Desmopan 1045D

100 grade series, ester / Shore hardness D 45 - 49

injection molding grade; hydrolysis-stabilised; high mechanical strength; very short cycle times; Injection molded engineering parts; Ear-tags; Shoe heels

ISO Shortname

TPU-ARES

	Property	Test Condition	Unit	Standard	typical Value drying	annealed	- according to specifications
Mechanical properties (23 °C/50 % r. h.)							
C	shore hardness D	1s	-	DIN ISO 7619-1		46	
	Ultimate tensile strength	200 mm/min	MPa	DIN 53504		51	
	Strain at break	200 mm/min	%	DIN 53504		530	
	Stress at 10 % strain	200 mm/min	MPa	DIN 53504		7,1	
	Stress at 100 % strain	200 mm/min	MPa	DIN 53504		12,3	
	Stress at 300 % strain	200 mm/min	MPa	DIN 53504		23	
C	Compression set	24 h; 70 °C	%	DIN ISO 815-1, Method A		39	
C	Compression set	72 h; 23 °C	%	DIN ISO 815-1		24	
C	Compression set	24 h; 70 °C	%	DIN ISO 815-1, Method C		25	
C	Abrasion resistance		mm³	ISO 4649 method A		11	
	Rebound resilience		%	ISO 4662		40	
	Tear strength	500 mm/min	kN/m	ISO 34-1		120	
Thermal properties							
	Tensile storage modulus	-20 °C	MPa	ISO 6721-1,-4		710	
	Tensile storage modulus	20 °C	MPa	ISO 6721-1,-4		120	
	Tensile storage modulus	60 °C	MPa	ISO 6721-1,-4		50	
Other properties (23 °C)							
C	Density		kg/m³	ISO 1183-1			1220
Recommended processing and drying conditions							
	Injection molding - Melt temperature		°C	-	210 - 230		
	Injection molding - Mold temperature		°C	-			20 - 40
	Maximum drying temperature		°C	-			110

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

Impact properties: N = non-break, P = partial break, C = complete break

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Desmopan Typical value

The shown values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

Desmopan Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded.

Desmopan No Medical-, Food Contact- and Cosmetic Applications

This product is not designated as "Medical Grade"[i] and therefore shall not be considered a candidate for the manufacture of a medical device or of intermediate products for medical devices, which are intended under normal use to be brought into direct contact with the patient's body (e.g., skin, body fluids or tissues, including indirect contact to blood)*. This product is also not designated for Food Contact[ii], including drinking water, or Cosmetic Applications. If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, for Food Contact products or Cosmetic Applications, Covestro Aktiengesellschaft (COV-CAS-CO-TPU EMEA/LA) must be contacted in advance to provide its agreement to sell such product for such purpose. Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or Cosmetic Applications must be made solely by the purchaser of the product without relying upon any representations by Covestro Aktiengesellschaft (COV-CAS-CO-TPU EMEA/LA). [i] Please see the "Guidance on Use of Covestro Products in a Medical Application" document. [ii] As defined in Commission Regulation VO (EU) 1935/2004.

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