate arti-
cles, packing slips, express
receipts, bills of lading and
letters.

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS
☒ Motor Truck - To BISHOP, TEXAS

☐ Railway Express -
☐ Parcel Post -

To BISHOP, TEXAS
To Box 428, BISHOP, TEX. 78343

INDUSTRIAL INSULATORS, INC.
P. O. BOX 3388
HOUSTON, TEXAS 77001

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT.
WITH SHIPPING RECEIPTS AND PACKING LIST. TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
401580	902	1587 JS	8-13361-6

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF WHICH ARE A PART OF THE ORDER, PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
1	21	FEET - 1½" IPS X 1" THK. UNIBESTOS INSULATION		.379	7.96
2	12	FEET - 8" IPS X 4" DITTO	40-129	5.32	63.86
3	2	ONLY - 8" IPS X 4" THK UNIBESTOS WELD ELLS		24.04	48.08
4	132	FEET - 12" IPS X 2" THK KAYLO INSULATION		2.83	373.56
5	6	ONLY - 10" IPS X 2" THK KAYLO L.R. WELD ELLS		9.77	58.62
6	3	ONLY - 10" IPS X 1½" DITTO		7.48	22.44
7	150	POUNDS - 3/8" X .020 THK ALUMINUM BANDING MATERIAL	19-769	.85	127.50
8	12	ROLLS - .016 THK X 36" X 100 3/16 SHALLOW CROSS CORRUGATED ALUM.	40-439	31.70	280.40
9	2	ONLY - 8" X 4" ALUMINELS		7.84	15.68
10	6	ONLY - 10" X 2" DITTO		6.90	41.40
11	3	ONLY - 10" X 1½" DITTO		6.57	19.71

CONFIRMING - DO NOT DUPLICATE TO MR. HILLBERG 6-13-66

SHIPPING DATE
TERMS OF PAYMENT
F.O.B.

ITEMS 263 10 DAYS BAL 6-14-66

1-10-30

SHIPPING POINT FREIGHT ALLOWED

TOTAL AMOUNT 1,059.21

004349

REQUISITIONER

PURCHASE ORDER

CPL 208 REV. 2-66

Celanese

CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION OF AMERICA

BOX 428, BISHOP, TEX. 78343

CNR **72-13-65**

PURCHASE ORDER NO.

330-12546-5

Show this number on all invoices, packages, unpacked bundles, separate articles, packing slips, express receipts, bills of lading and letters.

SHIP TO: CELANESE CHEMICAL COMPANY, ATTN: RECEIVING DEPARTMENT

VIA: ☐ Rail Freight - M. P. Railway - To BISHOP, TEXAS☐ Railway Express - To BISHOP, TEXAS☒ **EX-FAST WAY** - To BISHOP, TEXAS☐ Parcel Post - To Box 428, BISHOP, TEX. 78343

HEINZ ELECTRIC SUPPLY COMPANY
P. O. BOX 1050
CORPUS CHRISTI, TEXAS

MAIL INVOICES IN TRIPLICATE ON DATE OF SHIPMENT,
WITH SHIPPING RECEIPTS AND PACKING LIST, TO:
CELANESE CHEMICAL COMPANY
BOX 428, BISHOP, TEX. 78343

VENDOR CODE	DEPARTMENT	W.O./EST./ACCT. NO.	REQUISITION NO.
567644	ENGINEERING	330-1587-L2	8-12546-5

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY PURCHASER, ALL OF WHICH ARE A PART OF THE ORDER. PLEASE SUPPLY THE FOLLOWING:

Item	Quantity	Description	Cel. Code No.	Unit Price	Amount
1	3500	FT. CONDUIT- 3/4" RIGID, HEAVY WALL, GALV., WITH TAPERED THREAD, COMPLETE WITH COUPLINGS	22-119	15.94 CFT.	557.9
2	5860	FT. BITTO 1"		22.87	1,340.1
3	9500	FT. BITTO 1 1/2"		35.60	8,382.0
	350	FT. BITTO 2"		47.55	166.4
5	630	FT. BITTO 2 1/2"		73.75	464.6
6	1730	FT. BITTO 3"		96.47	1,668.9
7	250	FT. CONDUIT-3" TRANSITE (KORDUCT)		32.00	80.0
8	25	ONLY, 3" DEFLECTION TYPE CPLGS.		.41	10.2
9	2	ONLY ADAPTER- 3" FIBER TO STEEL		1.05	2.1
10	50	ONLY CONDUIT ELBOW- 3" GALV. WITH TAPERED THREAD		460.00	230.0
11	100	ONLY CONDUIT CPLGS., 3" COUPLINGS GALV.		1.32	132.0
CONFIRMING - DO NOT DUPLICATE 3 - 4 WEEKS					

SHIPPING DATE
TERMS OF PAYMENT
F.O.B.

