

# Chemlon® A40

Polyamide 66

Teknor Apex Company (Chem Polymer)

## Message:

A40 is an unfilled injection moulding grade of nylon 66 containing heat stabiliser.

| General Information                             |                      |             |                   |                 |
|---|----------------------|-------------|-------------------|-----------------|
| Additive  | heat stabilizer      |             |                   |                 |
| Features  | Thermal Stability    |             |                   |                 |
| Processing Method                               | Injection molding    |             |                   |                 |
| Physical  | Dry                  | Conditioned | Unit              | Test Method     |
| Density   | 1.14                 | --          | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage <sup>1</sup>                  | 1.2 - 1.8            | --          | %                 | Internal method |
| Water Absorption<br>(Equilibrium, 23°C, 50% RH) | 2.5                  | --          | %                 | ISO 62          |
| Mechanical                                      | Dry                  | Conditioned | Unit              | Test Method     |
| Tensile Modulus                                 | 2900                 | 1500        | MPa               | ISO 527-2       |
| Tensile Stress                                  | 75.0                 | 55.0        | MPa               | ISO 527-2       |
| Flexural Modulus                                | 2800                 | 1000        | MPa               | ISO 178         |
| Flexural Stress                                 | 95.0                 | 35.0        | MPa               | ISO 178         |
| Impact  | Dry                  | Conditioned | Unit              | Test Method     |
| Charpy Notched Impact<br>Strength               | 10 kJ/m <sup>2</sup> | No Break    |                   | ISO 179/1eA     |
| Charpy Unnotched Impact<br>Strength             | No Break             | No Break    |                   | ISO 179/1eU     |
| Thermal   | Dry                  | Conditioned | Unit              | Test Method     |
| Heat Deflection<br>Temperature                  |                      |             |                   |                 |
| 0.45 MPa, not annealed                          | 220                  | 200         | °C                | ISO 75-2/B      |
| 1.8 MPa, not annealed                           | 90.0                 | 80.0        | °C                | ISO 75-2/A      |
| Electrical                                      | Dry                  | Conditioned | Unit              | Test Method     |
| Surface Resistivity                             | 1.0E+14              | 1.0E+11     | ohms              | IEC 60093       |
| Volume Resistivity                              | 1.0E+16              | 1.0E+15     | ohms·cm           | IEC 60093       |
| Flammability                                    | Dry                  | Conditioned | Unit              | Test Method     |
| Flame Rating (1.50 mm)                          | V-2                  | --          |                   | UL 94           |
| Glow Wire Flammability<br>Index (1.50 mm)       | 750                  | --          | °C                | IEC 60695-2-12  |
| Oxygen Index                                    | 27                   | --          | %                 | ISO 4589-2      |
| Injection                                       | Dry                  | Unit        |                   |                 |
| Drying Temperature                              | 80.0                 |             | °C                |                 |
| Drying Time                                     | 2.0                  |             | hr                |                 |
| Rear Temperature                                | 270 - 290            |             | °C                |                 |

|                        |             |    |
|------------------------|-------------|----|
| Middle Temperature     | 270 - 290   | °C |
| Front Temperature      | 270 - 290   | °C |
| Processing (Melt) Temp | 270 - 290   | °C |
| Mold Temperature       | 60.0 - 80.0 | °C |
| Injection Rate         | Fast        |    |
| Back Pressure          | Low         |    |
| Screw Speed            | Moderate    |    |

#### Injection instructions

No drying is necessary unless the material has been exposed to air for longer than three hours. The appearance of splash marks on the surface of mouldings indicates excessive moisture is present.

#### NOTE

1. Mould shrinkage is significantly influenced by many factors including wall thickness, gating, moulding shape and processing conditions. The range values given are determined from specimen bar mouldings of 1.5mm to 4mm wall thickness. They are provided as a guide for comparison purposes only and no guarantee should be inferred from their inclusion. (Specimens measured in the dry state, 24 hours after moulding).

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