

TECASON ® S natural - Stock Shapes (rods, plates, tubes)

Mechanical propertiesconditionvalueunittest methodcommentModulus of elasticity (tensile test) $@$ 73 °F375,000psiASTM D 638(1) lnjection molded specimensElongation at break $@$ 73 °F50%ASTM D 638(1) lnjection molded specimensFlexural strength $@$ 73 °F50%ASTM D 638(1) lnjection molded specimensModulus of elasticity (lexural test) $@$ 73 °F18,000psiASTM D 790Compression strength $@$ 73 °F1,800psiASTM D 695Compression strength $@$ 73 °F1,3000psiASTM D 695Compression strength $@$ 73 °F1,3000psiASTM D 695Compression strength $@$ 73 °F1,3ft-lbs/inASTM D 695Compression strength $@$ 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 6481)Deflection temperature $@$ 66 psi358< °F-(1) lnjection molded specimensService temperatureLong Term285°F-Thermal expansion (CLTE)3.1*10^5in/in/"FASTM D 696(3)Electrical propertiesconditionvalueunittest methodcommentVolume resistance $@$ 73 °F $5^{10}1^6$ Ω' cmASTM D 287(3) injection molded specimensDeflection temperatureLong Term <t< th=""><th><i>Chemical Designation</i> PSU (Polysulfone) <i>Colour</i> light yellow transparent <i>Density</i> 1.24 g/cm³</th><th colspan="4"> high thermal and mechanical capacity good chemical resistance high creep resistance high strength autoclavable food en </th><th>rmaceutica</th><th>ology I industry · technology ng</th></t<>	<i>Chemical Designation</i> PSU (Polysulfone) <i>Colour</i> light yellow transparent <i>Density</i> 1.24 g/cm ³	 high thermal and mechanical capacity good chemical resistance high creep resistance high strength autoclavable food en 				rmaceutica	ology I industry · technology ng
(tensile test) Tensile strength at break @ 73 °F flexural strength @ 1% strain, 73 °F flexural strength @ 1% strain, 73 °F flexural strength @ 1% strain, 73 °F flexural strength @ 73 °F, 10% strain flexural strength @ 73 °F, 10% strain flexural strength @ 73 °F, 10% strain flexural strength @ 73 °F, 11,3 ft-Ibs/in ASTM D 695 Compression modulus @ 73 °F, 11,3 ft-Ibs/in ASTM D 785 Coefficient of friction Dynamic, 40 psi, 50 fpm 0.37 ASTM D 785 Coefficient of thriction Dynamic, 40 psi, 50 fpm 0.37 ASTM D 648 (1) Injection moded specimens (2) Injection moded specimens (3) Injection	Mechanical properties	condition	value	unit	test method		comment
Construction of the strength Q 73 °F 50 % ASTM D 638 Flexural strength Q 73 °F 18,500 psi ASTM D 790 Modulus of elasticity Q 73 °F 375,000 psi ASTM D 790 Compression strength Q 173 °F 1,800 psi ASTM D 695 Compression strength Q 73 °F 1,800 psi ASTM D 695 Compression strength Q 73 °F 245,000 psi ASTM D 695 Compression modulus Q 73 °F 1.3 ft-lbs/in ASTM D 256 Rockwell hardness Q 73 °F, M scale 120 ASTM D 785 Coefficient of friction Dynamic, 40 psi, 50 fpm 0.37 ASTM D 702 1) Thermal properties condition value unit test method comment Deflection temperature Q 66 psi 358< °F		@ 73 °F	375,000	psi	ASTM D 638		(1) Injection molded specimens
Flexural strength@ 73 °F18,500psiASTM D 790Modulus of elasticity (flexural test)@ 73 °F375,000psiASTM D 790Compression strength@ 1% strain, 73 °F1,800psiASTM D 695Compression strength@ 73 °F, 10% strain13,000psiASTM D 695Compression strength@ 73 °F1,800psiASTM D 695Compression strength@ 73 °F1,3ft-lbs/inASTM D 695Compression modulus@ 73 °F1,3ft-lbs/inASTM D 256Rockwell hardness@ 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 785Deflection temperature@ 66 psi358< °F	Tensile strength at break	@ 73 °F	11,800	psi	ASTM D 638		
