



# TENAC™-C ZH450

## Asahi Kasei Corporation - Acetal (POM) Copolymer

Tuesday, February 15, 2022

### General Information

| General                                  |                                                  |                             |                    |
|------------------------------------------|--------------------------------------------------|-----------------------------|--------------------|
| Material Status                          | • Commercial: Active                             |                             |                    |
| Availability                             | • Africa & Middle East<br>• Asia Pacific         | • Europe<br>• Latin America | • North America    |
| Features                                 | • Copolymer                                      | • Low VOC                   | • Medium Viscosity |
| Uses                                     | • Automotive Applications<br>• Engineering Parts | • Gears<br>• Housings       |                    |
| 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) | 8.0           | 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                           | 2800          | MPa               | ISO 527-1              |
| Tensile Stress                            |               |                   |                        |
| Yield                                     | 67.0          | MPa               | ISO 527-2              |
| --                                        | 66.0          | MPa               | ASTM D638              |
| Tensile Elongation (Break)                | 35            | %                 | ASTM D638<br>ISO 527-2 |
| Flexural Modulus                          |               |                   |                        |
| --                                        | 2680          | MPa               | ASTM D790              |
| --                                        | 2650          | MPa               | ISO 178                |
| Flexural Strength                         | 95.0          | MPa               | ASTM D790              |
| Impact                                    | Nominal Value | Unit              | Test Method            |
| Charpy Notched Impact Strength            | 7.0           | kJ/m <sup>2</sup> | ISO 179                |
| Notched Izod Impact                       | 83            | J/m               | ASTM D256              |
| Hardness                                  | Nominal Value | Unit              | Test Method            |
| Rockwell Hardness                         |               |                   | ASTM D785              |
| M-Scale                                   | 90            |                   |                        |
| R-Scale                                   | 117           |                   |                        |

#### Disclaimer:

- Data shown are typical values obtained by proper testing methods and should not be used for specification purpose. Please use these data for selecting the most appropriate grade suitable for specific usage.

These data may be changed because of improvement in properties.

- Be sure to read the relevant SDS before handling and use, and always follow the Important Precautions.

- Do not use plastics in any of the following orally- or medically-related applications.

- Orally-related applications: any part, device or component which may come into direct oral contact or into direct contact with drinking foods or beverages.

For drinking water application, please consult Asahi Kasei Corporation.

- Medically-related applications: any part, device or component which may be used intracorporeally or which may in dialysis or other processes come into direct or indirect contact with body tissue, body fluids or transfusion fluids.

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| Thermal                           | Nominal Value      | Unit     | Test Method |
|-----------------------------------|--------------------|----------|-------------|
| Deflection Temperature Under Load |                    |          |             |
| 0.45 MPa, Unannealed              | 163                | °C       | ASTM D648   |
| 0.45 MPa, Unannealed              | 160                | °C       | ISO 75-2/B  |
| 1.8 MPa, Unannealed               | 124                | °C       | ASTM D648   |
| 1.8 MPa, Unannealed               | 106                | °C       | ISO 75-2/A  |
| CLTE - Flow                       | 1.0E-4             | cm/cm/°C | 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   |
| Flammability                      | Nominal Value      | Unit     | Test Method |
| Flame Rating (0.75 mm)            | HB                 |          | UL 94       |

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

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