



PHENOLIC MOLDING COMPOUND

ESE-M3D25-A

1. SCOPE

The material defined by this specification is a black, phenolic molding compound.

2. APPLICATION

This specification was released originally for material used for molded parts such as the impeller for the water pump where resistance to water, anti-freeze solutions, and radiator cleaning compounds are necessary.

3. REQUIREMENTS (Test Bar Results)

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.1	SPECIFIC GRAVITY (ASTM D 792)	1.35 - 1.44
3.2	IMPACT STRENGTH, min (ASTM D 256)	0.32 ft lb/in (17.1 J/m)
3.3	FLEXURAL STRENGTH, min (ASTM D 790)	9000 psi (62 MPa)
3.4	TENSILE STRENGTH, min (ASTM D 638 or ASTM D 651)	6000 psi (41.4 MPa)
3.5	COMPRESSIVE STRENGTH, min (ASTM D 695)	30 000 psi (207 MPa)
3.6	HARDNESS - ROCKWELL "M" (ASTM D 785)	105 - 125
3.7	DEFLECTION TEMPERATURE, min (ASTM D 648, 264 psi (1820 kPa))	166 °C
3.8	WATER ABSORPTION, max (ASTM D 570)	0.4%

Date	Action	Revisions
2004 10 25	Revised	Inserted 3.0; Deleted 3.9 & 4; Revised 5.
1979 01 10		Metricated and Retyped CAH2 823385
1963 10 08	Released	E7-2830





5. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

5.1 WATER AND ALKALI RESISTANCE

Prepare two specimens, 2 x 1/8 in (50 x 3.2 mm) discs and boil each for 96 h in the following reagents with no larger % change than listed below.

<u>Reagent</u>	<u>Weight</u>	<u>Thickness</u>	<u>Diameter</u>	<u>Appearance</u>
Water	3.40	1.80	0.80	Slightly grayed
0.5% NaOH	4.0	1.90	0.90	Practically unaffected
50% mixture longlife coolant and water	1.5	0.8	0.30	Slightly grayed