Monday, October 12, 2026

DIOFLEX® A50

Alliance Polymers & Services - *Thermoplastic Elastomer*

Units English

Action **Legend (Open)**

General Information

Product Description

- This is TPS (thermoplastic Styrene) material of TPE.
- Conforming to U.S. EN-71 part 3?TSCA and the EU REACH - SVHC specifications.
- Low hardness and be a good cushion, isolating material and halogen free.
- It can be two color combinations and be adhesion to ABS?PC?PET-G.
- Easy of coloring?100% recyclable and good processing characteristics.

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

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.11		JIS K7112
Density	1.10	g/cm³	JIS K7112
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.3	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.016	in/in	ASTM D955
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (100% Strain)	185	psi	ASTM D412
Tensile Stress (300% Strain)	114	psi	ASTM D412
Tensile Strength	484	psi	ASTM D412
Tensile Elongation (Break)	850	%	ASTM D412
Tear Strength	151	lbf/in	ASTM D624
Compression Set (73°F, 22 hr)	18	%	ASTM D395
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	50		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	212	°F	ASTM D648
Brittleness Temperature	-58.0	°F	ASTM D746
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air [2] (122°F, 24 hr)	96	%	ASTM D573
Change in Tensile Elongation at Break in Air [2] (122°F, 24 hr)	110	%	ASTM D573
Change in Durometer Hardness in Air (122°F, 24 hr)	-3.0		ASTM D573

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	338 to 356	°F
Middle Temperature	338 to 374	°F
Front Temperature	356 to 374	°F
Nozzle Temperature	392 to 464	°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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