

Polyplastics Duracon® GB-25

DURACON® is a crystalline thermoplastic acetal copolymer. The primary raw material trioxane, a trimer of formaldehyde. The thermoplastic adopts a copolymer structure in which polyoxymethylene (-C-O) and carbon-carbon (-C-C- bond) comonomer groups are incorporated into its main chain. Therefore the copolymer has superior chemical and thermal stability, compared with acetal homopolymer.

Physical Properties	Metric	English	Comments
Density	1.59 g/cc	0.0574 lb/in ³	ISO 1183

Filler Content	25 %	25 %	Glass bead
----------------	------	------	------------

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	59.0 MPa	8560 psi	ISO 527-1, 2

Elongation at Break	10 %	10 %	ISO 527-1, 2
---------------------	------	------	--------------

Tensile Modulus	4.00 GPa	580 ksi	ISO 527-1, 2
-----------------	----------	---------	--------------

Flexural Strength	104 MPa	15100 psi	ISO 178
-------------------	---------	-----------	---------

Flexural Modulus	3.80 GPa	551 ksi	ISO 178
------------------	----------	---------	---------

Charpy Impact, Notched	0.360 J/cm ²	1.71 ft-lb/in ²	ISO 179/1eA
------------------------	-------------------------	----------------------------	-------------

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.00e+14 ohm-cm	8.00e+14 ohm-cm	IEC 60093

Surface Resistance	>= 5.00e+16 ohm	>= 5.00e+16 ohm	IEC 60093
--------------------	-----------------	-----------------	-----------

Dielectric Strength	18.0 kV/mm	457 kV/in	IEC 60243-1
---------------------	------------	-----------	-------------

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C @Temperature 23.0 - 55.0 °C	50.0 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-2

CTE, linear, Transverse to Flow	90.0 µm/m-°C @Temperature 23.0 - 55.0 °C	50.0 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-2
---------------------------------	---	--	-------------

Deflection Temperature at 1.8 MPa (264 psi)	123 °C	253 °F	ISO 75-1, 2
---	--------	--------	-------------

Flammability, UL94	HB	HB
--------------------	----	----