

ADVANCED INDUSTRIAL

HIGH PERFORMANCE PLASTIC SHAPES // PRECISION CNC MACHINED COMPONENTS



TECASINT 1000 SERIES



TECASINT 1000 is an amorphous high-temperature polyimide. Parts made of it excel with a very good dimensional stability. They bear a very high load under temperatures which are unreachable for other plastics. Even under short terms heating up to 350 °C parts made of **TECASINT 1000** do not melt or soften.

TECASINT 1011 black
(SINTIMID PUR HT)
Highest mechanical strength.
Best electrical insulation.

TECASINT 1021 anthracite
(SINTIMID 15 G)
Enhanced friction and wear properties. Self-lubricating.

TECASINT 1031
(SINTIMID 40 G)
Extremely low wear values.

Self-lubricating.

TECASINT 1611
(SINTIMID 30 P)
Very low friction values.
Self-lubricating.

TECASINT 1061 black
(SINTIMID PVX)
Low friction values, self-lubricating. Good UV resistance.

TECASINT 1041 anthracite
(SINTIMID 30 M)
Best lubrication in vacuum and dry atmosphere.

Properties

- | Broad range of temperature from -270 °C up to +300 °C
- | In long term service high stability and high creep resistance
- | Low outgassing, high purity
- | Outstanding radiation resistance
- | Electrically insulating
- | Excellent slide and wear properties
- | Strain resistant
- | Good chemical resistance

Preferred fields

Mechanical engineering, automotive, conveyor technology, cryotechnology, aerospace, vacuum technology, precision engineering, hot glass technology, electronics, semiconductor

Applications

Sliding rails, guide for chains, piston rings, Bearing discs, bushings, seals, insulators, valve seatings, friction rings, hot glass grippers



TECASINT 1000

Property values		TECASINT 1011 (SINTIMID PUR HT)	TECASINT 1021 (SINTIMID 15G)	TECASINT 1031 (SINTIMID 40G)	TECASINT 1061 (SINTIMID PVX)	TECASINT 1041 (SINTIMID 30M)	TECASINT 1611 (SINTIMID 30P)
Abbreviation		PI	PI CS15	PI CS40	PI CS15TF10	PI MoS ₂	PI TF30
Description		black	15% Graphite, black	40% Graphite, black	15% Graphite, 10% PTFE, black	30% MoS ₂ , black	30% PTFE, ochre
Long term service temperature	°C	300	300	300	300	300	260
Density (ASTM D 792, DIN EN ISO 1183)	ρ g/cm ³	1,34	1,42	1,57	1,48	1,67	1,51
Tensile strength at break (ASTM D 638, DIN EN ISO 527)	σ_R MPa	116	97	65	77	82	82
Elongation at break (ASTM D 638, DIN EN ISO 527, 23 °C)	ϵ_R %	9	2,8	2,2	2,9	2,8	4,1
Modulus of elasticity after tensile test (ASTM D 638, DIN EN ISO 527)	E_z MPa	4000	4000			4340	
Hardness (Shore D, DIN 53505)	H	90	88	85	85	90	84
Impact resistance (DIN EN ISO 179 (Charpy))	a_n kJ/m ²	75	35				
Glass transition temperature (DIN EN ISO 3146)	T_g °C	360-375	330	330	330	330	330
Short term service temperature	°C	350	350	350	350	350	350
Thermal conductivity (23°C)	λ W/(K·m)	0,22	0,53				
Specific heat (23 °C)	c J/(g·K)	1,04	1,13				
Coefficient of linear thermal expansion (50-200 °C, DIN 53752)	α 10 ⁻⁵ 1/K	5,0	3,8	3,1	5,1	6,5	5
Water absorption (24 h, 23 °C, in water, EN ISO 62)	W_s %	1,08	0,51	0,42		0,72	0,46
Flammability acc. to UL-Standard 94		V0	V0	V0	V0	V0	V0

The information corresponds with current knowledge and indicates our products and possible applications. We cannot give you a legally binding guarantee of the physical properties or the suitability for a specific application. Existing commercial patents are to be taken in account. Please find information concerning the exclusion of liability and Terms and Conditions of Delivery in our Semi-finished products catalogue or at www.ensinger-online.com.

Stock program



Rods

Tolerances: + 0,2 / + 0,8
Diameter: 6 - 100 mm
Stock length:
 Ø 6-12 mm: 395 mm
 Ø 12,7-15 mm: 395 mm, 795 mm
 > Ø 16 mm: 395 mm, 795 mm, 1000 mm.
 Other delivery lengths possible, also available ground.



Tubes

Available on request.



Plates

Tolerances:
 Thickness 5-20 mm: 0 / + 0,8 mm
 Thickness 20-60 mm: 0 / 1 mm
 Thickness 65-100 mm: 0 / 1,5 mm.
Thickness: 5-100 mm
Width:
 Thickness 5-55 mm: 300 / 395 mm
 from thickness 60 mm: 300 mm
Stock length:
 Width 300 mm: stock length 1000 mm
 Width 395 mm: stock length 795 mm
 Other delivery lengths possible.