



Material Data Sheet, December 2007

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## TECADUR PET sw

Chemical Designation :  
DIN-Abbreviation:  
Colours, fillers:

Polyethyleneterephthalate  
PET  
black

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### Main features

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|---------------------------------------|--------------------------------|
| very strong                           | tough                          |
| good sliding properties               | easily welded                  |
| easily bonded                         | resistant to numerous solvents |
| easily machined                       | easily polished                |
| wear resistant                        | electrically insulating        |
| not resistant to hot water over 60° C | very rigid                     |
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### Preferred Fields

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|-----------------------------------|------------------------|
| mechanical engineering            | automotive engineering |
| transport and conveyor technology | electrical engineering |
| precision engineering             | domestic appliance     |
| food technology                   | medical technology     |
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### Applications

Plugs, friction plates, tool carriers, housing parts, rollers, plain bearing, gear wheels, insulators, agitators and kneading elements, seals

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## Properties

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### Mechanical

	dry / moist		standard
Tensile strength at yield	88	MPa	DIN EN ISO 527
Elongation at yield		%	
Tensile strength at break		MPa	
Elongation at break		%	
Modulus of elasticity in tension	2700	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	
Hardness	95		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m <sup>2</sup>	DIN EN ISO 179
Creep rupture strength after 1000 h with static load	36	MPa	
Time yield limit for 1% elongation after 1000 h	13	MPa	
Co-efficient of friction p = 0,05 N/mm <sup>2</sup> v=0,6 m/s on steel, hardened and ground	0,25		
Wear p = 0,05 N/mm <sup>2</sup> v=0,6 m/s on steel, hardened and ground	0,35	µm/km	

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### Thermal

	dry / moist		standard
Crystalline melting point		°C	
Glass transition temperature	70	°C	DIN 53 765
Heat distortion temperature HDT, Method A	95	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	170	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	170	°C	
long term	110	°C	
Thermal conductivity (23° C)	0,24	W/(K·m)	
Specific heat (23° C)	1,1	J/g.K	
Coefficient of thermal expansion (23-55°C)	7	10 <sup>-5</sup> /K	DIN 53 752

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## Properties

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<b>Electrical</b>	<b>dry / moist</b>	<b>standard</b>
Dielectric constant ( $10^6$ Hz)	3,2	DIN 53 483, IEC-250
Dielectric loss factor ( $10^6$ Hz)	0,0021	DIN 53 483, IEC-250
Specific volume resistance	$10^{13}$ $\Omega$ *cm	DIN IEC 60093
Surface resistance	$10^{15}$ $\Omega$	DIN IEC 60093
Dielectric strength	60 kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	KC 350	DIN 53 480, VDE 0303 Teil 1

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<b>Miscellaneous</b>	<b>dry / moist</b>	<b>standard</b>
Density	1,37 g/cm <sup>3</sup>	DIN 53 479
Moisture absorption (23°C/50RH)	0,25 %	DIN EN ISO 62
Water absorption to equilibrium	0,5 %	DIN EN ISO 62
Flammability acc. to UL standard 94	HB	

(1) Testing of semi-finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.