# **TOOL AND GAUGE DIVISION**

### **PQR FOR MIXED RESIN**

<u>Typical Name</u>: Mixed Resin for Dielectric for Electro-Discharge Machining Process (EDM) in EDM Wire-cut machine.

<u>Description:</u> It is a pack of a mixed bed ion exchange resins. It is a mixture of super regenerated strongly acidic cation exchange resin in H form and strongly basic type I anion exchange resin in OH form in the volume of 1:2.

<u>Application</u>: It is used to produce mixed bed quality water. Mixed resin is added to Demineralized Water (DM) to maintain conductivity of dielectric medium during Elecro-Discharge Machining Process (EDM) in submerged type EDM Wire-cut machine.

## **Characteristics:**

<u>Physical:</u> : Spherical beads

Particle size distribution: : 0.3 to 1.2 mm

>1.2 mm : 5.0%, maximum

<0.3 mm :1.0% maximum

Uniformity co-efficient : 1.7, maximum

<u>Chemical</u>: Cation resin Anion resin

Matrix Crosslinked polystyrene Crosslinked polystyrene

Type Gel Gel

Functional Group Sulphonic acid Benzyl trimenthylammonium

Total exchange capacity 1.8meq/ml 1.0 meq/ml

Ionic conversion 99%, minimum H 90%, minimum OH

Moisture holding capacity 47 – 55 % 60 – 70 %

#### Packing:

Properly packed in suitable containers in capacity of 4 / 6 ltrs

#### **Acceptance Criteria:**

Mixed resin is accepted after successful shop trial.

The supplied resin of 6 litre quantity when mixed with 800 litre of DM water should give the conductivity of 10 to 18.5 mho after 1.5 to 2 hours of operation in EDM wire-cut machine.

<u>Technical Requirement:</u> The resin should be able to maintain conductivity of dielectric (800 litre DM water mixed with 6 litre resin) within 10-18.5 mho for 30x24 = 720 hrs of operation of EDM wire-cut machine.

**Annual Quantity Required: 96 litres** 

Approximate value: Rs. 40,000 for 96 litres

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