Modulus of elasticity (flexural test)@ 73 °F375,000psiASTM D 790Compression strength@ 1% strain, 73 °F1,800psiASTM D 695Compression modulus@ 73 °F245,000psiASTM D 695Impact strength (Izod)@ 73 °F245,000psiASTM D 695Rockwell hardness@ 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 785Deflection temperature@ 264 psi345°FASTM D 648Deflection temperature@ 66 psi358°FASTM D 648Deflection temperatureIntermittent340°F-Service temperatureLong Term285°F-Thermal expansion (CLTE)3.1*10 ⁻⁵ in/in/°FASTM D 6963)Electrical propertiesconditionvalueunittest methodvolume resistance@ 73 °F5*10 ¹⁶ Ω*cmASTM D 5963)Dielectric strength@ 00 Hz, 73 °F0.001ASTM D 150commentDissipation factor@ 60 Hz, 73 °F0.001ASTM D 150commentDislectric constant@ 60 Hz, 73 °F0.30%ASTM D 570(1) 4.5 mm thickness	Elongation at break (tensile test)	@ 73 °F	50	%	ASTM D 638		
(flexural test) Compression strength @1% strain, 73 °F 1,800 psi ASTM D 695 Compression strength @ 73 °F, 10% strain 13,000 psi ASTM D 695 Compression modulus @ 73 °F 245,000 psi ASTM D 695 Impact strength (Izod) @ 73 °F 245,000 psi ASTM D 695 Impact strength (Izod) @ 73 °F 1.3 ft-lbs/in ASTM D 256 Rockwell hardness @ 73 °F, M scale 120 ASTM D 785 Coefficient of friction Dynamic, 40 psi, 50 fpm 0.37 ASTM D 3702 1) Thermal properties condition value unit test method comment Deflection temperature @ 264 psi 345< °F	Flexural strength	@ 73 °F	18,500	psi	ASTM D 790		
Compression strength© 73 °F, 10% strain13,000psiASTM D 695Compression modulus© 73 °F245,000psiASTM D 695Impact strength (Izod)© 73 °F1.3ft-lbs/inASTM D 256Rockwell hardness© 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 37021)Thermal propertiescommentDeflection temperature@ 264 psi345°FASTM D 6481)Deflection temperature@ 66 psi358°FASTM D 6482)(1) njection molded specimens (2) njection molded specimens (3) lipetion molded specimens 		@ 73 °F	375,000	psi	ASTM D 790		
Compression modulus@ 73 °F245,000psiASTM D 695Impact strength (Izod)@ 73 °F1.3ft-lbs/inASTM D 256Rockwell hardness@ 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 37021)Thermal propertiesconditionValueunittest methodcommentDeflection temperature@ 264 psi345°FASTM D 6481)(1) Injection molded specimens (2) Injection molded specimens (2) Injection molded specimens (3) Injection molded specimens (425Electrical propertiescondition <td< td=""><td>Compression strength</td><td>@1% strain, 73 °F</td><td>1,800</td><td>psi</td><td>ASTM D 695</td><td></td><td></td></td<>	Compression strength	@1% strain, 73 °F	1,800	psi	ASTM D 695		
Impact strength (Izod) \bigcirc 73 °F1.3ft-lbs/inASTM D 256Rockwell hardness \bigcirc 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 37021)Thermal propertiesconditionvalueunittest methodcommentDeflection temperature \bigcirc 264 psi345°FASTM D 6481)(1) Injection molded specimensDeflection temperature \bigcirc 66 psi358°FASTM D 6482)(2) Injection molded specimensService temperatureIntermittent340°F-(3) Injection molded specimensService temperatureLong Term285°F-(3) Injection molded specimensService temperatureConditionvalueunittest methodcommentVolume resistance \bigcirc 73 °F5*10 ¹⁶ Ω *cmASTM D 257(2) InjectionDielectric strength425V/milASTM D 150(1) ASTM D 150(1) 4.5 mm thicknessDielectric constant \bigcirc 60 Hz, 73 °F0.30%ASTM D 570(1) 4.5 mm thickness	Compression strength	@ 73 °F, 10% strain	13,000	psi	ASTM D 695		
