

PA12G

TECHNICAL DATA SHEET

FULL NAME: CAST POLYAMIDE 12

MECHANICAL PROPERTIES	TEST METHOD	UNIT	CONDITION OF SPECIMEN	GUIDELINE VALUE
YIELD STRESS	ISO 527	MPA	DRY	60
	ISO 527	MPA	HUMID	50
ELONGATION DUE TO TEARING	ISO 527	%	DRY	55
	ISO 527	%	HUMID	120
MODULUS OF ELASTICITY RESULTING FROM TENSILE TEST	ISO 527	MPA	DRY	2.200
	ISO 527	MPA	HUMID	1.800
MODULUS OF ELASTICITY RESULTING FROM BENDING TEST	ISO 178	MPA	DRY	2.400
	ISO 178	MPA	HUMID	-
FLEXURAL STRENGTH	ISO 178	MPA	DRY	90
	ISO 178	MPA	HUMID	-
IMPACT STRENGTH ¹⁾	ISO 179	kJ/M ²	DRY	o.B.
	ISO 179	kJ/M ²	HUMID	w.B.
NOTCHED-BAR IMPACT STRENGTH	ISO 179	kJ/M ²	-	>15
BALL INDENTATION HARDNESS H _{358/30}	ISO 2039-1	MPA	DRY	-
	ISO 2039-1	MPA	HUMID	100
CREEP RATE STRESS AT 1% ELONGATION ²⁾	DIN 53 444	MPA	-	>11
SLIDING FRICTION COEFFICIENT AGAINST STEEL (DRY RUNNING) ³⁾	-	-	-	0,40
SLIDING WEAR AGAINST STEEL (DRY RUNNING) ³⁾	-	-	-	-

THERMAL PROPERTIES				
MELTING TEMPERATURE	ISO 3146	°C	-	+190
THERMAL CONDUCTIVITY	DIN 52 612	W/(K*M)	-	0,23
SPECIFIC THERMAL CAPACITY	-	J/(C*K)	-	1,7
COEFFICIENT OF THERMAL EXPANSION ⁴⁾	-	10 ⁻⁵ *K ⁻¹	-	10 - 11
OPERATING TEMPERATURE RANGE (LONG-TERM) ⁵⁾	-	°C	-	-60 / +110
OPERATING TEMPERATURE RANGE (SHORT-TERM) ⁵⁾	-	°C	-	+150
FIRE BEHAVIOR	UL 94	-	-	HB

ELECTRICAL PROPERTIES				
DIELECTRIC CONSTANT ⁶⁾	IEC 250	-	DRY	3,7
	IEC 250	-	HUMID	-
DIELECTRIC LOSS FACTOR ⁶⁾	IEC 250	-	DRY	0,03
	IEC 250	-	HUMID	-
SPECIFIC VOLUME RESISTANCE	IEC 93	Ω	DRY	10 ¹⁵

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	IEC 93	Ω	HUMID	10^{12}
SURFACE RESISTANCE	IEC 93	$\Omega \cdot \text{CM}$	DRY	10^{13}
	IEC 93	$\Omega \cdot \text{CM}$	HUMID	10^{12}
DIELECTRIC STRENGTH	IEC 243	KV/MM	DRY	50
	IEC 243	KV/MM	HUMID	20
CREE CURRENT RESISTANCE	IEC 112	-	-	KA 3c
	IEC 112	-	-	KA 3B

MISCELLANEOUS PROPERTIES

DENSITY	ISO 1183	G/CM ³	-	1,03
MOISTURE ABSORPTION IN NORMAL CLIMATE UNTIL SATURATED	DIN 53 715	%	-	0,9
WATER ABSORPTION UNTIL SATURATED	ISO 62	%	-	1,4

REV.	DATE	DESCRIPTION	MODIFIED PARAGRAPHS	WRITTEN BY	APPROVED BY
01	12/2020	LAYOUT UPDATE	//	602.7	602.7

¹⁾ MEASURED WITH A PENDULUM IMPACT TESTING MACHINE 0,1 DIN 51 222

²⁾ TENSION RESULTING IN 1% TOTAL ELONGATION AFTER 1000H

³⁾ AGAINST STEEL, HARDENED AND GROUND

P = 0,05 MPA; V=0,6 M/S; T=60°C NEAR RUNING SURFACE

⁴⁾ FOR A TEMPERATURE OF +23°C UP TO +60°C

⁵⁾ EXPERIENCE VALUES ESTABLISHED WITH FINISHED PARTS THAT ARE NOT UNDER ANY STRESS IN HEATED AIR, DEPENDING ON THE TYPE AND FORM OF HEAT EXPOSURE. SHORT TERM = MAX 1 H; LONG TERM = MONTHS

⁶⁾ AT 10⁶ Hz

W.B. = WITHOUT BREAKAGE

THIS DATASHEET AND ALL PROPRIETIES INDICATED COME DIRECTLY FROM THE PRODUCER'S STUDIES AND TESTS. D.H. LAMINA S.R.L. DOES NOT PRODUCE THE MATERIAL.

THE CONTENTS OF THIS DATASHEETS ARE MEANT TO GIVE AN OVERVIEW OF THE PRODUCT'S PROPRIETIES. IT REFLECTS OUR CURRENT KNOWLEDGE AND MAY NOT BE COMPLETE. THE VALUES SHOULD BE TAKEN AS GUIDE VALUES BECAUSE THEY ARE DEPENDENT ON SURROUNDING CONDITIONS AND MACHINING METHODS. THE VALUES ARE IN NO WAY A LEGALLY BINDING ASSURANCE OF THE PRODUCT'S PROPRIETIES OR ITS SUITABILITY FOR USE IN A SPECIFIC APPLICATION. ALL STATED VALUES ARE AVERAGE ESTABLISHED FROM MANY INDIVIDUAL TESTS. FOR SPECIFIC APPLICATIONS, WE RECOMMEND DETERMINING SUITABILITY BY MEANS A TRIAL.

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