TRANSITE - NET / BAL. 2-10N-30
BISHOP

TOTAL AMOUNT **8,534.2**

004350

12546

REQUISITIONER

MAIL INVOICES IN
TRIPPLICATE TO

VENDOR

CHINESE CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION
BOX 428, BISHOP, TEXAS 78343

PURCHASE ORDER

MUST BE SHOWN ON ALL
INVOICES, AND OTHER
SUPPLEMENT #1
NO. 41-

DATE		SHIPPING DATE		F.O.B.			TERMS OF PAYMENT	
April 9, 1975		See Original Purchase Order					See Original P. O.	
CODES	VENDOR NO.	CONTRACT NO.	RFA NO.	BUYER	TERMS	F.O.B.	REQ. NO.	W.O./EST./ACCT. NO.
		1s		RJA				1-4265-401-01-1
								DEPT.
								Beasley

VERBOR

Thorpe Insulation Company
P. O. Box 4772,
Corpus Christi, Texas 78408

SHIP TO: Celanese Chemical Company

- | | | |
|--------------------------|--------------|--------------------------------|
| ☐ | RAIL FREIGHT | - MP RAILWAY, CHEMCEL, TEXAS |
| ☐ | MOTORTRUCK | - BISHOP, TEXAS |
| ☐ | RAILWAY EXP. | - BISHOP, TEXAS |
| ☐ | PARCEL POST | - BOX 428, BISHOP, TEXAS 78343 |

See Original P. O.

ITEM	COMMODITY NUMBER	MFG. CODE	BY DS	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
				P. O. SUPPLEMENT #1				
				Add to this order:				
				Additional charge for 3 - 3/4" S. S. Bands on each of the 18 Vessels shown on the original order.	1	lot		\$ 367.00
				Total Amt. Original P.O. \$12,772.00				
				Net Increase this Supp. 367.00				
				Total Amt. Revised P.O. \$13,139.00				
				All other terms and conditions of the original Purchase Order remain the same.				
				LUMP SUM				

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY BUYER, ALL OF WHICH ARE A PART OF THIS ORDER.

TOTAL AMOUNT		\$13,139.00
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SIGN AND RETURN ACCEPTANCE COPY OF THIS ORDER IF ONE IS ATTACHED.
BUYER HEREBY SIGNIFIES OBJECTION TO ANY ADDITIONAL OR
DIFFERENT TERMS (WHETHER OR NOT MATERIAL) WHICH
MIGHT BE SUBMITTED BY SELLER IN ANY FORM.

004351

CELANESE CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION

BY R. J. Ande
R. J. Ande

ALL INVOICES IN
DUPLICATE TO

Vader



CELANESE CHEMICAL COMPANY

A DIVISION OF CELANESE CORPORATION

BOX 428, BISHOP, TEXAS 78343

PURCHASE ORDER NUMBER

MUST BE SHOWN ON ALL SHIPMENTS,
INVOICES, AND OTHER DOCUMENTS.

NO. 41-10,033-5

DATE 3/14/75	SHIPPING DATE May 1, 1975	F.O.B. Bishop, Texas Delivered and Erected	TERMS OF PAYMENT Net 30 days
CODES	VENDOR NO.	CONTRACT NO. 1b.	RFA NO.
	BUYER RJA	TERMS F.O.B.	REQ. NO.
	W.O./EST./ACCT. NO. 1-4265-401-01-0	DEPT. J.W. Beasley	

SHIP TO: Celanese Chemical Company

V
E
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D
O
R

Thorpe Insulation Co.
P.O. Box 4772
Corpus Christi, Texas 78408

- ☐ RAIL FREIGHT - MP RAILWAY, CHEMCEL, TEXAS
☐ MOTOR TRUCK - BISHOP, TEXAS
☐ RAILWAY EXP. - BISHOP, TEXAS
☐ PARCEL POST - BOX 428, BISHOP, TEXAS 78343
☒ Vendor's Option

ITEM	COMMODITY NUMBER	MFG. CODE	QTY	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	AMOUNT
				<u>LUMP SUM PURCHASE ORDER</u>				
				Furnish necessary material, labor, tools, supervision, and all other items necessary to insulate 18 vessels referenced on our Inquiry #031-RJA-41-5 and your Quote #8985 of February 13, 1975. Total firm lump sum price including all applicable sales and use taxes.	1	Lot		\$12,772.00
				The attached, circled "Standard Purchasing Clauses" Nos. 4, 5, 7, 8, 9, 41, 43, 46, 49, 50, 51, 55, 62, 63, 69, 70, and 72 are hereby made a part of this purchase order.				
				This purchase order is issued by:				
				Celanese Chemical Company 777 So. Post Oak Road, Suite 990 Houston, Texas 77027 Telephone AC(713) 627-7270 Attn: Mr. R. J. Anderson				
				All correspondence or questions pertaining to this order are to be directed to Mr. J. W. Beasley at the Bishop Plant address, with copies of all correspondence to Mr. Anderson at the Post Oak Address.				

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY BUYER, ALL OF WHICH ARE A PART OF THIS ORDER.

