



**TECHNICAL SPECIFICATION  
FOR  
VIBRO TUMBLING CHEMICALS**

**HY55396 REV 00**

**Page 1 OF 4**

**1) SCOPE :**

(a) The chemicals are used to improve the Surface finish of Steam Turbine Blades and Gas Turbine Blades from Surface Roughness (Ra) 1.6 - 2.0 microns to 0.40 microns or better. The polishing will be done by vibro-abrasion between turbine blade and suitable chips in an acid medium followed by cleaning in a neutralizing medium. The length of the blades to be accommodated shall be between 100 mm to 700 mm.

**(b) PRESENT RANGE OF COMPONENTS:**

1.) Min. Blades size: 50(L)x 12.5 (W) x 15(T) (26 gm), Blade Drawing:2-30315-00150 (T7-12.5)

2.) Max. Blade size: 700(L) x 68(W) x 75 (T) (10 Kg). Blade Drawing: 0-10307-62012 ( Z-Type; 5 M2)

3.) Blade size: 190 (L) X 110 (W) X 40 (T) Drawing No : 0-35305-61013 enclosed for reference. GT Blades (FR-6 STG.3)

**2) CHEMICALS:**

The following chemicals are used.

a).Megalloy Part A (REM)/GEDEB 810P(GALA) /FS-AAPP(FINSOL) or Equivalent

b).Meagalloy Part B(REM)/GEDEB 811(GALA)/FS-BPP(FINSOL)orEquivalent

c). FBC118(REM)/GEPOL 813P(GALA)/ FS33(FINSOL) or Equivalent

The above chemicals will not affect the mechanical / metallurgical properties of the blade material : X 20 Cr 13, X 22 Cr MoV121; C 450, 403 Cb.

**Date :  
24.09.13**

**Prepared By :  
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FOR  
PRESSURE GAUGES**

**HY55396 REV 00  
Page 2 OF 4**

**3) SPECIFICATIONS OF THE CHEMICALS for (2 b)**

**3.1. PHYSICAL PROPERTIES:**

Appearance & Odour : Off white, powder. No odour

Physical State : Wet, Lumpy, powder.

Specific Gravity : Not Applicable.

Solubility in water (5% w/v ) : Totally soluble in water, no residues.

Flash Point : Nil (Non-flammable).

pH (5% in water) : 1.5 to 2.0

**3.2. CHEMICAL PROPERTIES:**

Oxalic acid salts

Bisulphate salts

EDTA

E.O. based wetting agent

Polyethylene glycol

Note: This product does not contain chromium, heavy metals, silicones, nitrites, phenols or any other known hazardous compounds.

**3.3 USAGE DATA** : As per the polishing cycle suggested by the supplier.

**3.4. SELF LIFE OF THE CHEMICAL:**

Minimum of 24 months from date of supply

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**HY55396 REV 00  
Page 3 OF 4**

**4) HEALTH HAZARD:**

Routes of exposure and effects:

Eyes : Will cause eye irritation.

Skin Contact : No effects expected (short term).

Inhalation : No irritation

Carcinogens/Toxicity : No known carcinogens; No heavy/toxic metals/  
anions/cations.

**4.1. EMERGENCY FIRST AID PROCEDURES:**

Eyes : Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

Ingestion : If swallowed, call a doctor immediately. Try to induce vomiting at the instructions of the doctor.

**4.2. CONTROL & SAFETY MEASURES:**

Respiratory : Good hygiene practices recommend that good ventilation is provided near point of use.

Gloves : Impervious gloves are recommended when handling this product.

Eye Protection : Safety glasses with side shield are recommended to avoid splash into eyes.

Other : Eyewash facility should be immediately available.

**4.3. FIRE & HAZARD DATA:**

Stability : Stable under all conditions.

Condition to Avoid : None (Non-flammable, non-volatile, non-polymerizable).

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Page 4 OF 4**

**5) PROCESS:**

**5.1. Deburring cycle.**

- a) Add POWDERS , Chemical and Water into the Container in the proportions as recommended by the chemical supplier.
- b) Load Blades into the container.
- c) Start De burring cycle time for 360 min or as suggested by the supplier.
- d) After Deburring start washing cycle for 20 min followed by draing off 10 min or as suggested by the supplier.

**5.2. Polishing Cycle:**

- a) Add chemical and water into the container in the proportions as recommended by the chemical supplier.
- b) Start Polishing cycle for 80 min or as suggested by the supplier.
- c) Drain on- wash on for 20 min or as suggested by the supplier.
- d) Reverse tumble the blades for 10 Sec or as suggested by the supplier.

Collect the blades Manually by lowering Flopper.

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