

NAME: **ENGINE BLACK ENAMEL - WATER BORNE - FOUNDRY USE****1. SCOPE**

This specification covers requirements for a water borne, black, air/oven drying enamel, suitable to be applied over cleaned cast iron and alloys, prior to machining operations.

2. COMPOSITION

Emulsifiable synthetic polymers (modified alkydic cetonic and acrylic emulsion); black pigments (high color retention); plasticizers; balanced, to provide good appearance on painted jobs, even after machining, degreasing, washing operations.

The use of non inert pigments, such as zinc oxide and/or the presence of heavy metals as Cr, Pb, Cd, Ni, etc, is not allowed. (see 8)

3. PHYSICAL PROPERTIES

3.1. - SPECIFIC GRAVITY: (ASTM D-1475/90)
1.30 ± 0.02 g/cm³ ; 25°C

3.2. - SOLIDS CONTENT: (ASTM D-1644/88, Method A)
56 ± 2 %(weight)

3.3. - VISCOSITY: FORD CUP Nr. 4 ; 25°C (ASTM D-1200/88)
3.3.1- INCOMING: 42 ± 5 secs:

3.3.2- APPLICATION:

3.3.2.1 CONVENTIONAL SPRAYING: 25 - 30secs

3.3.2.2 AIRLESS SPRAY EQUIPMENT: 42 ± 5 secs

3.4. - FINENESS OF GRIND: (ASTM D-1210/79)
7 h minimum

APPROVED BY: EDGARD CENACHI

REVISION: 01/96

EMSFL1.DOC

4. APPLICATION

- 4.1. - CONVENTIONAL:** Devilbiss GUN JGA - 502; Cap. 797; Air jet AV 511; Needle JGA 402 - FF.
- 4.2. - AIRLESS SPRAY EQUIPMENT:** 40:1 Ratio Pump Airless; PEG model high pressure GUN or similar; air jet n° 511; (0.011 inch. dia; fluid shaping 25 cm at 30 cm distant from part; fluid rate: 230 ³cm /minute at 35 ATM; 300 ³cm /minute at 70 ATM; heating unit (1.000 W), able to reach temperature up to 120°C.
- (Normally two wet coats to reach specified dry film build).

5. DRYING

- 5.1. - AIR DRYING:** Tack Free - 20 minutes
To handle - 12 hours
Dry hard - 168 hours
- 5.2. - OVEN DRYING:** - Flash off - 10 minutes
Baking - 15 minutes; 85 - 90°C.

- 6. FILM THICKNESS:** (ASTM D 1400/87)
40 - 60 μm .

7. PAINTED PRODUCT REQUIREMENTS

Cold rolled steel panels (300 x 100 mm aprox.), are painted with black enamel, on specified film thickness (6), baked as 5.2.; and aged for 168 hs before start testing.

- 7.1. - COLOR:** (ASTM D 1729/89)
Visual examination : (MACBETH SPECTRALIGHT -SPL - 75 B) As master std. issued by Materials Engineering

REVISION:01/96