



## ERTACETAL® C - Technical Data Sheet

### 1. Introduction

This is an engineering plastic product virgin copolymer acetal. The acetal copolymer is more resistant against hydrolysis, strong alkalis and thermal-oxidative degradation than the acetal homopolymer.

### 2. Physical Properties

Properties	Test Methods ISO/IEC	Units	Values
Colour			white, black
Density	1183	g/cm <sup>3</sup>	1.41
Water absorption:			
- after 24/96 h immersion in water of 23 °C	62	mg	20/37
	62	%	0.24/0.45
- at saturation in air of 23 °C	-	%	0,20
- at saturation in water of 23 °C	-	%	0,85
<b>• THERMAL PROPERTIES</b>			
Melting Temperature	-	°C	165
Thermal conductivity at 23 °C	-	W/(K.m)	0.31
Coefficient of linear thermal expansion			
- average value between 23 and 60 °C	-	m/(m.K)	110-10 <sup>-6</sup>
- average value between 23 and 100 °C	-	m/(m.K)	125-10 <sup>-6</sup>
Temperature of deflection under load:			
-method A: 1.8 MPa	+ 75	°C	105
Max. allowable service temperature in air:			
- for short periods	-	°C	140
- continuously for 5/20 h	-	°C	115/100
Min. service temperature			-50
Flammability:			
- Oxygen index	4589	%	15
- acc. to UL 94 (3/6 mm thickness)	-	-	HB/HB
<b>• MECHANICAL PROPERTIES at 23 °C</b>			
Tension test:			
- tensile stress at yield	+ 527	MPa	68
	++ 527	MPa	68
- tensile stress at break	+ 527	%	35
	++ 527	%	35
- tensile modulus of elasticity	+ 527	MPa	3.100
	++ 527	MPa	3.100
Compression test: compressive stress at 1/2/5% nominal strain	+ 604	MPa	19/35/67
Creep test in tension, stress to produce 1% strain in 1 h	+ 899	MPa	13
	++ 899	MPa	13
Charpy impact strength, unnotched	+ 179/1eU	kJ/m <sup>2</sup>	≥150
Charpy impact strength, notched	+ 179/1eA	kJ/m <sup>2</sup>	7
Izod impact strength, notched	+ 180/2A	kJ/m <sup>2</sup>	7
	++ 180/2A	kJ/m <sup>2</sup>	7
Ball indentation hardness	+ 2039-1	N/mm <sup>2</sup>	140
Rockwell hardness	+ 2039-2	-	M 84



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### 2. Physical Properties (cont'd)

Properties	Test Methods ISO/IEC	Units	Values
<b>• ELECTRICAL PROPERTIES at 23 °C</b>			
Electric strength	+ 60243	kV/mm	20
	++ 60243	kV/mm	20
Volume resistivity	+ 60093	Ω.cm	>10 <sup>14</sup>
	++ 60093	Ω.cm	>10 <sup>14</sup>
Surface resistivity	+ 60093	Ω	>10 <sup>13</sup>
	++ 60093	Ω	>10 <sup>13</sup>
Relative permittivity	+ 60250	-	3.8
	++ 60250	-	3.8
	+ 60250	-	3.8
	++ 60250	-	3.8
Dielectric dissipation factor:	+ 60250	-	0.003
	++ 60250	-	0.003
	+ 60250	-	0.008
	++ 60250	-	0.008
Comparative tracking index (CTI)	+ 60112	-	600
	++ 60112	-	600

Test specifications on demand

### 3. Availability

Round rods: Ø 3-320 mm

Plates: thicknesses 0.5-120 mm

Tubes: O.D. 20-350 mm