



Dynaflex™ D3204-1000-03

Thermoplastic Elastomer

Key Characteristics

Product Description

Dynaflex™ D3204-1000-03 is an easy processing TPE designed for general purpose applications and is suitable for injection molding, extrusion, blow molding, and thermoforming processes.

- Dry Feel
- Easy Processing
- Good Melt Strength
- Soft Touch

General

| | | | |
|-----------------------|---|-----------------------------|-----------------|
| Material Status | • Commercial: Active | | |
| Regional Availability | • Africa & Middle East • Asia Pacific | • Europe • Latin America | • North America |
| Features | • Good Melt Strength • Good Processability | | |
| Uses | • Consumer Applications | • General Purpose | • Toys |
| Agency Ratings | • FDA Unspecified Rating | | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Extrusion | • Injection Molding | |

Technical Properties ¹

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|-------------------------|--------------------|-------------|
| Specific Gravity | 1.01 | 1.01 | ASTM D792 |
| Melt Mass-Flow Rate (MFR) | | | ASTM D1238 |
| 190°C/2.16 kg | 6.0 g/10 min | 6.0 g/10 min | |
| 200°C/5.0 kg | 23 g/10 min | 23 g/10 min | |
| Molding Shrinkage - Flow | 1.0E-3 to 4.0E-3 in/in | 0.10 to 0.40 % | ASTM D955 |
| Elastomers | Typical Value (English) | Typical Value (SI) | Test Method |
| Tensile Stress ^{2, 3} (100% Strain, 73°F (23°C)) | 990 psi | 6.83 MPa | ASTM D412 |
| Tensile Strength ^{2, 3} (Break, 73°F (23°C)) | 1100 psi | 7.60 MPa | ASTM D412 |
| Tensile Elongation ^{2, 3} (Break, 73°F (23°C)) | 420 % | 420 % | ASTM D412 |
| Tear Strength | 260 lbf/in | 45.5 kN/m | ASTM D624 |
| Compression Set (73°F (23°C), 22 hr) | 22 % | 22 % | ASTM D395B |
| Hardness | Typical Value (English) | Typical Value (SI) | Test Method |
| Durometer Hardness (Shore A, 10 sec) | 78 | 78 | ASTM D2240 |
| Fill Analysis | Typical Value (English) | Typical Value (SI) | Test Method |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 11200 sec ⁻¹ | 23.5 Pa·s | 23.5 Pa·s | |

Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|--------------------|-------------------------|--------------------|
| Rear Temperature | 240 to 320 °F | 116 to 160 °C |
| Middle Temperature | 330 to 370 °F | 166 to 188 °C |
| Front Temperature | 360 to 400 °F | 182 to 204 °C |

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| Injection | Typical Value (English) | Typical Value (SI) |
|--------------------|-------------------------|--------------------|
| Nozzle Temperature | 360 to 400 °F | 182 to 204 °C |
| Mold Temperature | 70.0 to 90.0 °F | 21.1 to 32.2 °C |
| Back Pressure | 0.00 to 150 psi | 0.00 to 1.03 MPa |
| Screw Speed | 40 to 100 rpm | 40 to 100 rpm |

Injection Notes

Color concentrates ethylene vinyl acetate (EVA) carriers are most suitable for coloring Dynaflex™ D3204-1000-03. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow rate of 25 - 40 g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. A high color match consistency may be obtained by using precolored compounds available from GLS. Concentrates based on PVC should not be used. The final determination of color concentrate suitability should be determined by customer trials.

Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polystyrene (PS) or polypropylene (PP).

Dynaflex™ D3204-1000-03 has good melt stability. Maximum residence times may vary, depending on the size of the barrel. Generally, the barrel should be emptied if it is idle for periods of 5 - 8 minutes or longer.

Drying is not Required

Injection Speed: 1 to 5 in/sec
 1st Stage - Boost Pressure: 300 to 700 psi
 2nd Stage - Hold Pressure: 70% of Boost
 Hold Time (Thick Part): 4 to 10 sec
 Hold Time (Thin Part): 1 to 3 sec

Notes

¹ Typical values are not to be construed as specifications.

² Die C

³ 2 hr

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