Rockwell hardness@ 73 °F, M scale120ASTM D 785Coefficient of frictionDynamic, 40 psi, 50 fpm0.37ASTM D 37021)Thermal propertiesconditionvalueunittest methodcommentDeflection temperature@ 264 psi345°FASTM D 6481)(1) Injection molded specimensDeflection temperature@ 66 psi358°FASTM D 6482)(3) Injection molded specimensService temperatureIntermittent340°F-(3) Injection molded specimensService temperatureLong Term285°F-(3) Injection molded specimensThermal expansion (CLTE)3.1*10 ⁻⁵ in/in/"FASTM D 6963)(2) Injection molded specimensVolume resistance@ 73 °F5*10 ¹⁶ Ω *cmASTM D 257(2) Injection for the second seco	Compression modulus	@ 73 °F	245,000	psi	ASTM D 695		
Coefficient of frictionDynamic, 40 psi, 50 fpm 0.37 ASTM D 37021)Thermal propertiesconditionvalueunittest methodcommentDeflection temperature@ 264 psi 345 °FASTM D 6481)(1) Injection molded specimensDeflection temperature@ 66 psi 358 °FASTM D 6482)(1) Injection molded specimensService temperatureIntermittent 340 °F-(2) Injection molded specimensService temperatureLong Term 285 °F-(3) Injection molded specimensThermal expansion (CLTE) $3.1*10^{-5}$ in/in/°FASTM D 6963)Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 °F $5*10^{16}$ Ω^* cmASTM D 150Dielectric constant@ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150commentOther propertiesconditionvalueunittest methodcommentMoisture absorption@ 24 hrs, 73 °F 0.30 %ASTM D 570(1) 4.5 mm thickness	Impact strength (Izod)	@ 73 °F	1.3	ft-lbs/in	ASTM D 256	_	
Thermal propertiesconditionvalueunittest methodcommentDeflection temperature@ 264 psi 345 °FASTM D 6481)(1) Injection molded specimens (2) Injection molded specimens (3) Injection molded specimens (4) Injection molded specimensElectrical propertiesconditionvalueunittest methodcommentVolume resistance Diselectric constant@ 60 Hz, 73 °F0.001ASTM D 150InjectionDiselectric constant Moisture absorption@ 60 Hz, 73 °F0.30%ASTM D	Rockwell hardness	@ 73 °F, M scale	120		ASTM D 785		
Deflection temperature@ 264 psi 345 °FASTM D 6481)(1) Injection molded specimensDeflection temperature@ 66 psi 358 °FASTM D 6482)(1) Injection molded specimensService temperatureIntermittent 340 °F-(2) Injection molded specimensService temperatureLong Term 285 °F-(3) Injection molded specimensThermal expansion (CLTE) $3.1*10^{-5}$ in/in/°FASTM D 6963)Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 °F $5*10^{16}$ Ω^* cmASTM D 150Dissipation factor@ 60 Hz, 73 °F0.001ASTM D 150Dielectric constant@ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150Other propertiesconditionvalueunittest methodcommentMoisture absorption@ 24 hrs, 73 °F 0.30 %ASTM D 570(1) 4.5 mm thickness	Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.37	_	ASTM D 3702	1)	
Deflection temperature $\textcircled{0}$ 66 psi 358 $^{\circ}$ FASTM D 6482)(2) Injection molded specimensService temperatureIntermittent 340 $^{\circ}$ F-(3) Injection molded specimensService temperatureLong Term 285 $^{\circ}$ F-(3) Injection molded specimensThermal expansion (CLTE) $3.1^{*}10^{-5}$ in/in/ $^{\circ}$ FASTM D 6963)Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 $^{\circ}$ F $5^{*}10^{16}$ Ω^{*} cmASTM D 257(3) Injection molded specimensDielectric strength425V/milASTM D 149(3) Injection molded specimensDissipation factor@ 60 Hz, 73 $^{\circ}$ F0.001ASTM D 150(3) Injection molded specimensOther propertiesconditionvalueunittest methodcommentMoisture absorption@ 24 hrs, 73 $^{\circ}$ F0.30%ASTM D 570(1) 4.5 mm thickness	Thermal properties	condition	value	unit	test method		comment
