



**Cosmic Plastics Inc**  
HELPING MOLD THE FUTURE



Registered To ISO 9001:2008  
Ref. No. 10000711

## TECHNICAL DATA SHEET

**D45 DAP**

**DESCRIPTION** Cosmic D45 is a mineral-filled, flame retardant, general purpose diallyl ortho-phthalate molding compound which is supplied in a free flowing granular form.

**FEATURES** D45 is the most economical of all diallyl phthalates, yet retains a high dimensional stability, arc resistance and excellent dielectric strength.

**APPLICATIONS** Structural parts, housings, terminals, insulators and other applications requiring strength and economy.

### MATERIAL INFORMATION & PROPERTIES

MOLDING INFORMATION	SPECIFICATION	DATA
Specific Gravity		1.74
Bulk Factor		2.3
Molding Pressure	psi	500 – 8,000
Molding Temperature	°C	135 - 190
Mold Shrinkage	in / in	.003 - .007

MOISTURE PROPERTIES	SPECIFICATION	DATA
Water Absorption, %	48 hrs @ 50 °C	0.4

MECHANICAL PROPERTIES	SPECIFICATION	DATA
Impact Strength	Izod notched, ft-lb/inch	0.35 – 0.50
Flexural Strength	psi	10 – 12,000
Compressive Strength	psi	20 – 28,000
Tensile Strength	psi	4,500 – 6,000

THERMAL PROPERTIES	SPECIFICATION	DATA
Thermal Expansion, (-40 °C to 100 °C)	10 <sup>-5</sup> / °C	4.5
Heat Distortion Temp, (°C)	18.6 kg/cm <sup>2</sup>	260
Dimensional Stability	% Max.	0.08

ELECTRICAL PROPERTIES	SPECIFICATION	DATA
Arc Resistance	seconds	135
Dielectric Strength, (Kv step-by-step)	volts/mil (Dry) volts/mil (Wet)	380 360
Dielectric Breakdown	Kv step-by-step (Dry) Kv step-by-step (Wet)	54 48
Dielectric Constant	1 KHz / 1 MHz (Dry) 1 KHz / 1 MHz (Wet)	4.5 / 4.2 4.7 / 4.4
Dissipation Factor	1 KHz / 1 MHz (Dry) 1 KHz / 1 MHz (Wet)	.009 / .008 .010 / .017
Volume Resistance, megaohms	As is 30 days @ 100% RH @70 °C	>10 <sup>10</sup> 6,000
Surface Resistance, megaohms	As is 30 days @ 100% RH @70 °C	>10 <sup>10</sup> 6,000

CERTIFICATIONS	SPECIFICATION	DATA
ASTM D-5948-05; (MIL-M-14)	Type	MDG-F
Flammability	UL-94, 1/32 inch	V-0

**Technical Data Sheets are offered For Reference Only**, and are not to be considered as specifications. All tests were performed at room temperature (22 °C) unless otherwise stated, under carefully controlled conditions using transfer molded specimens. Since actual performance is determined by the molding techniques applied, as well as part size and shape, it is recommended that customers conduct their own tests to determine product suitability for their specific application. **Cosmic Plastics, Inc. makes no warranties of merchantability, or any expressed or implied guarantee or representation of fitness or suitability for any application.**

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