

PLAINTIFF'S
EXHIBIT

JM 676

IRVING 9142121
JAN 88

MTC 010450

MTC 010451

74-97

DEN 55

Not Avail.



DEN P3

MTC 010452

JM Johns-Manville

*Bob & Paul
Please look these over
and give me any
comments you may have*

Internal Correspondence

To: F. Hardenstein - 26

Date: August 19, 1975

8.22-75

From: S. M. Quint - R&D

*Comments:
B. Lea
H.*

Copies: See below

Subject: PERMASTRAN SPECIFICATIONS

A. Curry's letter to you dated August 7, 1975

The following are Research comments on A. Curry's letter.

1. Page 1 of MS455-35 should have the reference to "epoxy pigment TR3900" deleted (retain TR3055).
2. Purchase Specification TR3484 should be cancelled.
3. Page 1 of MS455-35 -- change fiber glass Purchase Specification from TR2110 to TR2115-2.
4. The equipment needed to wipe excess solvent off the bottom of the core is not part of the Manufacturing Specification. We agree that some kind of equipment is needed other than a bunch of rags stuffed under the core.
5. All hand brushing of bare spots is to be done before oven tempering per page 4 of the Manufacturing Specification. If all bare spots are covered before oven tempering, there should be no need for touching up the core and re-tempering it.
6. Use of "drive speed of the cores" to help control coating thickness should be left in on page 5. We agree that belled dimensions on the core drawings are not correct and should be revised.
- ? → 7. The band widths on page 12 of MS455-35 are not theoretical but are the actual carriage advance per mandrel revolution required to produce the desired glass winding angle (see page 9). In actual practice a 1/8 to 1/4-in. overlap (approx) is needed to insure a closed pattern. If band widths are running 1/2 to 3/4-in. off specification, then the machine gears should be changed to bring the carriage advance per revolution/band width into specification range.

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8. Page 13 of MS455-35 should be changed as follows:

"VIII B. Pigment - Premix: Mix 90.0 lb of pigment paste with 510 lb of epoxy resin (55 gallon drum). Mix for 24 hr before each use.

C. Resin preparation: 510 lb of epoxy resin (55 gallon drum) shall be poured into the top mixer. Add 25.0 lb of pigment premix. Mix for a minimum of 2 hr before transferring to bottom mix tank."

Note that the 5 gal pail mix is not recommended because of the color variations that were observed in the pipe in inventory. Use of a master pigment pre-mix will reduce color variations and will be simpler to follow besides being more accurate than trying to weigh out 3.75 lb of pigment paste each time.

Under VIII, D1, page 14, the hardener listed should be changed to:

<u>Hardener (lb)</u>	<u>Weight, %</u>
TETA = 454 lb (1 drum)	TETA = 50.8 %
D-400 = 440 lb (1 drum)	D-400 = 49.2 %

Part 2 - Hardener usage shall be as follows: (change)

Use 20.5 parts per 100 parts of resin (wt) range (20.0-22.0)
5.00 4.76 4.55/1

- ? 10. Page 14, under VIII, E3, change to:

3. Tensile bar tests (J-M Test Method 455:59) are to be run as follows:

1. On each new incoming lot of epoxy resin.

2. On each new batch of hardener mix after preparation and before dropping into the bottom use tank. *that will be 2 or 3 a week on large size being produced. Sample testing will be made for*

11. Page 16, under IX, 6, change to:

"The glass band from the main carriage is wound onto the D8 for up to 2 in., depending on pipe size, then reversed."

Also, page 16, under IX, 2, d, change the fourth line to:

"The bell glass cut end is smoothed and the main glass band continues onto the D8 for up to 2 in., depending on pipe size, then reversed by the operator."

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*I think they were
to do away with →
we are not doing now.
R.*

August 19, 1975

12. No change is recommended on the test plug of FPS 4558-1. There should be no interference fit when the test plug is machined to maximum spec OD minus 0.005 in. This type plug was routinely used at Finderne and is an excellent method of quickly culling out excessively small D5/D8 pipe without measuring the bell. The dimensions are as follows:

Pipe Size	Test Plug OD (in.)	D5/D8 minimum Dimension (in.)	Minimum Clearance (in.)
4	4.525	4.530	0.005
6	6.645	6.650	0.005
8	8.655	8.660	0.005
10	10.775	10.820	0.045
12	12.775	12.830	0.055

13. We recommend that in 4558-1, page 2.1, the requirement be retained so that ovality in the center of the pipe can be checked out.
14. On Drawing PL-16-100A, 15 degree taper is for all present and future production. Re-chamfer of old pipe will be done only on product manager's request.

S. M. Quint

rs

cc:

L. J. Ciance - 2S
 F. E. Love - 2S
 R. W. Heisler - 2S
 J. P. Ferraro - 2S
 A. M. Curry - Denison
 C. G. Stelchek - Denison
 P. E. Dix - R&D
 R. T. Hucks - R&D

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