GENERAL ELECTRIC

Telephone: 389-7011
DIAL COMM: 8*272-7

INDUSTRY CONTROL DEPARTMENT, 1501 Roanoke Boulevard, Salem, Virginia 24153

RAYBESTOS-MANHATTAN
BRAKE LINING

CC:

GR Krumnacher - Room D431
FL Brearley - Room D431
DM Morley - Room 101L
LM Burnley - Room 166

August 13, 1969
Salem, Virginia

Mr. A. E. Coulter
Room 141

Please be advised that this letter constitutes engineering approval of the R-M #G1500 woven brake lining for use on all part numbers of our drawing 151A4453. The print will be changed accordingly in the next few days.

Concerning the evaluation samples of R-M bonded brake linings, I am listing the test values for record purposes. I suggest you send a copy to Raybestos-Manhattan so they will be aware of what improvements they have to make before final approval for production can be given.

IC9528 "A" brake bonded lining (151A7931P3)

No. Sample	13,000# Proof Load	(In lbs) Rupture Point	Reason for Failure	% Bond Coverage
1	OK	23,750	Mat'l crushed	- -
2	OK	34,700	Mat'l crushed	- -
3	OK	40,000	Mat'l crushed	- -
4	OK	38,200	Bond Failed	75-80%
5	OK	41,500	Mat'l crushed	- -
6	OK	32,500	Bond Failed	60-70%
7	OK	33,500	Mat'l crushed	- -
8	OK	48,000	Mat'l crushed	- -
9	OK	44,500	Bond Failed	85-90%
10	OK	50,200	Bond Failed	90%
11	OK	50,100	Bond Failed	95%
12	OK	41,500	Mat'l crushed	95%
13	OK	36,000	Mat'l crushed	- -
14	OK	40,100	Mat'l crushed	- -
15	OK	31,500	Mat'l crushed	- -
ELEVATED TEMPERATURE FOR 48 HOURS				
16	150°F OK	32,200	Bond Failed	50-60%
17	250°F OK	13,700	Bond Failed	40-50% *
18	350°F OK	20,000	Bond Failed	
19	400°F OK	21,000	Bond Failed	

PLAINTIFF'S EXHIBIT WV-021538

PLAINTIFF'S EXHIBIT 78649.00

GEWVOCT04-011705

No. Sample	13,000# Proof Load	(In lbs) Rupture Point	Reason for Failure	% Bond Coverage
AT 100% HUMIDITY FOR 48 HOURS				
20	OK	33,000	Mat'l crushed	- -
21	OK	27,000	Bond Failed	60%
22	OK	32,000	Mat'l crushed	- -
23	OK	25,000	Mat'l crushed	- -

IC9528 "C" Brake bonded lining (167A8474P3)

No. Sample	13,000# Proof Load	(In lbs) Rupture Point	Reason for Failure	% Bond Coverage
1	OK	46,800	Bond Failed	98%
2	OK	42,600	Bond Failed	95%
3	OK	42,500	Mat'l crushed	- -
4	OK	47,900	Mat'l crushed	- -
ELEVATED TEMPERATURE (250°F) 48 HOURS				
5	OK	30,000	Bond Failed	60%
6	OK	31,000	Bond Failed	80%
AT 100% HUMIDITY FOR 48 HOURS				
7	OK	34,500	Mat'l crushed	- -
8	OK	30,000	Mat'l crushed	- -
9	OK	34,000	Mat'l crushed	- -

Please point out to Mr. Carl Walker that the bond coverage on some samples were on the skimpy side. In fact, sample number 17 just barely made the proof load test. This indicates need for some definite action on their part in their bonding process. Other than this point, the material and bond strength is almost 100% higher than the ones furnished by Johns-Manville. We cannot start any rotational tests, such as fade, wear rate, life, etc. until we receive four bonded lining assemblies which are dimensionally per drawing, as the shear samples were not. Mr. Walker agreed to push this procurement for us.

J. G. Copland
PRODUCT, PRODUCTION & DEVICE ENGINEERING
Room D431 - Ext. 604

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GEWVOCT04-011706