

# RTP EMI 861.3

Acetal (POM) Homopolymer

RTP Company

Message:

Stainless Steel Fiber - Electrically Conductive - EMI/RFI Shielding - (Preliminary Data Sheet)

| General Information                                     |                                             |                   |                  |
|---------------------------------------------------------|---------------------------------------------|-------------------|------------------|
| Filler / Reinforcement                                  | Stainless steel fiber, 13% filler by weight |                   |                  |
| Features                                                | Conductivity                                |                   |                  |
|                                                         | Electromagnetic shielding (EMI)             |                   |                  |
|                                                         | Radio frequency shielding (RFI)             |                   |                  |
| RoHS Compliance                                         | Contact manufacturer                        |                   |                  |
| Processing Method                                       | Injection molding                           |                   |                  |
| Physical                                                | Nominal Value                               | Unit              | Test Method      |
| Specific Gravity                                        | 1.50                                        | g/cm <sup>3</sup> | ASTM D792        |
| Molding Shrinkage - Flow (3.20 mm)                      | 1.2 - 3.0                                   | %                 | ASTM D955        |
| Moisture Content                                        | 0.15                                        | %                 |                  |
| Static Decay                                            |                                             | sec               | FTMS 101C 4046.1 |
| Primary Additive                                        | 13                                          | %                 |                  |
| Mechanical                                              | Nominal Value                               | Unit              | Test Method      |
| Tensile Modulus                                         | 2830                                        | MPa               | ASTM D638        |
| Tensile Strength                                        | 48.3                                        | MPa               | ASTM D638        |
| Tensile Elongation (Yield)                              | 5.0 - 10                                    | %                 | ASTM D638        |
| Flexural Modulus                                        | 2830                                        | MPa               | ASTM D790        |
| Flexural Strength                                       | 75.8                                        | MPa               | ASTM D790        |
| Impact                                                  | Nominal Value                               | Unit              | Test Method      |
| Notched Izod Impact (3.20 mm)                           | 69                                          | J/m               | ASTM D256        |
| Unnotched Izod Impact (3.20 mm)                         | 530                                         | J/m               | ASTM D4812       |
| Thermal                                                 | Nominal Value                               | Unit              | Test Method      |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 96.1                                        | °C                | ASTM D648        |
| Electrical                                              | Nominal Value                               | Unit              | Test Method      |
| Surface Resistivity                                     |                                             |                   |                  |
| --                                                      | < 1.0E+3                                    | ohms              | ASTM D257        |
| --                                                      | < 1.0E+2                                    | ohms              | ESD STM11.11     |
| Volume Resistivity                                      | < 10                                        | ohms · cm         | ASTM D257        |
| Injection                                               | Nominal Value                               | Unit              |                  |
| Drying Temperature                                      | 121                                         | °C                |                  |
| Drying Time                                             | 2.0                                         | hr                |                  |

|                        |            |     |
|------------------------|------------|-----|
| Dew Point              | -28.9      | °C  |
| Processing (Melt) Temp | 182 - 218  | °C  |
| Mold Temperature       | 82.2 - 107 | °C  |
| Injection Pressure     | 68.9 - 103 | MPa |

Injection instructions

Use a reverse barrel profile. Remove hopper magnets. Allow 4 - 5 shots to properly disperse the conductive fibers. The surface finish should have a silver streaking appearance, not clumps. Use a reverse barrel profile. To maximize fiber length, the following injection barrel, screw, and tip designs should be followed. L/D ratio 16/1 - 22/1, Compression ratio 2:1, Flight depth 0.200 in (5 mm) minimum, in feed section, Screw diameter 0.65 - 0.8 Remove hopper magnets. Desiccant Type Dryer Required.

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