



## Product information

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### Product full identity:

Polyoxymethylene Homopolymer

Extruded Acetal H has higher mechanical strength, stiffness, hardness and creep resistance as well as a lower thermal expansion rate compared to Acetal C.

## Properties

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- » Better to machine than all Nylons
- » Low absorption and dimensional stability
- » 10% better properties than Copolymer, Mechanically

## Applications

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- » Food Industry
- » Construction
- » Automotive
- » Bearings
- » Gears

## This document contains

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- » Technical Datasheet (Page 2)
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- » Safety Datasheet (Pages 4-5)

For any further information regarding food, fire and water certificates then please contact the sales team on 0114 256 0889

## Technical Properties

Physical Properties	Test	Unit	Result
1. Specific gravity	ISO 1183-1	g/cm <sup>3</sup>	1.43
2. Water absorption	-	%	0.8
3. Maximum service temp. Upper temp limit - Short Term (no stronger mechanical stress involved)	-	°C	150
Long Term	-	°C	105
5. Lower temp limit	-	°C	-50
Mechanical Properties	Test	Unit	Result
1. Tensile stress at yield	ISO 527-1/-2	MPa	78/-
2. Elongation at yield	-	%	-
4. Elongation at break	ISO 527-1/-2	%	50
5. Impact strength	ISO 179-1/1eU	kJ/m <sup>2</sup>	no break
6. Notch impact strength	ISO 179-1/1eA	kJ/m <sup>2</sup>	10
7. Ball indentation / Rockwell hardness	ISO 2039-1/-2	MPa	160 / M88
8. Shore-D	-	-	-
9. Flexural modulus of elasticity	-	MPa	-
10. Tensile modulus of elasticity	ISO 527-1/-2	MPa	3300
Thermal Properties	Test Method	Unit	Result
1. Vicat-softening point VST/B/50	-	°C	-
2. Heat deflection temperature HDT/A	ISO 75-1/-2	°C	110
3. Coefficient of linear thermal expansion 23°C - 100°C	-	m/(m*K)	110 x 10 <sup>-6</sup>
4. Thermal conductivity at 23 °C	-	W/(m*K)	0.31
Electrical Properties	Test Method	Unit	Result
1. Volume resistivity	IEC 6093	Ω x m	>10 <sup>14</sup>
2. Surface resistivity	IEC 6093	Ω	>10 <sup>13</sup>
3. Dielectric constant at 1MHz	-	-	-
4. Dielectric dissipation factor at 1 MHz	IEC 60250	10 <sup>6</sup> Hz	0.003
5. Electrical strength	IEC 60243-1	kV/mm	20
6. Comparative tracking index (CTI)	IEC 60112	-	600
Additional Data	Test Method	Unit	Result
1. Bondability	-	-	-
2. Food compliance	FDA	-	-
3. Flammability	UL 94	-	HB

All The above information is for guide purposes only. The data has been taken from standard test results provided by our manufacturers.