SIGN AND RETURN ACCEPTANCE COPY OF THIS ORDER IF ONE IS ATTACHED. BUYER HEREBY SIGNIFIES OBJECTION TO ANY ADDITIONAL OR DIFFERENT TERMS (WHETHER OR NOT MATERIAL) WHICH MIGHT BE SUBMITTED BY SELLER IN ANY FORM.

TOTAL AMOUNT \$12,772.00

LUMP SUM

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CELANESE CHEMICAL COMPANY
A DIVISION OF CELANESE CORPORATION

BY *[Signature]*

PURCHASE ORDER **CELANESE CHEMICAL COMPANY, INC.**

THORPE INSULATION
 PO BOX 9785
 C CHRISTI TX 78469

CONTACT: MOAKE 512-882-3671

PAGE 1

VENDOR

DATE INVOICES IN DUPLICATE TO ACCT. PAYABLE AT		DATE		PURCHASE ORDER NUMBER	
CELANESE CHEMICAL COMPANY, INC.		06/17/85		ORDER NUMBER	
P. O. BOX 428		BUYER		R BEAURIGH 041 25081-5	
Bishop, TX 78343		CONTRACT NO.		SHOW THIS NUMBER ON ALL PACKAGES AND DOCUMENTS	
SHIP ON OR BEFORE: 07/12/85		BILL OF MATERIAL NO.		REORDER NUMBER	
VIA		TERMS OF PAYMENT		FRANZEN	
VENDOR DELIVERY		NET 30 DAYS			
HWY 77 2MI SO. BISHOP, TX 78343		F.O.B. TERMS			
		SPECIAL-SEE BELOW			
Q.L.	POST DISTRIBUTION	W/O	DEPT.	ITEM CLASS	QTY.
70000	33068			100	M
		VENDOR NO.	APPL.	VENDOR SHIP TO	
		3315051	GEW	SEE VENDOR	

QUANTITY	UNIT OF MEASURE	DESCRIPTION	UNIT PRICE	AMOUNT
1 LOT		FURNISH ALL TAXES, MATERIAL, EQUIP., SUPERVISION, AND LABOR TO REPAIR EXISTING 2" THK. FOAM GLASS INSULATION AND INSTALL ALUMINUM JACKETING ON A TOWER. CONTRACTOR TO PROVIDE SCAFFOLDING AND ANY LIFTING EQUIPMENT NECESSARY. TOWER DIMENSIONS: 6'-6" OD X 76'-6" SEAM TO SEAM. ASME F & D HEADS WITH 2" S.F. JACKETING SPECIFICATIONS: ALUMINUM ALLOY 3003 OR 5005 WITH H-14 TEMPER. ATTACHED MOISTURE BARRIER 3/4" 8/8 BANDING ON 12" CENTERS .016" THK. WITH 1 1/4" CORRUGATIONS FOR SHELL .020" THK. SMOOTH FOR HEADS JOINTS SHALL BE LAPPED 2" MINIMUM, POSITIONED TO SHED WATER, AND BE AWAY FROM PREVAILING WIND. NOTE: THE ABOVE LOT PRICE INCLUDES ALL SALES TAXES. REFERENCE:	5,774.000	5,774.00

IGN AND RETURN ACCEPTANCE COPY OF THIS ORDER IF ONE IS ATTACHED. BUYER HEREBY SIGNIFIES OBJECTION TO ANY ADDITIONAL OR DIFFERENT TERMS (WHETHER OR NOT MATERIAL) WHICH MIGHT BE SUBSTITUTED BY SELLER IN ANY FORM.

SALES & USE TAX REGISTRATION/EXEMPTION NUMBER

3-00034-1701-8

CELANESE CHEMICAL COMPANY, INC.

004353

Asbestos Criteria Document righlights

MR. BILL WILSON

ABSTRACT. Environmental research indicates that exposure to asbestos may be a significant hazard beyond that long recognized by the manufacturing and processing industry. Recent data supports the concern of environmental health specialists that asbestos may adversely affect workers in construction, maintenance, and other occupations far removed from asbestos manufacturing. Criteria standards calling for engineering controls and substitution of less hazardous materials should reduce the threat of pulmonary disease attributable to exposure to asbestos.

By Irving J. Selikoff, M.D.,
Professor of Medicine,
Mount Sinai School of Medicine,
City University, New York,
and
Director—Environmental
Sciences Laboratory

Editor's note: The following was presented by Dr. Selikoff as a talk during the Society's Professional Development Conference held June 25-27, 1973, in Dallas, Texas.

When three years ago we heard that NIOSH and later the Department of Labor had decided to review asbestos first in the series of criteria doc-

uments that was to be prepared and to set the standards that were to be promulgated, this decision was accepted with mixed relief and apprehension. This was a rather urgent problem disease. Industry was somewhat in a turmoil since it was being asked to undertake expensive and extensive revisions and charges.

Labor was very resentful over what had occurred in terms of disease among workmen, and government was obviously very much on the defensive.

