

TECAMID 12 natural - 型材 (棒材, 板材, 管件)

化學命名

PA 12 (聚醯胺 12)

顏色

象牙色 不透明

密度

1.02 g/cm³

加工後所產生的數據(依德國標準氣候為主)。

主要特色

- 高韌性
- 耐油、潤滑油及燃油
- 良好的磨損性
- 良好的尺寸穩定性
- 良好的滑動及耐磨特性
- 低密度
- 低吸濕性
- 良好的可焊接性和黏結性

目標產業

- 航空與航太科技
- 電子學
- 食品科技
- 機械工程
- 汽車工業

機械特性	參數	值	單位	標準	註解
抗拉強度	50mm/min	53	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
彈性模數 (張力測試)	1mm/min	1800	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
降伏點抗拉強度	50mm/min	53	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
降伏點伸長率	50mm/min	9	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
斷裂伸長率	50mm/min	200	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
抗彎強度	2mm/min, 10 N	68	MPa	DIN EN ISO 178	(2)
彈性模數 (彎曲測試)	2mm/min, 10 N	1700	MPa	DIN EN ISO 178	
壓縮強度	1% / 2% / 5% 5mm/min, 10 N	13/24/55	MPa	EN ISO 604	(3)
壓縮模數	5mm/min, 10 N	1600	MPa	EN ISO 604	(4)
衝擊強度(Charpy)	max. 7.5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	(5)
缺口衝擊強度(Charpy)	max. 7.5J	7	kJ/m ²	DIN EN ISO 179-1eA	
蕭氏硬度	D	76		DIN EN ISO 868	
熱特性	參數	值	單位	標準	註解
玻璃轉化溫度		37	°C	DIN EN ISO 11357	(1) Found in public sources.
熔化溫度		180	°C	DIN EN ISO 11357	(2) Found in public sources.
使用溫度	short term	150	°C	-	Individual testing regarding application conditions is mandatory.
使用溫度	long term	110	°C	-	(2)
熱膨脹 (CLTE)	23-60°C, long.	15	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
熱膨脹 (CLTE)	23-100°C, long.	16	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
比熱		1.8	J/(g*K)	ISO 22007-4:2008	
導熱係數		0.30	W/(K*m)	ISO 22007-4:2008	
電性特性	參數	值	單位	標準	註解
表面電阻		10 ¹⁴	Ω	-	
體積電阻		10 ¹⁴	Ω*cm	-	
其他特性	參數	值	單位	標準	註解
吸水率	24h / 96h (23°C)	0.04 / 0.07	%	DIN EN ISO 62	(1) Ø ca. 50mm, h=13mm
耐熱水/鹼		+	-	-	(2) + good resistance
耐候性		-	-	-	(3) - poor resistance
耐燃性(UL94)	corresponding to	HB	-	DIN IEC 60695-11-10;	(4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.