

TECASON P MT (Radel® R)

Exceptional resistance to common sterilisation techniques



Coloured plastics are very popular in medical technology, eg, to easily distinguish between different instruments and sizes. TECASON P MT (Radel® R) has been specially designed to fulfil these requirements.

It is a mechanical grade plastic with exceptional resistance to the common sterilisation techniques, giving added safety in medical applications. The material also possesses high thermal resistance, excellent mechanical properties and toughness.

Our TECASON P MT is available in many standard colours.

Properties

- | Resistant to cleaning agents, disinfectants and various solvents
- | Resistant to repeated steam sterilisation cycles
- | High resistance to gamma radiation
- | Good hydrolysis resistance
- | Excellent dimensional stability
- | High thermal and mechanical capacity
- | High impact strength and notched impact strength
- | High hardness and rigidity
- | Low water absorption
- | Very good electrical insulation
- | Biocompatibility
- | FDA conformity of raw material and colour pigments

Preferred fields

Medical technology, food technology, precision engineering

Applications

Surgical instruments, instrument handles, implant trials, sterilisation trays

Rods



	Tolerance mm	TECASON P MT black	TECASON P MT yellow	TECASON P MT green	TECASON P MT red	TECASON P MT blue	TECASON P MT ivory	TECASON P MT grey
DIN-Abbreviation		PPSU	PPSU	PPSU	PPSU	PPSU	PPSU	PPSU
Density (g/cm³)		1,29	1,29	1,29	1,29	1,29	1,29	1,29
Size								
Ø (mm)		kg/m	kg/m	kg/m	kg/m	kg/m	kg/m	kg/m
25,4 / 1"	+0,13 +0,0	0,657	0,657	0,657	0,657	0,657	0,657	0,657
31,75 / 1 1/4"		1,03	1,03	1,03	1,03	1,03	1,03	1,03
38,1 / 1 1/2"		1,48	1,48	1,48	1,48	1,48	1,48	1,48
44,45 / 1 3/4"		2,01	2,01	2,01	2,01	2,01	2,01	2,01
50,8 / 2"		2,62	2,62	2,62	2,62	2,62	2,62	2,62
57,15 / 2 1/4"	+0,76 +0,0	3,35	3,35	3,35	3,35	3,35	3,35	3,35
63,5 / 2 1/2"		4,13	4,13	4,13	4,13	4,13	4,13	4,13
69,85 / 2 3/4"		5,00	5,00	5,00	5,00	5,00	5,00	5,00
76,2 / 3"		5,94	5,94	5,94	5,94	5,94	5,94	5,94
88,9 / 3 1/2"		8,08	8,08	8,08	8,08	8,08	8,08	8,08

The specified kg/m weights are purely arithmetic figures. Weight on delivery will deviate from the figures given above. Stock lengths 2440 mm, other delivery lengths possible, also available ground. All figures given without obligation.

- = Stock item
- = Non-stock item – special production

Comparable to Pantone colours

	Process Black U
	124 C
	3298 C
	187 C
	301 U
	Warm Grey 1 C
	428 U

Please find further information on general delivery terms and conditions of the company in our brochure Semi-finished Plastic Products or on our website: www.ensinger-online.com.

Radel® R is a registered trademark of Solvay Advanced Polymers, LLC.

Standard values	Unit	TECASON P MT
DIN-abbreviation		PPSU
Density (ASTM D 792, DIN 53 479)	ρ g/cm ³	1,29
Tensile strength at yield (ASTM D 638, DIN EN ISO 527)	σ_S MPa	70
Elongation at break (ASTM D 638, DIN EN ISO 527, ASTM D 1708 (a))	ϵ_R %	>50
Modulus of elasticity, after tensile test (ASTM D 638, DIN EN ISO 527)	E_Z MPa	2350
Modulus of elasticity, after flexural test (ASTM D 790, DIN EN ISO 178)	E_B MPa	2600
Hardness (ball Indentation: ISO 2039/1, Shore D: ASTM D 2240, DIN 53 505 (d), Rockwell: ASTM D 785 , ISO 2039/2 (r), others: ASTM D 785 (a), DIN 43 456 (s))	H_K MPa	31
Impact resistance (DIN EN ISO 179, Izod: ASTM D 256, DIN EN ISO 180 (i), Charpy: DIN EN ISO 179 21, notch Impact strength: DIN 53 456 (k))	a_n kJ/m ²	o. Br.
Heat distortion temperature (DIN 53 461) acc. to ISO-R 75 method A	HDT/A °C	207
Maximum service temperature short term long term	°C °C	190 170
Thermal conductivity (23 °C)	°C W/(K·m)	0,35
Coefficient of linear thermal expansion (23 °C, ASTM D 696, DIN 53 752, ASTM E 831)	α 10 ⁻⁵ 1/K	5,6
Dielectric constant (106 Hz, ASTM D 150, DIN 53 483, IEC-250)	ϵ_r –	3,45*
Volume resistance (ASTM D 257, EC 93, DIN IEC 60093)	R_D $\Omega \cdot \text{cm}$	>10 ¹⁵ *
Dielectric strength (ASTM D 149, IEC-243, VDE 0303 part 2)	E_d kV/mm	15*
Moisture absorption at equilibrium 23 °C / 50% rel. humidity (DIN EN ISO 62)	W(H ₂ O) %	0,37
Flammability acc. to UL-Standard 94		V0

* The electrical values do not apply to the black coloured type.