On the other hand, there was a great deal of apprehension because the problem was going to be approached from a very limited data base.

Table 1

Expected* and observed number of deaths among 625 New York-New Jersey asbestos insulation workers, Jan. 1, 1943-Dec. 31, 1971, twenty or more years after onset of first exposure to asbestos.

	1943-1947		1948-1952		1953-1957		1958-1962		1963-1971		Total	
	Exp.	Observ.	Exp.	Observ.	Exp.	Observ.	Exp.	Observ.	Exp.	Observ.	Exp.	Observ.
Total Cancer: all sites	5.7	13	8.1	17	13.0	28	9.7	39	15.7	94	52.2	189
Lung cancer	0.8	5	1.4	8	2.0	12	2.4	17	4.8	42	11.4	84
Pleural mesothelioma	..	1	..	0	..	1	..	1	..	5	..	6
Peritoneal mesothelioma	..	0	..	1	..	2	..	1	..	20	..	24
Cancer of stomach, colon, rectum	2.0	4	2.5	4	2.6	7	2.3	14	3.1	12	12.5	61
Cancer all other sites	2.9	3	4.2	4	8.4	4	6.0	6	7.8	15	28.9	32
Asbestosis	..	0	..	1	..	4	..	7	..	21	..	33
All other causes	34.0	15	42.7	36	43.8	35	44.8	42	69.3	53	236.3	201
Total all causes	49.7	28	50.8	34	56.6	35	54.4	38	85.0	188	288.5	423
Person years of observation:	1,912.0		2,478.0		2,338.5		2,011.0		3,820.0		11,257.5	

332 members were on the Union's rolls on Jan. 1, 1943. Seven died before reaching 20 years from first employment. All others entered these calculations after reaching the 20-year-from-first-exposure point.

*Expected deaths are based upon death rate data reported annually by the U.S. National Office of Vital Statistics. Rates for 1968-1971 were extrapolated from age-specific rates for 1961-1967.

**U.S. death rates not available, but these are rare causes of death in the general population.

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Table 2

Expected* and observed deaths among 933
amosite asbestos factory workers first
employed 1941-1945, and observed to Dec. 31, 1971.

	Before 1952		1952-1961		1962-1971		Total, 1941-1971	
	Expected	Observed	Expected	Observed	Expected	Observed	Expected	Observed
Total deaths	69.98	88	108.27	146	121.24	250	299.49	484
Total cancer: all sites	9.81	15	18.72	44	21.63	84	50.16	143
Lung cancer	1.49	3	3.71	23	6.21	47	11.41	73
Pleural mesothelioma ***		1	***	0	***	2	***	3
Peritoneal mesothelioma***		0	***	0	***	4	***	4
Cancer of stomach	1.45	3	1.84	4	1.29	4	4.58	11
Cancer of colon, rectum	1.56	2	2.61	5	2.88	8	7.05	15
Cancer of esophagus	0.27	0	0.45	0	0.51	0	1.23	0
All other cancers	5.04	6	10.11	12	10.74	19	25.89	37
Asbestosis	***	3	***	7	***	17	***	27
All other causes	60.17	70	89.55	85	99.61	149	249.33	314

*Expected rates are based upon age-specific death rate data of U.S. National Office of Vital Statistics from 1949-1967. Rates were extrapolated 1941-1948 from rates for 1949-1955 and for 1968-1971 from rates for 1961-1967.

**933 men were employed. In 5 cases, ages were not known and these men have been excluded from these calculations. 877 men were traced to death or to Dec. 31, 1971. 51 men were partially traced and remain in the calculations until being lost to observation.

***U.S. death rates are not available, but these are rare causes of death in the general population.

(continued on next page)

Little Scientific Research Into Problem

The first cases of asbestos disease in our country were reported in 1930, and soon after a very good Public Health Service study under Dr. Dreesen and his colleagues, was undertaken. But from that point on, from the early 30's to the early 60's, there was virtually a total absence of scientific research into this problem. Therefore when in 1969, 70, and 71, decisions were to be made, we didn't have a great deal on which to rely.

Secondly, data that had been collected during the 1960's suggested that this was a very complex problem. We should not have been surprised at this, because this complexity had, as we reviewed the situation, existed almost from its inception.

The first case of asbestosis, i.e., lung scarring as a result of inhalation of asbestos dust, was reported in 1924 by Dr. Cooke of Leeds, after he had done a post-mortem on a young woman who had very extensive scarring throughout her lungs. He very astutely noted that she had worked in an asbestos textile factory. However, what he did not know and could not answer was how her exposure in that factory had resulted in the disease. What he could not answer was how much of the dust that she had inhaled

About The Author



Irving J. Selikoff, M.D., is Professor of Medicine, Mount Sinai School of Medicine, City University, New York, and Director—Environmental Sciences Laboratory. He is an attending physician, Mount Sinai Hospital; Past President and Past Governor, The New York Academy of Science, and President, The Society for Occupational and Environmental Health. He received the Lasker Award, American Public Health Association, in 1955 and many other honors in medicine and science. Dr. Selikoff serves as consultant to many governmental and scientific agencies and has authored numerous articles in these fields.

