# Cosmic DAP D45

### **Diallyl Phthalate**

Cosmic Plastics, Inc.

#### Message:

DESCRIPTION

Cosmic D45 is a mineral filled, flame retardant, general purpose diallyl ortho phthalate molding compound which is supplied in a granular form. FEATURES

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

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

UL VellovCard   E64213-101060080     Filler / Reinforcement   Mineral     Features   Arc Resistant     Fatures   Arc Resistant     Fatures   Arc Resistant     General Purpose   Good Dimensional Stability     Orthophthalic   Orthophthalic     Uses   General Purpose     Housings   Insulation     Insulation   Structural Parts     Agency Ratings   ASTM D 5948, Type MDG-F     MILM 14, Type MDG-F   Mineral Veloce     Forms   Granules     Processing Method   Injection Moding     Physical   Nominal Value   Unit     Molding Shrinkage - Flow   0.30 to 0.70   %     Metanical   Nominal Value   Unit     Metanical   Nominal Value   Unit     Metanical   Nominal Value   MPa     Compressive Strength   6.80 to 82.7   MPa     Compressive Strength   138 to 193   MPa     Methanical   Nominal Value   Unit     Moternal Stability   6.89 to 82.7   MPa     Compressive Strength   138 to 193   MPa<	General Information		
Features   Arc Resistant     Flame Retardant   General Purpose     Good Dimensional Stability   Orthophthalic     Uses   General Purpose     Housings   Insulation     Insulation   Structural Parts     Agency Ratings   ASTM D 5948, Type MDG-F     Forms   Granules     Processing Method   Injection Molding     Physical   Onimal Value   Vint     Bulk Factor   23   Insulation     Specific Gravity   1,74   grand   Molding     Pholessing Structural Parts   20 to 0.70   %   Molding     Molding Shrinkage - Flow   0.20 to 0.70   %   Molding   Molding     Mater Absorption <sup>1</sup> (Equilibrium, 50°C)   0.40   %   Molding   Molding </td <td>UL YellowCard</td> <td>E64213-101060080</td> <td></td>	UL YellowCard	E64213-101060080	
Flame Retardam   General Purpose   Good Dimensional Stability   Ord Dimensional Stability<	Filler / Reinforcement	Mineral	
General Purpose     God Dimensional Stability     Orthophthalic     Uses   General Purpose     Housings   Insulation     Insulation   Structural Parts     Agency Ratings   STM D 5948, Type MDG-F     MIL M-14, Type MDG-F   MIL M-14, Type MDG-F     Forns   Granules     Processing Method   Inection Molding     Physical   Vominal Value   Unit     Byle Floro   19   granules     Milding Shrinkage - Flow   30 to 0.70   %     Molding Shrinkage - Flow   30 to 0.70   %     Molding Shrinkage - Flow   3.00 to 7.0   %     Mildang Shrinkage - Flow   3.00 to 7.0   %     Molding Shrinkage - Flow   3.00 to 7.0   %     Machanizato Mility   <.080	Features	Arc Resistant	
Good Dimensional Stability Ortophthalic     Uses   General Purpose Housings Insulation Structural Parts     Agency Ratings   STM D 5948, Type MDG-F ML M-14, Type MDG-F ML M-14, Type MDG-F     Forms   Granules     Processing Method   Injection Molding     Physical   Nominal Value   Unit     Specific Gravity   1,74   granules     Specific Gravity   1,30   0,70     Bulk Factor   0,30 to 0,70   %     Midding Shrinkage - Flow   0,30 to 0,70   %     Moding Shrinkage - Flow   0,30 to 0,70   %     Midding Shrinkage - Flow   0,40   %     Mechanical   Nominal Value   Mit     Minal Value   %   Mit     Tensile Strength   3,10 to 1,14   MPa     Flexural Strength   6,80 to 8,27   MPa     Grapressive Strength   18a to 193   MPa     Grapressive Strength   18a to 193   MPa		Flame Retardant	
UsesGeneral Purpose Housings Insulation Structural PartsAgency RatingsSTM D 5948, Type MDG-F MIL M-14, Type MDG-FFormsGanulesFormsGanulesProcessing MethodInjection MoldingPhysicalNominal ValueUnitSpecific Gravity1.74g/cm³Bulk Factor0.30 to 0.70%Bulk Factor0.30 to 0.70%Dimensional Stability0.080%Mactor Jactor Millong1.10 to 41.4MPaDimensional Stability0.080%Dimensional Stability0.40%Mater Absorption <sup>1</sup> (Equilibrium, 50°C)0.40%MechanicalNominal ValueUnitTensile Strength1.01 to 41.4MPaFleural Strength68.9 to 82.7MilaGompressive Strength1.80 to 193MPaImpactNominal ValueUnit		General Purpose	
Uses   General Purpose     Housings   Insulation     Insulation   Insulation     Agency Ratings   ASTM D 5948, Type MDG-F     Mill H-14, Type MDG-F   Insulation     Forms   Granules     Processing Method   injection Molding     Physical   Nominal Value   Unit     Bulk Factor   1,74   g/m³     Bulk Factor   0,30 to 0.70   %     Dimensional Stability   0,30 to 0.70   %     Midding Shrinkage - Flow   0,40   %     Mechanical   Nominal Value   Mit     Tensile Strength   1,01 to 1.14   MPa     Tensile Strength   68 to 82.7   MPa     Grampressive Strength   18 to 193   MPa		Good Dimensional Stability	
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FormsGranulesProcessing MethodInjection MoldingPhysicalNominal ValueUnitSpecific Gravity1.74g/cm³Bulk Factor2.3Molding Shrinkage - Flow0.30 to 0.70%Dimensional Stability< 0.080	Agency Ratings	ASTM D 5948, Type MDG-F	
Processing MethodInjection MoldingPhysicalNominal ValueUnitSpecific Gravity1.74g/cm³Bulk Factor2.3.Molding Shrinkage - Flow0.30 to 0.70%Dimensional Stability< 0.080		MIL M-14, Type MDG-F	
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Specific Gravity1.74g/cm³Bulk Factor2.3Molding Shrinkage - Flow0.30 to 0.70%Dimensional Stability< 0.080	Processing Method	Injection Molding	
Bulk Factor2.3Molding Shrinkage - Flow0.30 to 0.70%Dimensional Stability< 0.080	Physical	Nominal Value	Unit
Molding Shrinkage - Flow0.30 to 0.70%Dimensional Stability< 0.080	Specific Gravity	1.74	g/cm <sup>3</sup>
Dimensional Stability< 0.080%Water Absorption <sup>1</sup> (Equilibrium, 50°C)0.40%MechanicalNominal ValueUnitTensile Strength31.0 to 41.4MPaFlexural Strength68.9 to 82.7MPaCompressive Strength138 to 193MPaImpactNominal ValueUnit	Bulk Factor	2.3	
Water Absorption <sup>1</sup> (Equilibrium, 50°C)0.40%MechanicalNominal ValueUnitTensile Strength31.0 to 41.4MPaFlexural Strength68.9 to 82.7MPaCompressive Strength138 to 193MPaImpactNominal ValueUnit	Molding Shrinkage - Flow	0.30 to 0.70	%
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Tensile Strength31.0 to 41.4MPaFlexural Strength68.9 to 82.7MPaCompressive Strength138 to 193MPaImpactNominal ValueUnit	Water Absorption <sup>1</sup> (Equilibrium, 50°C)	0.40	%
Flexural Strength68.9 to 82.7MPaCompressive Strength138 to 193MPaImpactNominal ValueUnit	Mechanical	Nominal Value	Unit
Compressive Strength 138 to 193 MPa   Impact Nominal Value Unit	Tensile Strength	31.0 to 41.4	MPa
Impact Nominal Value Unit	Flexural Strength	68.9 to 82.7	MPa
	Compressive Strength	138 to 193	MPa
Notched Izod Impact 19 to 27 J/m	Impact	Nominal Value	Unit
	Notched Izod Impact	19 to 27	J/m

