

# Cosmic DAP ID-50

Diallyl Phthalate

Cosmic Plastics, Inc.

## Message:

### DESCRIPTION

Cosmic ID-50 is a dacron-filled, general purpose diallyl ortho-phthalate molding compound which is supplied in a granular form. It molds easily in standard compression or transfer equipment.

### FEATURES

It has excellent electrical properties with an impact strength considerably higher than orlon filled material. A special processing enables ID-50 to retain its excellent volume and surface resistance after prolonged exposure to elevated temperature and 100% humidity.

### APPLICATIONS

The inherent strength of dacron fibers makes this compound excellent for applications requiring high physical and/or electrical properties.

General Information	
Filler / Reinforcement	Dacron
Features	General Purpose Good Electrical Properties High Impact Resistance Orthophthalic
Uses	General Purpose
Agency Ratings	ASTM D 5948, Type SDI-30 MIL M-14, Type SDI-30
Forms	Granules
Processing Method	Compression Molding Resin Transfer Molding

Physical	Nominal Value	Unit
Specific Gravity	1.39	g/cm <sup>3</sup>
Bulk Factor	3.0	
Molding Shrinkage - Flow	0.70 to 0.90	%
Dimensional Stability	< 0.060	%
Water Absorption <sup>1</sup> (Equilibrium, 50°C)	0.35	%

Mechanical	Nominal Value	Unit
Tensile Strength	24.1 to 35.9	MPa
Flexural Strength	68.9 to 82.7	MPa
Compressive Strength	124 to 172	MPa

Impact	Nominal Value	Unit
Notched Izod Impact	160	J/m

Thermal	Nominal Value	Unit
CLTE - Flow (-40 to 100°C)	4.0E-5	cm/cm/°C

Heat Distortion	260	°C
Dielectric Breakdown		
Dry	62000	V
Wet	50000	V
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>
Surface Resistivity		
-- <sup>2</sup>	1.0E+10	ohms
-- <sup>3</sup>	> 1.0E+16	ohms
Volume Resistivity		
-- <sup>4</sup>	1.0E+10	ohms·cm
-- <sup>5</sup>	> 1.0E+16	ohms·cm
Dielectric Strength <sup>6</sup>		
Dry	14	kV/mm
Wet	14	kV/mm
Dielectric Constant		
1 kHz <sup>7</sup>	3.80	
1 kHz <sup>8</sup>	3.40	
1 MHz <sup>9</sup>	3.60	
1 MHz <sup>10</sup>	3.50	
Dissipation Factor		
1 kHz <sup>11</sup>	0.015	
1 kHz <sup>12</sup>	5.0E-3	
1 MHz <sup>13</sup>	0.020	
1 MHz <sup>14</sup>	0.010	
Arc Resistance	115	sec
<b>Injection</b>	<b>Nominal Value</b>	<b>Unit</b>
Processing (Melt) Temp	135 to 190	°C
Injection Pressure	3.45 to 55.2	MPa
<b>NOTE</b>		
1.	48 hrs	
2.	30 days @ 100% RH @ 70°C	
3.	As Is	
4.	30 days @ 100% RH @ 70°C	
5.	As Is	
6.	Method B (Step-by-Step)	
7.	Wet	
8.	Dry	
9.	Wet	
10.	Dry	
11.	Wet	
12.	Dry	
13.	Wet	

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