PROFESSIONAL PLASTICS

DAP per MIL-M-14

Diallyl Phthalate per MIL-M-14 Diallyl Phthalate (D72/6120F) is a short glass fibre filled, flame retardant, general purpose diallyl-ortho phthalate molding compound which is processed into compression-molded shapes. It has passed NASA outgassing tests. It can be molded at 300° to 3807deg; F and 250 to 1000 psi. Properly cured parts show excellent dimensional stability, as well as good electrical and physical properties. DAP possess superior electronic insulation, even under the most adverse environmental conditions. These compounds are easy to mold and have no out gassing. DAP compounds are non-corrosive to inserts and resistant to weathering, fungus, and most solvents. Fully cured parts possess unsurpassed dimensional stability, even under load. They withstand solder temperature and will not creep after curing. That is why this state of the art material is used extensively in the space program, the connector and the electronics industries.

- Offered in a variety of colors and flows, DAPs do not require cold storage and have an average shelf life of one year at 23° C.
- Applications include: connectors, interconnecting devices, terminal boards, potting cups, headers, switches, and circuit breakers.

ALLYL ORTHO PHTHALATE										
Compound Number	**D62/6130F**	**D69/6130**	**D33/6120**	**D72/6120F**	**D44/6160**	**D45**	**306**	**ID-40**	**224**	**ID-50**
Filler	Long Glass	Long Glass	Long Glass	**Short Glass**	Mineral	Minerals	Orlon	Orlon	Dacron	Dacron
Forms	Flakes	Flakes	Granules	**Granules**	Granules	Granules	Flakes	Granules	Flakes	Granules
Flame Retardant	Yes	No	No	**Yes**	No	Yes	No	No	No	No
Specific Gravity	1.82	1.72	1.72	**1.82**	1.74	1.74	1.52	1.52	1.6	1.39
Bulk Factor	6	6	2.5	**2.5**	2.3	2.3	6	3	6	3
Molding Pressure PSI	500 - 8,000	500 - 8,000	500 - 8,000	**500 - 8,000**	500 - 8,000	500 - 8,000	500 - 8,000	500 - 8,000	500 - 8,000	500 - 8,000
Molding Temperature °C	135 - 190	135 - 190	135 - 190	**135 - 190**	135 - 190	135 - 190	135 - 190	135 - 190	135 - 190	135 - 190
Molding Shrinkage in./in.	.001 - .004	.001 - .004	.001 - .004	**.001 - .004**	.003 - .007	.003 - .007	.007 - .009	.007 - .009	.007 - .009	.007 - .009

Heat Distortion Temperature °C ASTM-D648	260	260	260	**260**	260	260	260	260	260	260
Dimensional Stability % max.	0.01	0.01	0.01	**0.01**	0.08	0.08	0.07	0.07	0.06	0.06
Thermal Expansion 10^{-5}/°C (-40°C to 100°C)	2.4	2.4	1.2	**1.6**	4.5	4.5	4.2	4.2	4	4
Flame Resistance: Ignition Time - sec (min)	155	90	90	**110**	105	105	80		80	80
Burning Time - sec (max)	30	300	300	**60**	280	280	300		300	300
Water Absorption: % 48 hrs. @ 50°C % ASTM D-570	0.30	0.30	0.25	**0.25**	0.40	0.40	0.35	0.35	0.35	0.35
Impact Strength: Ft-Lb./in.notch (Izod) ASTM D-256	3 - 6	3 - 6	.5 - 1.2	**.5 - 1.2**	.35 - .50	.35 - .50	.6 - 3.0	.6 - .7	3	3
Flexural Strength: PSI ASTM D-790	13 - 17,000	13 - 17,000	13 - 15,000	**13 - 15,000**	10 - 12,000	10 - 12,000	8 - 12,500	8 - 12,500	10 - 12,000	10 - 12,000
Compressive Strength: PSI ASTM D-695	24 - 30,000	24 - 30,000	24 - 26,000	**24 - 26,000**	20 - 28,000	20 - 28,000	18 - 30,000	18 - 25,000	18 - 25,000	18 - 25,000
Tensile Strength: PSI ASTM D-638	6 - 10,000	6 - 10,000	6 - 10,000	**6 - 10,000**	4,500 - 6,000	4,500 - 6,000	3,600 - 5,000	3,600 - 5,000	3,500 - 5,200	3,500 - 5,200
Arc Resistance: Seconds ASTM D-638	180	180	145	**145**	135	135	125	100	125	115
Dielectric Strength: volts/mil Step by Step:										
ASTM D-149 Dry	400	400	380	**380**	380	380	360	360	360	360
Wet	360	360	340	**340**	360	360	340	340	350	350
Dielectric Breakdown:										
Kv Step by Step:ASTM D-149 Dry	62	62	62	**62**	54	54	62	60	62	62
Wet	60	60	60	**60**	48	48	50	45	58	50
Dielectric Constant: 1 KHz/1 MHz:										
ASTM D-150 Dry	4.2/4.0	4.0/3.9	4.2/4.0	**4.2/4.0**	5.8/4.2	5.8/4.2	3.2/3.1	3.2/3.1	3.4/3.5	3.4/3.5

Wet	4.4/4.2	4.2/4.4	4.3/4.2	**4.3/4.2**	4.7/4.4	4.7/4.4	3.4/3.3	3.4/3.3	3.5/3.6	3.8/3.6
Dissipation Factor: 1 KHz/1 MHz:										
ASTM D-150 Dry	.006/.014	.006/.013	.007/.013	**.007/.013**	.039/.038	.039/.038	.020/.013	.020/.013	.005/.010	.005/.010
Wet	.009/.016	.009/.015	.011/.015	**.011/.015**	.010/.017	.010/.017	.022/.015	.020/.018	.006/.012	.015/.020
Surface Resistance: Megaohms As Is	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	**$10^{10\text{ plus}}$**	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$
30 days @ 100% R.H. @ 70 °C	26,000	50,000	10,000	**10,000**	6,000	6,000	10^{4}	10^{4}	10^{4}	10^{4}
Volume Resistance: Megaohms As Is	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	**$10^{10\text{ plus}}$**	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$	$10^{10\text{ plus}}$
30 days @ 100% R.H. @ 70 °C	20,000	50,000	10,000	**10,000**	6,000	6,000	10^{4}	10^{4}	10^{4}	10^{4}
Water Extract Conductances 10-6 MHOS/CM	30	30								
ASTM D-4350										
Certifiable to MIL-M-14	GDI-30F	GDI-30	SDG	**SDG-F**	MDG	MDG-F	SDI-5	SDI-5	SDI-30	SDI-30
ASTM D-5948-96, Type:										
Flammability Rating: UL-94	VO 1/8			**VO 1/16**		VO 1/32			HB 1/8	

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