

## TENAC™-C 3510

Asahi Kasei Corporation - Acetal (POM) Copolymer

### General Information

| General                                  |                                            |                                |                   |
|------------------------------------------|--------------------------------------------|--------------------------------|-------------------|
| Features AKEP website                    | • Creep Resistant                          | • Fatigue Resistant            | • Viscosity, High |
| Uses                                     | • Automotive Applications<br>• Bearings    | • Engineering Parts<br>• Gears | • Housings        |
| Multi-Point Data                         | • Isothermal Stress vs. Strain (ISO 11403) |                                |                   |
| Part Marking Code (ISO11469) (ISO 11469) | • >POM<                                    |                                |                   |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                  | Nominal Value | Unit              | Test Method            |
|-------------------------------------------|---------------|-------------------|------------------------|
| Density / Specific Gravity                | 1.41          | g/cm <sup>3</sup> | ASTM D792<br>ISO 1183  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 2.8           | g/10 min          | ISO 1133               |
| Molding Shrinkage - Flow                  | 1.6 to 2.0    | %                 | Internal Method        |
| Water Absorption (24 hr, 23°C, 50% RH)    | 0.20          | %                 | ASTM D570              |
| Mechanical                                | Nominal Value | Unit              | Test Method            |
| Tensile Modulus                           | 2500          | MPa               | ISO 527-1              |
| Tensile Stress                            |               |                   |                        |
| Yield                                     | 62.0          | MPa               | ISO 527-2              |
| --                                        | 62.0          | MPa               | ASTM D638              |
| Tensile Elongation (Break)                | 40            | %                 | ASTM D638<br>ISO 527-2 |
| Flexural Modulus                          |               |                   |                        |
| --                                        | 2450          | MPa               | ASTM D790              |
| --                                        | 2400          | MPa               | ISO 178                |
| Flexural Strength                         | 88.0          | MPa               | ASTM D790              |
| Taber Abrasion Resistance                 | 14.0          | mg                | ASTM D1044             |

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| Impact                            | Nominal Value      | Unit     | Test Method              |
|-----------------------------------|--------------------|----------|--------------------------|
| Charpy Notched Impact Strength    | 9.0                | kJ/m²    | ISO 179                  |
| Notched Izod Impact               | 96                 | J/m      | ASTM D256                |
| Hardness                          | Nominal Value      | Unit     | Test Method              |
| Rockwell Hardness (M-Scale)       | 78                 |          | ASTM D785                |
| Thermal                           | Nominal Value      | Unit     | Test Method              |
| Deflection Temperature Under Load |                    |          |                          |
| 0.45 MPa, Unannealed              | 158                | °C       | ASTM D648                |
| 0.45 MPa, Unannealed              | 156                | °C       | ISO 75-2/B               |
| 1.8 MPa, Unannealed               | 110                | °C       | ASTM D648                |
| 1.8 MPa, Unannealed               | 95.0               | °C       | ISO 75-2/A               |
| CLTE - Flow                       | 1.0E-4             | cm/cm/°C | ASTM D696<br>ISO 11359-2 |
| Specific Heat                     | 1470               | J/kg/°C  |                          |
| Thermal Conductivity              | 0.23               | W/m/K    |                          |
| Electrical                        | Nominal Value      | Unit     | Test Method              |
| Surface Resistivity               | 1.0E+16 to 1.0E+17 | ohms     | ASTM D257                |
| Volume Resistivity (23°C)         | 1.0E+15 to 1.0E+16 | ohms·cm  | ASTM D257                |
| Dielectric Strength               | 19                 | kV/mm    | ASTM D149                |
| Dielectric Constant (23°C, 1 MHz) | 3.90               |          | ASTM D150                |
| Dissipation Factor (23°C, 1 MHz)  | 8.0E-3             |          | ASTM D150                |
| Arc Resistance                    | 250                | sec      | ASTM D495                |
| Flammability                      | Nominal Value      | Unit     | Test Method              |
| Flame Rating                      |                    |          | UL 94                    |
| 0.8 mm                            |                    | HB       |                          |
| 1.5 mm                            |                    | HB       |                          |

| Processing Information             |               |      |  |
|------------------------------------|---------------|------|--|
| Injection                          | Nominal Value | Unit |  |
| Drying Temperature - Hot Air Dryer | 80 to 90      | °C   |  |
| Drying Time - Hot Air Dryer        | 3.0 to 4.0    | hr   |  |
| Processing (Melt) Temp             | 180 to 210    | °C   |  |
| Mold Temperature                   | > 60          | °C   |  |

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Curve Data

Isothermal Stress vs. Strain (ISO 11403)