Table 3

Expected and observed deaths of lung cancer among 876
amosite asbestos factory workers, first employed
1941-1945, and observed to Dec. 31, 1971.*
Distribution by duration of employment.

Duration of employment	Number of Men	Person-years of observation	Deaths of lung cancer		
			Exp.**	Observ.	Ratio
< 3 months	256	5,869	3.55	13	3.66
3-11 months	294	6,158	3.58	15	4.19
1+ years	<u>326</u>	<u>6,912</u>	<u>4.09</u>	<u>45</u>	<u>11.00</u>
Total	876	18,939	11.22	73	6.51

*This table excludes 57 men. 10 died during first year of employment, 39 could not be traced after the first year, 7 had prior occupational exposure to asbestos and 1 had employment of uncertain duration. 17 men of the 876 were partially traced and remained in the calculations only until lost to observation.

**Expected rates are based upon age-specific rate data of U.S. National Office of Vital Statistics, 1949-1967. Rates were extrapolated 1941-1948 from rates for 1949-1955 and for 1968-1971 from rates for 1961-1967.

in the 20 years of her employment was necessary to cause the fibrosis.

She had worked 20 years and had inhaled a great deal of dust, but how much of that dust was "wasted" in terms of production of disease, was not known. He did not know nor do we today, whether one day, one week, one month, one year, or three years of that dust was required for her to have the scarring she suffered, and to subsequently die.

In the years after Dr. Cooke's report we learned a good deal. The most important thing we learned was that whatever asbestos does, takes a long time to become clinically evident. For example, 1,000 asbestos insulation workers were examined by us in the New York metropolitan area; of the 725 with less than 20 years from onset of exposure, most had normal X-rays. Only a minority had abnormal X-rays. When they were abnormal they tended to be only minimally so. On the other hand, once the 20-year point had passed, most had abnormal X-rays; and when they were abnormal they frequently were extensively so.

The next lesson we learned was that "years of exposure" was not necessarily synonymous with "years from onset of exposure." In other words, there was an important variable rarely included in the usual analysis of dose-disease response relationships—the variable of residence time of the dust in the lungs.

Cases have been seen of two, four, six weeks of

exposure—probably intensive exposure—30 years ago, with extensive current fibrosis. The explanation is that the individual had six weeks of exposure.

The lungs which contained the dust inhaled in those six weeks, had since had 30 years of exposure. Thus, residence time had to be added to the complex biological equation we were to formulate.

We also found in these 30 years that, in addition to the lung itself being involved, not infrequently the covering of the lung, the pleura, also was frequently involved, that more than one tissue could be affected. This also followed the 20-year rule. For example, of the 725 with less than 20 years from onset of exposure, most had a normal pleura on X-ray. On the other hand, once the 20-year point had passed, fibrosis and/or calcification were common.

This has special significance in that whatever we have seen to this point, is the result of exposure from 1920, 1930, 1940, or 1950. In 1930, the United States used around 120,000 tons of asbestos, so what we are seeing now is the result of such levels of use. We are now using about 700,000 tons of asbestos each year. Disease associated with current use of asbestos will not be seen until the year 2000.

Nature Was Jogging Our Elbow

While we were learning these things, nature was jogging our elbow. In 1935, Dr. Kenneth Lynch, at that time Professor of Pathology at the Medical Uni-

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versity of South Carolina (recent Chancellor there) reported a very unusual case of a man who had asbestosis and lung cancer. One may wonder what was so unusual about this case, that the editor of the *American Journal of Cancer* accepted it for publication. It may be hard for us to now appreciate that in 1935 lung cancer was a rather rare disease. The reason is that it, too, follows a 20-year rule. Youngsters begin smoking cigarettes at the age of 18, 12, 14, 9, 20. They do not die of lung cancer at 25, 30, 21. They die at 58, 63, 49.

It is therefore significant that, in 1935, there were not many people in our country who had begun smoking cigarettes in 1910, for example. We did not become a nation of cigarette smokers until after the First World War. Therefore, a case in 1935 which combined two diseases, asbestosis and lung cancer, each with a long waiting period, would be very unusual. However, the purists among us, bio-statisticians, epidemiologists, careful people, noted that what Dr. Lynch had described, and others too, couldn't be accepted as necessarily related, since we could not rule out a chance rather than an etiolog-

ical association. The truth is that the statisticians were right. Their evidence was perfectly valid.

The same criticism was equally valid in 1954 when a second disease, mesothelioma, a cancer of the lining of the chest (the pleura) was reported by Dr. Weiss in Germany in a man who also had asbestosis. This was a very unhappy finding. First of all, to that point mesothelioma was very rare. How rare, we don't know. It was so rare that it was not separately coded in the International Classification of Causes of Death.

Therefore, no valid statistics are available. The best evidence we have is that it was something around one out of every 10,000 deaths.

