

# DURACON® M90-44

Polyplastics Co., Ltd. - Acetal (POM) Copolymer

Tuesday, August 29, 2017

## General Information

### General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Automotive Specifications	• CHRYSLER MS-DB-100 CPN1532 Color: CF2001 Natural • FORD WSK-M4D635-A2	• FORD WSS-M98P14-A3 • GM GMP.POM.005	• GM GMW22P-POM-C2
UL File Number	• E45034		
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >POM<		

## ASTM & ISO Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR)	9.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR)	9.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	0.488	in <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow : 0.0787 in	2.0	%	
Flow : 0.0787 in	2.0	%	
Water Absorption (73°F, 24 hr)	0.50	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	392000	psi	ISO 527-2
Tensile Stress	8990	psi	ISO 527-2
Nominal Tensile Strain at Break	35	%	ISO 527-2
Flexural Modulus	363000	psi	ISO 178
Flexural Stress	12600	psi	ISO 178
Coefficient of Friction			JIS K7218
Dynamic <sup>2</sup>	0.37		
vs. Steel - Dynamic <sup>3</sup>	0.46		
vs. Steel - Dynamic <sup>4</sup>	0.40		
Wear Factor			JIS K7218
140 psi, 59 ft/min <sup>5</sup>	< 0.50	10 <sup>-10</sup> in <sup>3</sup> ·min/ft·lb·hr	
71 psi, 59 ft/min <sup>5</sup>	< 0.50	10 <sup>-10</sup> in <sup>3</sup> ·min/ft·lb·hr	
140 psi, 59 ft/min <sup>6</sup>	15	10 <sup>-10</sup> in <sup>3</sup> ·min/ft·lb·hr	
71 psi, 59 ft/min <sup>6</sup>	32	10 <sup>-10</sup> in <sup>3</sup> ·min/ft·lb·hr	

### Impact

	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	2.9	ft·lb/in <sup>2</sup>	ISO 179/1eA

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Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	80		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	203	°F	ISO 75-2/A
CLTE - Flow (73 to 131°F)	6.7E-5	in/in/°F	Internal Method
CLTE - Transverse (73 to 131°F)	6.7E-5	in/in/°F	Internal Method
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+14	ohms·cm	IEC 60093
Electric Strength (0.118 in)	480	V/mil	IEC 60243-1
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Additional Information	Nominal Value	Unit	
Color Number	CF2001/CD3068		

### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176 to 194	°F
Drying Time	3.0 to 4.0	hr
Processing (Melt) Temp	374 to 410	°F
Mold Temperature	140 to 176	°F
Injection Pressure	7250 to 14500	psi
Screw Speed	100 to 150	rpm
Injection Velocity	12 to 118	in/min

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> vs M90-44, 0.06 MPa, 15 cm/s

<sup>3</sup> 0.49 MPa, 30 cm/s

<sup>4</sup> 0.98 MPa, 30 cm/s

<sup>5</sup> Thrust, vs C-Steel, Steel Side

<sup>6</sup> Thrust, vs C-Steel, Material Side