

Acetals are engineering plastics with high crystallinity, high modulus of elasticity coupled with great strength, stiffness and abrasion resistance and low moisture absorption. They are characterised also by a low coefficient of friction, good bearing features and impact resistance.

The dimensional stability of close tolerance fabricated parts is excellent due to low moisture absorption. Thus Acetal should be considered as a first choice material in wet applications. Acetal has good resistance to solvents and lubricants, but is attacked by strong acids and bases.

Additives such as PTFE, glass fibre or lubricants improve certain properties for special applications. Further details are available on request.

There are two main types of acetal, i.e. homopolymer and copolymer, which are comparable in their basic characteristics.

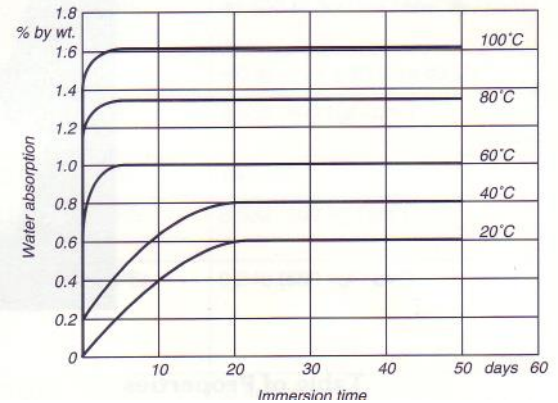
Impact strength and tensile strength of homopolymer is higher than that of copolymer and it is easier to machine on the lathe. On the other hand copolymer has better chemical and hydrolysis resistance at elevated temperatures.

### Sizes and Shapes Available

Length/Width	Rod Tube		Plate	Sheet Coil	
	0 mm O.D. mm	3000mm	mm thick 3000 x 600mm	mm thick	mm thick
Copolymer nat.	5 to 200	30 to 125	8 to 100	0.5 to 6	0.5 to 1.0
Copolymer black	5 to 200	-----	8 to 50	4 to 7	-----
Homopolymer	5 to 80	-----	-----	-----	-----

Not mentioned sizes and grades available on request.

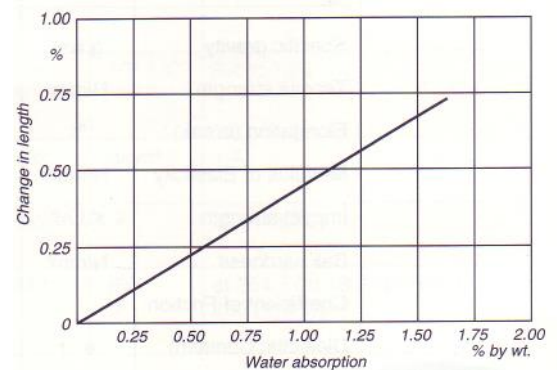
Water absorption of Copolymer as a function of immersion time at various temperatures (in accordance with DIN 53495)



### Table of Properties

Property	Unit	Testing Method	Acetal		
			Copolymer	Homo-	Nat. Black polymer
Specific Gravity	g/cm <sup>3</sup>		1.41	1.41	1.42
Tensile strength	N/mm <sup>2</sup>	DIN 53479	65	65	70
Elongation (break)	%	DIN 53455	> 30	>30	>25
Modulus of Elasticity	N/mm <sup>2</sup>	DIN 53457	3000	3000	3200
Impact strength	KJ/m <sup>2</sup>	DIN 53453	no break	no break	no break
Ball hardness	N/mm <sup>2</sup>	DIN 53456	150	150	160
Coefficient of friction			0.32	0.32	0.34
Dielectric constant	e - r	DIN 53483	3.8	3.8	3.7
Volume resistivity	b2 - cm	DIN 53482	1015	1015	4 1014
Dielectric strength	Kv/mm	DIN 53481	55	55	49
Melting point	°C		165	165	175
Water Absorption	%	20°C/60RH	0.25	0.25	0.25
Operating Temper. short time	°-C		140	140	140
Continuous			-40/+100	-40/+100	-40/+100
Flammability		UL	HB	HB	HB

Change in length of Copolymer as a function of water absorption



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