Among people with asbestos exposure, it soon after 1954 began to be reported frequently. When it was, it was disheartening since it was invariably fatal.

When the lining of the abdomen becomes involved, as was soon found in asbestos workers (mesothelioma of the peritoneum), it too is diffuse, and it also is invariably fatal.

We didn't know in the 1950's how much of a

Table 4

Expected* and observed deaths among
17,800 asbestos insulation workers
in the United States, January 1, 1967-December 31, 1971

	Distribution by duration from onset of exposure					
	Total		Less than 20 years		20 years and more	
	Expected	Observed	Expected	Observed	Expected	Observed
<u>Total deaths</u>	805.63	1,092	178.94	211	626.69	881
<u>Cancer: all sites</u>	144.09	459	26.31	51	117.78	408
Lung cancer	14.42	213	7.03	22	37.39	191
Pleural mesothelioma	**	26	**	2	**	24
Peritoneal mesothelioma	**	31	**	3	**	48
Cancer of stomach	6.62	16	0.97	1	5.65	15
Cancer of colon, rectum	17.51	26	2.51	3	15.00	23
Cancer of esophagus	3.21	13	0.44	1	2.77	12
All other cancers	72.33	114	15.36	19	56.97	95
<u>Asbestosis</u>	**	78	**	5	**	73
<u>All other causes</u>	661.54	555	152.63	155	508.91	400
Number of men	17,800		12,681		5,119	
Person-years of observation	86,300		62,873		23,627	

*Expected deaths are based upon age specific death rate data of the U.S. National Office of Vital Statistics. Rates for 1968-1971 were extrapolated from rates for 1961-1967.

**U.S. death rates not available, but these are rare causes of death in the general population.

Table 5

Deaths of lung cancer and pleural mesothelioma
among 17,800 asbestos insulation workers
in the U.S. and Canada, Jan. 1, 1967-Dec. 31, 1971:
relation to elapsed period from onset of work exposure.

Years from onset	Expected deaths*	Lung cancer		Pleural Mesothelioma
		Observed deaths	Ratio	Observed deaths
< 10	0.48	0	--	0
10-14	1.69	4	2.4	0
15-19	4.86	18	3.7	2
20-24	7.55	25	3.3	4
25-29	8.50	41	4.8	7
30-34	6.24	44	7.1	4
35-39	3.53	23	6.5	1
40-44	4.04	24	5.9	3
45-49	3.72	17	4.6	4
50+	3.81	17	4.5	1
Total	44.42	213	4.8	26

*Expected deaths are based upon age specific death rate data of the U.S. National Office of Vital Statistics. Rates for 1968-1971 were extrapolated from data for 1961-1967.

problem these cancers would turn out to be. The matter was of some importance because until this point, the question was only whether our task was to prevent asbestosis, (lung scarring). Now it was whether it was to include something more, cancer. There was, and therefore our precautions would have to be related to all.

In the last several years, a number of studies have been done to bring together data on this aspect of the question. In one, 632 members of the Asbestos Workers Union in 1943 in the New York metropolitan area were studied. Age, year and sex, specific rates indicated that by the end of 1962 there should have been 203 deaths among them. There were 255. Fifty men died in this one union who were not expected to die.

Looking at the death by cause, six or seven deaths of cancer of the lung and pleura were expected. There actually were 45. This obviously was where the major portion of the excess deaths were. Dr. Lynch was right in 1935, with his one case and with keen sense. Interestingly, there should have been nine or ten deaths of cancer of the stomach, colon, rectum and esophagus. There were 29. Individuals

who inhale dust also ingest it. There were, as expected, 12 deaths of scarred lungs.

Observation has been maintained of the survivors in this group, to the end of 1971 and the resulting data may be of interest. Where there should have been, from 1963 to 1971, another 85 deaths, 168 occurred. There should have been five deaths or so of lung cancer. There were 42. There should have been no deaths of mesothelioma. There were 25. There were increases in cancer of the stomach, colon, and rectum and excess deaths of asbestosis.

Altogether, from 1943 through 1971, 430 of the 632 men died, giving us a good idea of what happened to asbestos workers. One out of every five deaths was due to lung cancer, one out of every 15 due to mesothelioma, one out of every 10 or so due to gastro-intestinal cancer, and almost one of 15 due to scarred lungs.

How Do We Know It Was Due to Asbestos?

The question has properly been raised, how do we know it was due to asbestos rather than other materials used in the insulation industry, such as fibrous glass, cork, rockwool, calcium silicate, diatomaceous

earth. To study this we studied workers in a factory making insulation, men who made insulation used in construction industry, in refineries, chemical plants, shipyards, etc. In 1941, a factory in Paterson, New Jersey, was opened to manufacture insulation material of amosite asbestos, largely for the U.S. Navy. Between 1941 and 1945, 933 men worked there, some for as little as one day, some until the factory closed in 1954.

