Monday, October 12, 2026

# DIOFLEX® C90

Alliance Polymers & Services - *Thermoplastic Elastomer*

Units English

**Action** **Legend (Open)**

## General Information

**Product Description**

- This is TPS (thermoplastic Styrene) material of TPE.
- Low hardness and be a good cushion, isolating material and halogen free.
- Conforming to U.S. EN-71 part 3?TSCA and the EU REACH - SVHC specifications.
- Conforming to the FDA test specifications.
- Easy of coloring?100% recyclable and good processing characteristics.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • North America | | |
| Features | • Food Contact Acceptable<br>• Good Colorability | • Good Processability<br>• Halogen Free | • Low Hardness<br>• Recyclable Material |
| Agency Ratings | • EC 1907/2006 (REACH) - SVHC Free<br>• EN 71-3 | • EPA TSCA<br>• FDA | |
| Processing Method | • Injection Molding | | |

## Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 0.870 | | JIS K7112 |
| Density | 0.868 | g/cm³ | JIS K7112 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 4.4 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.014 | in/in | ASTM D955 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress (100% Strain) | 768 | psi | ASTM D412 |
| Tensile Stress (300% Strain) | 284 | psi | ASTM D412 |
| Tensile Strength | 2220 | psi | ASTM D412 |
| Tensile Elongation (Break) | 880 | % | ASTM D412 |
| Tear Strength | 527 | lbf/in | ASTM D624 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness (Shore A) | 90 | | ASTM D2240 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load (66 psi, Unannealed) | 221 | °F | ASTM D648 |
| **Aging** | **Nominal Value** | **Unit** | **Test Method** |
| Change in Tensile Strength in Air [2] (122°F, 24 hr) | 98 | % | ASTM D573 |
| Change in Tensile Elongation at Break in Air [2] (122°F, 24 hr) | 100 | % | ASTM D573 |
| Change in Durometer Hardness in Air (122°F, 24 hr) | -1.0 | | ASTM D573 |

## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Rear Temperature | 320 to 338 | °F |
| Middle Temperature | 338 to 356 | °F |
| Front Temperature | 356 to 374 | °F |
| Nozzle Temperature | 374 to 446 | °F |
| Mold Temperature | 50 to 131 | °F |
| Back Pressure | 14.5 to 145 | psi |
| Screw Speed | 100 to 200 | rpm |

## Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Retained

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