Thermal	Nominal Value	Unit		
CLTE - Flow (-40 to 100°C)	4.5E-5	cm/cm/°C		
Heat Distortion	260	°C		
Dielectric Breakdown				
Dry	54000	V		
Wet	48000	V		
Electrical	Nominal Value	Unit	Test Method	
Surface Resistivity				
2	6.0E+9	ohms		
<sup>3</sup>	> 1.0E+16	ohms		
Volume Resistivity				
4	6.0E+9	ohms∙cm		
5	> 1.0E+16	ohms•cm		
Dielectric Strength <sup>6</sup>				
Dry	15	kV/mm		
Wet	14	kV/mm		
Dielectric Constant				
1 kHz <sup>7</sup>	4.70			
1 kHz <sup>8</sup>	4.50			
1 MHz <sup>9</sup>	4.40			
1 MHz <sup>10</sup>	4.20			
Dissipation Factor				
1 kHz <sup>11</sup>	0.010			
1 kHz <sup>12</sup>	9.0E-3			
1 MHz <sup>13</sup>	0.017			
1 MHz <sup>14</sup>	8.0E-3			
Arc Resistance	135	sec		
Flammability	Nominal Value	Unit	Test Method	
Flame Rating (0.794 mm)	V-0		UL 94	
Injection	Nominal Value	Unit		
Processing (Melt) Temp	135 to 190	°C		
Injection Pressure	3.45 to 55.2	MPa		
NOTE				
1.	48 hrs			
2.	30 days @ 100% RH @ 70°	30 days @ 100% RH @ 70°C		
3.	As Is	As Is		
4.	30 days @ 100% RH @ 70°	30 days @ 100% RH @ 70°C		
5.	As Is	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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