Deflection temperature@ 66 psi358°FASTM D 6482)(3) Injection molded specimensService temperatureIntermittent340°F <t< td=""><td>Deflection temperature</td><td>@264 psi</td><td>345</td><td>°F</td><td>ASTM D 648</td><td>1)</td><td rowspan="3">(2) Injection molded specimens</td></t<>	Deflection temperature	@264 psi	345	°F	ASTM D 648	1)	(2) Injection molded specimens
Service temperatureLong Term285°F-Thermal expansion (CLTE) $3.1*10^{-5}$ in/in/°FASTM D 6963)Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 °F $5*10^{16}$ Ω^* cmASTM D 257Dielectric strength425V/milASTM D 149Dissipation factor@ 60 Hz, 73 °F 0.001 ASTM D 150Dielectric constant@ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150Other propertiesconditionvalueunittest methodMoisture absorption@ 24 hrs, 73 °F 0.30 %ASTM D 570(1) 4.5 mm thickness	Deflection temperature	@ 66 psi	358	°F	ASTM D 648	2)	
Thermal expansion (CLTE)3.1*10 ⁻⁵ in/in/°FASTM D 6963)Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 °F5*10 ¹⁶ Ω*cmASTM D 257Dielectric strength425V/milASTM D 149Dissipation factor@ 60 Hz, 73 °F0.001ASTM D 150Dielectric constant@ 60 Hz, 73 °F, 50% RH3.1ASTM D 150Other propertiesconditionvalueunittest methodcommentMoisture absorption@ 24 hrs, 73 °F0.30%ASTM D 570(1) 4.5 mm thickness	Service temperature	Intermittent	340	°F	-		
Electrical propertiesconditionvalueunittest methodcommentvolume resistance@ 73 °F5*10 ¹⁶ Ω*cmASTM D 257Dielectric strength425V/milASTM D 149Dissipation factor@ 60 Hz, 73 °F0.001ASTM D 150Dielectric constant@ 60 Hz, 73 °F, 50% RH3.1ASTM D 150Other propertiesconditionvalueunittest methodMoisture absorption@ 24 hrs, 73 °F0.30%ASTM D 570(1) 4.5 mm thickness	Service temperature	Long Term	285	°F	-		
volume resistance @ 73 °F 5*10 ¹⁶ Ω*cm ASTM D 257 Dielectric strength 425 V/mil ASTM D 149 Dissipation factor @ 60 Hz, 73 °F 0.001 ASTM D 150 Dielectric constant @ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150 Other properties condition value unit test method comment Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	Thermal expansion (CLTE)		3.1*10 ⁻⁵	in/in/°F	ASTM D 696	3)	•
Dielectric strength 425 V/mil ASTM D 149 Dissipation factor @ 60 Hz, 73 °F 0.001 ASTM D 150 Dielectric constant @ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150 Other properties condition value unit test method comment Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	Electrical properties	condition	value	unit	test method	-	comment
Dissipation factor @ 60 Hz, 73 °F 0.001 ASTM D 150 Dielectric constant @ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150 Other properties condition value unit test method comment Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	volume resistance	@ 73 °F	5*10 ¹⁶	Ω*cm	ASTM D 257		
Dielectric constant @ 60 Hz, 73 °F, 50% RH 3.1 ASTM D 150 Other properties condition value unit test method comment Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	Dielectric strength		425	V/mil	ASTM D 149		-
Other properties condition value unit test method comment Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	Dissipation factor	@ 60 Hz, 73 °F	0.001		ASTM D 150		•
Moisture absorption @ 24 hrs, 73 °F 0.30 % ASTM D 570 (1) 4.5 mm thickness	Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.1		ASTM D 150		-
	Other properties	condition	value	unit	test method		comment
Flammability (UL94) V0 - 1)	Moisture absorption	@ 24 hrs, 73 °F	0.30	%	ASTM D 570		(1) 4.5 mm thickness
	Flammability (UL94)		V0		-	1)	

→ Resin specification: ASTM D 6394-10 SP0112 Shapes specification: NONE

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Version: A1