### Key:

Yes	Limited	No data
+	0	-

## Chemical Properties

Agent	Conc %	Working Temp		Agent	Conc %	Working	Temp
		20°C	60°C				
Acetic Acid	100	o	-	Hydrofluoric acid	40	-	
Acetone	100	+	o	Hydrogen peroxide	10	+	-
Ammonia	Conc.	+	+	Hydrogen Sulphide		+	
Ammonium chloride		+	o	Isopropyl Alcohol	100	+	+
Amyl Alcohol		+/o		Mercurochrome		-	
Benzene		+	o	Methyl alcohol	100	+	+
Bleaching Solution	12,5 Cl	o	-	Methyl ethyl ketone	100	o	o
Boric Acid	100	-	-	Methylene chloride	100	-	-
Brake Fluid		o/-		Nitric acid	50	-	-
Butyl Acetate		+	o	Nitrobenzine		o	
Calcium Chloride		+	+	Oxalic Acid		-	
Carbon disulphide	100	+	+	Ozone, gas	ca. 0,5 ppm	-	-
Carbon Tetrachloride		+	o	Paraffin Oil	100	+	+
Chlorine, gas	100			Perchlroethylene		+	o
Chlorobenzene	100	o	o	Petroleum	100	+	
Chloroform			-	Petroleum, aromatic free	100	+	+
Citric Acid	10	o	-	Phenol, aqu	ca.9	-	-
Cresol				Phosphoric Acid	50	-	-
Cyclohexanone	100	+		Potassium hydroxide liquor	50	o	
Cyclohexene	100	+		Propyl alcohol			
Diesel Fuel		+	+	Pyridine			
Ethyl acetate	100	+	o	Silicone oil		+	+
Ethyl alcohol	96			Sodium carbonate, aqu		+	+
Ethylene Chloride	100	+	-	Sodium chloride, aqu		+	+
Formic Acid	10	+		Sodium Hydroxide liquor	15	+	o
Frost protection agent		+	+	Sodium Hydroxide liquor	60	o	
Fuel, aromatic free		+	o	Sodium hydrogen sulphite		-	-
Glycerine	100	+	+	Sodium nitrate, aqu		+	+
Glycol	100	+	+	Sodium thiosulfate			
Heating oil		-	-	Sulphuric Acid	96	-	-
Heptane	100	-	-	Tetrahydrofurance	100	o	o
Hydrochloric acid	10	-	-	Toluene	100	+	+
Hydrochloric acid	conc.	-	-	Trichlorethylene	100	-	-
				Xylene		-	-

## Safety Properties

### Substance / preparation and company detail

Acetal-Homopolymer  
Direct Plastics Limited  
Rother Valley Way,  
Holbrook,  
Sheffield,  
S20 3RW  
0114 2560889

### Fire-fighting measures

**Suitable extinguishing media:** Water, foam, dry chemical, CO<sub>2</sub>. Adapted to the nature and extend of fire.

**Hazardous decomposition products:** The main products formed in case of overheating and combustion are carbon monoxide and carbon dioxide. Formation of further hazardous decomposition products depends upon the fire conditions and cannot be excluded.

**Special protective equipment:** Firemen should wear self-contained breathing apparatus and protective clothing to prevent contact with skin and/or eyes. If exposed to combustion fumes in a high concentration, bring the victim into fresh air. If molten material contacts skin, cool rapidly with cold water and obtain medical attention for removal of adhering material and treatment of the burn.

### Handling and storage

**Machining:** During machining of the semi-finished products, evacuate swarf to prevent slipping or tripping hazard and observe the maximum allowable concentration of dust and formaldehyde levels on the workplace which apply in your country. Wear safety goggles during machining.

**Storage:** The products shall be stored indoors in a normal environment (air at 10 - 30°C / 30 - 70% RH) and kept away from any source of degradation such as sunlight, UV-lamps, chemicals (direct or indirect contact), ionising radiation, flames, etc. Dimensional changes (camber, warpage, shrinkage ...) of the products as well as slight colour shifts of the external surfaces can occur with time. The latter does generally not pose a problem in case of semi-finished products since the surface-layer is mostly removed anyway upon machining them into finished parts.

**Safety measures:** Standard industrial safety recommendations shall be observed. Temperatures above the melting temperature shall be avoided.

### Disposal considerations

According to the 'European Waste Catalogue and Hazardous Waste list', uncontaminated waste from the products is not classified as hazardous. The following six-digit codes can be used:

**07 02 13:** Waste plastic from manufacture, formulation, supply and use of plastic

**12 01 05:** Plastic shavings and turnings

**16 01 19:** plastic, from end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance

**17 02 03:** Plastic construction and demolition wastes

**20 01 39:** plastics from municipal wastes (household waste and similar commercial, industrial and institutional wastes)

**Waste disposal:** When recycling is not feasible, waste disposal by incineration or landfill can be applied. Disposal methods shall conform to local or other government regulations. The products do not contain cadmium pigments or cadmium stabilisers. They are not biologically degradable, but based on the present state of knowledge no negative effects on the environment may be anticipated.

### Ecological information

**Classification and labeling:** Hazard warning labeling in accordance with relevant EC-Directives is not required.

**International transport regulations:** Not applicable

## Further information

The information is based on our current knowledge. They are meant to describe our products in respect to safety requirements. They do not represent any guarantee of the described product in the sense of the legal guarantee regulations.