We have followed these 933 people through December 31st, 1971. Given their ages at the time they began work, 300 were expected to die, 484 did. Where there should have been 11 deaths of lung cancer, 73 occurred. There were expected excess deaths of mesothelioma, gastro-intestinal cancer, and asbestosis. These data indicated that it was the asbestos insulation materials and not other conditions in the construction industry.

The problems next raised were whether this was a local condition, something related to the situation in New York, and whether it was limited to very long work. We studied these questions in two ways. The second concerning how much dust causes disease and how much is "wasted exposure" was studied by analyzing the experience of the men in the factory by duration of employment. About one third worked for less than three months, one third for three to 11 months and one third for more than a year. We found that those who worked for more than a year had the greatest risk of death of lung cancer. But even with less than three months, a very significant increase in observed over-expected deaths of lung cancer was observed. Some of the exposure after three months was in that sense "wasted."

The second question was answered by seeing what happened to asbestos insulation workers throughout the United States. On January 1, 1967, there were 17,800 members of the Insulation Workers Union in the United States and Canada. We made a list of every man, tracing them through December 31, 1971. We didn't expect to find very much abnormal, since for the first five years, almost any employed group has a better expected health and mortality experience. The reason is that our comparison is with the general population, which contains many sick people, people in hospitals, people chronically ill. An employed group is apparently well enough to go to work, and therefore for five years, we expect them to not have as many deaths as the general population. We had an unwelcome surprise, however.

Given the ages of these men in 1967, there should have been 806 deaths. There were almost 1,100; lung cancer, 44 expected, 213 observed, no deaths of mesothelioma were expected, and 77 occurred. There was the same two to three times increase of gastro-intestinal cancer, and 78 deaths of asbestosis.

Therefore, it was evident that at least two problems have to be considered in terms of prevention

of disease due to asbestos exposure, lung scarring and cancer. We also observed that, as asbestosis, the various forms of cancer generally do not occur until after the 20-year point has passed.

One would think we had enough problems as we approached the question of what to do about occupational exposure to asbestos. However, in the 1960's an additional question arose. Until then, we had as our scientific resource for the measurement of exposure, the microscope. How many fibers are present? However, fibers are not solid units. They are composed of numerous fibrils banded together to make the fiber. If, instead of the optical microscope, you were to use an electron microscope, you would see fibrils of about 300 to 350 Angstroms in diameter. These cannot be seen with the optical microscope; they are far below the limits of its resolution. Therefore, in measuring the number of particles, many more are seen with the electron microscope than if only the optical microscope is used.

It was hoped that the optical microscope would at least provide a useful index. It was soon found that this was not so. For example, when asbestos blankets were fabricated, for example, aboard ship, it was found that only 29% were more than five microns in length. On the other hand, when cutting silicate block, only 3.5% were five microns in length and 96.5% were smaller. In other work only 1/2% were more than five microns, 99.6% were smaller than that. In other words the standard is questionable because in different asbestos uses we were looking at a variable proportion that can be seen with the optical microscope.

Additional Difficulties

In recent years additional difficulties have been placed upon us. To return to mesothelioma, you will remember how rare it has been in the past, about one in 10,000 deaths. One can imagine the consternation, then, when in 1960 J. C. Wagner reported 47 cases of mesothelioma, all in one part of South Africa, in five years, 1956 to 1960. Most were in a part of South Africa in which there were many asbestos mines and mills. Dr. Wagner visited the relatives of these people and inquired about possible asbestos exposure. He found that in most cases there had been 25, 30 years before opportunity for asbestos contact, often not by working with the material but by limited contact in environmental or family circumstances.

With this knowledge Muriel L. Newhouse, a very capable epidemiologist at the London School of Hygiene, studied the 76 cases of mesothelioma in the files of the London Hospital. She found that of the 76 cases, 31 had worked with asbestos. More important, of the 45 who had not worked with asbestos, nine had simply lived in the household of an asbestos worker and 11 had lived within a half mile of one of the asbestos plants in London.

Jan Lieben, at that time with the Pennsylvania State Department of Health, studied the 42 cases of mesothelioma in their files. Twenty had worked with asbestos. Of the 22 who had not, three had simply lived in the household of an asbestos worker and eight within a half mile of one of the asbestos plants in Pennsylvania.

These studies raised for the first time the question whether intimate and immediate occupational exposure to asbestos was required for the production of asbestos disease or whether others, as those with indirect occupational exposure, might also have this risk. This new question, not unimportant, has now been placed before us. Incidentally, it is not considered in the asbestos standards that have been set by the Department of Labor.

How important the problem is may be gauged from the fact that in the last several years, over 50 cases of mesothelioma have been found in one shipyard in Great Britain, at the Devonport Dock Yards, and have been reported by Dr. Peter Harries, the Medical Officer in charge. In shipyard after shipyard, this is now being seen. For example, 80 cases of mesothelioma were recently reported from Scotland; all were in the seaport cities. Whitwell and Rawcliffe two years reported 28 cases of mesothelioma, all in shipyard workers; only four worked directly with asbestos. They stated, "... it seems the exact nature of their work was much less important than the fact that they all worked in shipyards."

