



**Cosmic Plastics Inc**  
HELPING MOLD THE FUTURE



Registered To ISO 9001:2008  
Ref. No. 10000711

## TECHNICAL DATA SHEET

**ID-50 DAP**

|                     |   |
|---------------------|---|
| <b>DESCRIPTION</b>  | 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.  |
| <b>FEATURES</b>     | 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. |
| <b>APPLICATIONS</b> | The inherent strength of Dacron fibers makes this compound excellent for applications requiring high physical and/or electrical properties.   |

### MATERIAL INFORMATION & PROPERTIES

| MOLDING INFORMATION | SPECIFICATION | DATA        |
|---------------------|---------------|-------------|
| Specific Gravity    |               | 1.39        |
| Bulk Factor         |               | 3.0         |
| Molding Pressure    | psi           | 500 – 8,000 |
| Molding Temperature | °C            | 135 - 190   |
| Mold Shrinkage      | in / in       | .007 - .009 |

| MOISTURE PROPERTIES | SPECIFICATION  | DATA |
|---------------------|----------------|------|
| Water Absorption, % | 48 hrs @ 50 °C | 0.35 |

| MECHANICAL PROPERTIES | SPECIFICATION            | DATA          |
|-----------------------|--------------------------|---------------|
| Impact Strength       | Izod notched, ft-lb/inch | 3.0           |
| Flexural Strength     | psi                      | 10 – 12,000   |
| Compressive Strength  | psi                      | 18 – 25,000   |
| Tensile Strength      | psi                      | 3,500 – 5,200 |

| THERMAL PROPERTIES                    | SPECIFICATION           | DATA |
|---------------------------------------|-------------------------|------|
| Thermal Expansion, (-40 °C to 100 °C) | 10 <sup>-5</sup> / °C   | 4.0  |
| Heat Distortion Temp, (°C)            | 18.6 kg/cm <sup>2</sup> | 260  |
| Dimensional Stability                 | % Max.                  | 0.06 |

| ELECTRICAL PROPERTIES                  | SPECIFICATION            | DATA              |
|--|--------------------------|-------------------|
| Arc Resistance                         | seconds                  | 115               |
| Dielectric Strength, (Kv step-by-step) | volts/mil (Dry)          | 360               |
|  | volts/mil (Wet)          | 350               |
| Dielectric Breakdown                   | Kv step-by-step (Dry)    | 62                |
|  | Kv step-by-step (Wet)    | 50                |
| Dielectric Constant                    | 1 KHz / 1 MHz (Dry)      | 3.4 / 3.5         |
|  | 1 KHz / 1 MHz (Wet)      | 3.8 / 3.6         |
| Dissipation Factor                     | 1 KHz / 1 MHz (Dry)      | .005 / .010       |
|  | 1 KHz / 1 MHz (Wet)      | .015 / .020       |
| Volume Resistance, megaohms            | As is                    | >10 <sup>10</sup> |
|  | 30 days @ 100% RH @70 °C | 10 <sup>4</sup>   |
| Surface Resistance, megaohms           | As is                    | >10 <sup>10</sup> |
|  | 30 days @ 100% RH @70 °C | 10 <sup>4</sup>   |

| CERTIFICATIONS             | SPECIFICATION | DATA   |
|----------------------------|---------------|--------|
| ASTM D-5948-05; (MIL-M-14) | Type          | SDI-30 |
| Flammability               | None          | N/A    |

**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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