

# Cosmic DAP 306

Diallyl Phthalate  
Cosmic Plastics, Inc.

Message:

DESCRIPTION  
Cosmic 306 is an orlon filled, general purpose diallyl ortho phthalate molding compound which is supplied in a flake form.

FEATURES  
It has excellent electrical properties and is unaffected by prolonged exposure to elevated temperature and 100% humidity. It is also resistant to solvents, acids, and alkalies.

APPLICATIONS  
Switches, terminals, insulators, cups, cases or other applications requiring strength and chemical or moisture resistance. Also useful for encapsulation of electrical and electronic components.

General Information		
Filler / Reinforcement	Orlon	
Features	Acid Resistant	
	Alkali Resistant	
	General Purpose	
	Good Electrical Properties	
	Good Strength	
	Moisture Resistant	
	Orthophthalic	
Uses	Solvent Resistant	
	Cups	
	Electrical/Electronic Applications	
	General Purpose	
	Insulation	
Agency Ratings	Switches	
	ASTM D 5948, Type SDI-5	
Forms	MIL M-14, Type SDI-5	
	Flakes	
Processing Method	Encapsulating	
	Injection Molding	
Physical	Nominal Value	Unit
Specific Gravity	1.52	g/cm <sup>3</sup>
Bulk Factor	6.0	
Molding Shrinkage - Flow	0.70 to 0.90	%
Dimensional Stability	< 0.070	%

Water Absorption <sup>1</sup> (Equilibrium, 50°C)	0.35	%
<b>Mechanical</b>	<b>Nominal Value</b>	<b>Unit</b>
Tensile Strength	24.8 to 34.5	MPa
Flexural Strength	55.2 to 86.2	MPa
Compressive Strength	124 to 207	MPa
<b>Impact</b>	<b>Nominal Value</b>	<b>Unit</b>
Notched Izod Impact	32 to 160	J/m
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>
CLTE - Flow (-40 to 100°C)	4.2E-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	13	kV/mm
Dielectric Constant		
1 kHz <sup>7</sup>	3.40	
1 kHz <sup>8</sup>	3.20	
1 MHz <sup>9</sup>	3.30	
1 MHz <sup>10</sup>	3.10	
Dissipation Factor		
1 kHz <sup>11</sup>	0.022	
1 kHz <sup>12</sup>	0.020	
1 MHz <sup>13</sup>	0.015	
1 MHz <sup>14</sup>	0.013	
Arc Resistance	125	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
14.	Dry

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