One can imagine asbestos workers, electricians, plumbers, steam-fitters, boilermakers, all working cheek by jowl. Perhaps the only thing in the construction industry and shipyards that does not obey jurisdictional craft lines, is the asbestos fiber. In the construction industry this is an immediate and urgent problem, as when asbestos fireproofing is sprayed on steel.

Had Identified Major Problems

To recapitulate, the situation in 1971 was as follows: We had identified the major problems. We had a disease with a long latent period. In many cases there was a great deal of wasted exposure, but we didn't know how much. We knew that resident time in the lung was very important and therefore peak exposures had to be controlled.

We knew that more than one tissue was potentially being affected.

We knew that perhaps 80% of the excess deaths were being caused by cancer and not by asbestosis. We also knew that various sizes of fibers, small and large, were present. And we knew also that many advances in engineering and procedural techniques had already been identified and that many more could be anticipated.

At that point NIOSH and the Department of Labor wrestled with the problem and wrote first a criteria

document and later wrote standards.

They made a number of decisions. First of all, they decided to ignore cancer because while they had some hint of what it might take to prevent lung scarring, they didn't know how little exposure there would have to be to prevent cancer. Many cases of cancer, especially mesothelioma, were found in the absences of scarring. Since they didn't know how to evaluate that, they apparently decided to at least judge what they did know.

Let's see what we need to do to prevent scarring even though this is only 20% of the problem.

They decided to keep their fingers crossed as a means of protection against the problem of resident time in the lung. They recognized that effective control procedures have been developed but rather than make them mandatory, which would be inconvenient, they decided to simply mention them in the document, requiring them used only if the dust counts were too high. Otherwise what we already knew in terms of engineering was not to be required. For example, unless the dust counts were going to be above a legal limit, one needn't worry about bagging the waste, or using respirators or dust collectors. These were only mandatory if the dust counts were too high, if dust counts were above a specific level. Therefore, the engineering advances that have been made were kept in the drawer in reserve, as it were.

Thus, instead of a sharp reliance on demonstrably effective engineering practices and procedures, a number standard was elected.

It may be interesting for you to review how we came to get a number standard and the number standard we have. A basic difficulty in establishing a number standard (or a dose-disease relationship) is that the disease we now see was initiated 30 years ago at a time when few dust counts were done. We have inadequate data to relate what we are now seeing in terms of disease and death with exposures in 1930 or 1940. Few dust counts were done. Secondly, when they were done, our present techniques were not used. No filters were then available, for example. Instead of counting fibers, all particles were counted, in million particles per cubic foot. It is very difficult to convert particles to fibers, for many technical reasons. There are two ways of approaching this dilemma. One is to seek dust counts that were done 30 years ago. Some good counts were done, especially those by Fleischer in 1944-45 for the Navy. Another is to make dust counts today, and to judge how relevant conditions are today, to what might have existed 30 years ago.

This was the attack used by Cooper in San Francisco, and by our laboratories. We find that using the latter techniques the time-weighted (eight-hour) average was between five to ten fibers per cc. Five fibers per milliliter is five million fibers in a cubic meter of air, those longer than five microns. Smaller fibers may be 100 to 1,000 times as numerous. A

worker inhales four to eight cubic meters of air in an eight-hour day. Therefore he will respire some 40 million fibers longer than five microns if the atmosphere contains five fibers per cc. How many fibers are retained is not known.

Standard Came Into Force June 7, 1972

The standard came into force on June 7, 1972. It required that by December 6 every asbestos-using operation had to do at least one dust count. We waited until December 7, the day after the six-month period, and then a survey was done of a large number of asbestos insulation workers in this country. Each was asked about dust counts that he personally had seen. We had over 5,000 replies.

Of 5,000 respondents, 4,956 had not seen a dust count done. Only 171 personally saw one or more dust counts.

For practical purposes, despite a serious situation, dust count surveillance was not undertaken in this country. We also asked many other things.

We asked specific questions, for example, about respirators. Almost one quarter of the men never had them provided by the employer and one quarter had only occasionally had them available. We asked about specific procedures now known: cement in plastic bags, 10% of the time, power table saws, 10% of the time, vacuuming of waste for disposal, 10% of the time, drop cloths, trivial number of times, portable exhaust for confined spaces, trivial number of times. To prevent the dust from going home to the family we asked whether facilities at the plant for clothing changes were available. They were available all of the time in only 25% of instances. In almost 40% such clothing changes were never available.

So, for practical purposes, the criteria document has had very little effect on the situation.

In conclusion may I express the hope that we will not long remain in the difficult situation in which we now find ourselves. The Department of Labor has recently announced that it will reopen the question of the asbestos standards. This is all to the good. Surely the problem is a solvable one. Industry is much too competent, labor is much too concerned, science has too much reliable and pertinent data and government is far too responsible for us to admit defeat.

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