

# Celcon® GB25

Acetal (POM) Copolymer

Celanese Corporation

## Message:

Celcon® GB25 acetal copolymer is a 25% glass bead filled grade for low shrinkage and warp resistance in large, flat and thin walled parts.  
Chemical abbreviation according to ISO 1043-1: POM

| General Information                         |                                            |                        |                 |
|---------------------------------------------|--------------------------------------------|------------------------|-----------------|
| UL YellowCard                               | E38860-239295                              |                        |                 |
| Filler / Reinforcement                      | Glass beads, 25% filler by weight          |                        |                 |
| Features                                    | Low warpage                                |                        |                 |
|                                             | Low shrinkage                              |                        |                 |
| Uses                                        | Thin wall parts                            |                        |                 |
| RoHS Compliance                             | Contact manufacturer                       |                        |                 |
| Multi-Point Data                            | Isothermal Stress vs. Strain (ISO 11403-1) |                        |                 |
| Resin ID (ISO 1043)                         | POM                                        |                        |                 |
| Physical                                    | Nominal Value                              | Unit                   | Test Method     |
| Specific Gravity                            |                                            |                        |                 |
| --                                          | 1.62                                       | g/cm <sup>3</sup>      | ASTM D792       |
| --                                          | 1.58                                       | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 13.0                                       | cm <sup>3</sup> /10min | ISO 1133        |
| Molding Shrinkage                           |                                            |                        |                 |
| Flow                                        | 1.6                                        | %                      | ASTM D955       |
| Transverse flow                             | 1.4                                        | %                      | ASTM D955       |
| Vertical flow direction                     | 1.3                                        | %                      | ISO 294-4       |
| Flow direction                              | 1.5                                        | %                      | ISO 294-4       |
| Water Absorption                            |                                            |                        |                 |
| Saturated, 23°C                             | 0.65                                       | %                      | ISO 62          |
| Equilibrium, 23°C, 50% RH                   | 0.20                                       | %                      | ISO 62          |
| Mechanical                                  | Nominal Value                              | Unit                   | Test Method     |
| Tensile Modulus                             | 3700                                       | MPa                    | ISO 527-2/1A/1  |
| Tensile Strength                            |                                            |                        |                 |
| Yield, -40°C                                | 73.1                                       | MPa                    | ASTM D638       |
| Yield, 23°C                                 | 46.2                                       | MPa                    | ASTM D638       |
| Yield, 82°C                                 | 26.2                                       | MPa                    | ASTM D638       |
| Yield                                       | 49.0                                       | MPa                    | ISO 527-2/1A/50 |
| Tensile Strain (Yield)                      | 4.0                                        | %                      | ISO 527-2/1A/50 |
| Flexural Modulus (23°C)                     | 3600                                       | MPa                    | ISO 178         |
| Impact                                      | Nominal Value                              | Unit                   | Test Method     |

| Charpy Notched Impact Strength                                     |               |                   | ISO 179/1eA |
|--------------------------------------------------------------------|---------------|-------------------|-------------|
| -30°C                                                              | 2.2           | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C                                                               | 2.4           | kJ/m <sup>2</sup> | ISO 179/1eA |
| Notched Izod Impact (23°C)                                         | 2.6           | kJ/m <sup>2</sup> | ISO 180/1A  |
| Thermal                                                            | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load                                  |               |                   |             |
| 1.8 MPa, not annealed                                              | 118           | °C                | ASTM D648   |
| 1.8 MPa, not annealed                                              | 105           | °C                | ISO 75-2/A  |
| Melting Temperature                                                |               |                   |             |
| -- <sup>1</sup>                                                    | 165           | °C                | ISO 11357-3 |
| --                                                                 | 166           | °C                | ASTM D3418  |
| Linear thermal expansion coefficient                               |               |                   | ISO 11359-2 |
| Flow                                                               | 7.0E-5        | cm/cm/°C          | ISO 11359-2 |
| Lateral                                                            | 8.0E-5        | cm/cm/°C          | ISO 11359-2 |
| Injection                                                          | Nominal Value | Unit              |             |
| Drying Temperature                                                 | 80.0 - 100    | °C                |             |
| Drying Time                                                        | 3.0           | hr                |             |
| Rear Temperature                                                   | 170 - 180     | °C                |             |
| Middle Temperature                                                 | 180 - 190     | °C                |             |
| Front Temperature                                                  | 180 - 190     | °C                |             |
| Nozzle Temperature                                                 | 190 - 200     | °C                |             |
| Processing (Melt) Temp                                             | 180 - 200     | °C                |             |
| Mold Temperature                                                   | 90.0 - 120    | °C                |             |
| Injection Pressure                                                 | 90.0 - 140    | MPa               |             |
| Injection Rate                                                     | Slow          |                   |             |
| Holding Pressure                                                   | 90.0 - 140    | MPa               |             |
| Back Pressure                                                      | 0.00 - 0.500  | MPa               |             |
| Injection instructions                                             |               |                   |             |
| Manifold Temperature: 190 to 210°CZone 4 Temperature: 190 to 200°C |               |                   |             |
| NOTE                                                               |               |                   |             |
| 1.                                                                 | 10°C/min      |                   |             |

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