

# Novodur P2H-AT

standard impact strength, easy flowing, high gloss, contains antistatic additive

ISO Shortname: ISO 2580-1 -ABS 0, MGZ, 095-30-16-25

Property	Test Condition	Unit	Standard	Value
<b>Rheological properties</b>				
C Melt volume-flow rate	220 °C; 10 kg	cm <sup>3</sup> /(10 min)	ISO 1133	37
C Molding shrinkage, parallel	60x60x2	%	ISO 294-4	0.4 - 0.6
C Molding shrinkage, normal	60x60x2	%	ISO 294-4	0.4 - 0.6
<b>Mechanical properties (23 °C/50 % r. h.)</b>				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2500
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	44
C Yield strain	50 mm/min	%	ISO 527-1,-2	2.1
Strain at break	50 mm/min	%	acc. ISO 527-1,-2	>15
C Tensile creep modulus	1 h	MPa	ISO 899-1	2200
C Tensile creep modulus	1000 h	MPa	ISO 899-1	1500
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	100
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	80
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	16
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	7
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1A	16
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1A	7
Flexural modulus	2 mm/min	MPa	ISO 178	2400
Flexural strength	2 mm/min	MPa	ISO 178	70
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	110
<b>Thermal properties</b>				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	93
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	97
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	98
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.9
C Burning behavior UL 94 (1.6 mm) [UL listed]	1.6 mm	Class	UL 94	HB
Burning rate (US-FMVSS)	2.0 mm	mm/min	ISO 3795	60
Glow wire test (GWI)	2.0 mm	°C	IEC 60695-2-12	700
<b>Electrical properties (23 °C/50 % r. h.)</b>				
C Relative permittivity	100 Hz	-	IEC 60250	3.0
C Relative permittivity	1 MHz	-	IEC 60250	2.9
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	55
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	90
C Volume resistivity		Ohm·m	IEC 60093	1E13
C Surface resistivity		Ohm	IEC 60093	1E15
C Electric strength	1 mm	kV/mm	IEC 60243-1	34
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600



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Property	Test Condition	Unit	Standard	Value
<b>Other properties (23 °C)</b>				
C Density		kg/m <sup>3</sup>	ISO 1183	1050
<b>Processing conditions for test specimens</b>				
C Injection molding-Melt temperature		°C	ISO 294	240
C Injection molding-Mold temperature		°C	ISO 294	70
C Injection molding-Injection velocity		mm/s	ISO 294	240

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.

### Disclaimer

#### Disclaimer for sales products

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#### Test values styrenics

Unless specified to the contrary, the values given have been established on standardised test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the colouring. This is valid especially for CTI.

#### 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. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

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TABELLA COMPARATIVA PROPRIETA' LEGHE DI ZINCO ED ALTRE LEGHE E PLASTICHE TECNICHE

PRESSOCOLATA							COLATA STAMPO	COLATA SABBIA						
380	AZ 91	PA6/6	POM	PC	PC 20%	PPS 40%	356 - T6	319	C83600	C93200	32150	PRESSO COLATA	COLATA STAMPO	COLATA SABBIA
325	220-248	83	69	55 - 66	62 - 72	124	262	185	255	240	345	328	—	—
160	160	—	—	—	—	—	185	125	117	125	224	—	—	—
71	44	2,9	3,6	3,1	2,3	12,5	72	74	83	100	170	—	—	—
3	2 - 5	60	40	10 - 20	110 - 125	0,9	5	2	30	20	10	7	—	—
3 (2)	5	0,53 (3)	0,75 (3)	6,4-8,5 (2)	1,1 (3)	0,7 (3)	8 (2)	4 (2)	15 (2)	8 (2)	54-88 (2)	65,1	—	—
80 - 85	75	121 (4)	94 (4)	62-70 (4)	91 (4)	123 (4)	80	70	60	65	110-156	91	—	—
												CARATTERISTICHE MECCANICHE (1)		
												RESISTENZA TRAZIONE MPa		
												RESISTENZA SNERVAMENTO MPa (0,2%)		
												MODULO ELASTICO TRAZIONE GPa		
												ALLUNGAMENTO LINEARE % (5 mm)		
												RESILIENZA J (6,35x6,35 mm Charpy)		
												DUREZZA BRINELL BHN (500 Kg - 10 mm)		

**CONDIZIONI FORNITURA**

Pan: DIMENSIONI / PESO  
mm 615x70x30 - Kg. 7 ca  
mm 560x140x40 - Kg. 11,5 ca

FACENDO SCORRERE L'INTERNO SI POSSONO INDIVIDUARE LE DIVERSE PROPRIETA' DELLE SINGOLE LEGHE DI ZINCO

REFERENZE  
Engineering Properties of Zinc Alloys ILZRO 1/8/88  
High Performance Precision Zinc Castings LYNCH ZI 84 ASME  
Zinc Diecasting vs. Injection Molded Plastics ILZRO ZM 337 25/1/88

- (1) Temperatura ambiente  
(2) = 10x10 mm Charpy  
(3) Izod intagliate (J/cm)  
(4) Rockwell

**CENTRO ITALIANO PROMOZIONE ZINCO**

**ZA4C1**

**NORMAZIONE**

UNI 3717

**ANALISI CHIMICA (%)**

3,9+4,3	Alluminio
0,75+1,25	Rame
0,03+0,06	Magnesio
resto	Zinco
0,03	Piombo max.
0,003	Cadmio max.
0,003	Stagno max.
0,001	Ferro max.
0,006	Cd. Pb. Sn. max.

**CARATTERISTICHE FISICHE**

MASSA VOLUMICA kg/dm <sup>3</sup> (21 °C)	6,7
INTERVALLO DI FUSIONE °C	380-386
COEFFICIENTE DILATAZIONE 10 <sup>-6</sup> K (20-100 °C)	27,4
CONDUTTIVITA' TERMICA W/mK (70 - 140 °C)	108,9
CONDUTTIVITA' ELETTRICA % IACS (20 °C) (1)	26

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(1) 100% IACS = 58 MS/m

**CENTRO ITALIANO PROMOZIONE ZINCO PIOMBO E METALLI ASSOCIATI**  
Piazza L. Cerva, 7 - 00143 ROMA - Tel. (06) 5464.6423 - Fax. (06) 5464.6424

TABELLA COMPARATIVA PROPRIETA' LEGHE DI ZINCO ED ALTRE LEGHE E PLASTICHE TECNICHE

LEGHE ALLUMINIO			LEGHE MAGNESIO	LEGHE RAME		GHISA	PLASTICHE TECNICHE				
319	356 - T6	380	AZ 91	C83600	C93200	32150	PA6/6	POM	PC	PC 20%	PPS 40%
Al - Si 6% - Cu 3,5%	Al - Si 7% - Mg 0,3%	Al - Si 8,5 - Cu 3,5%	Al - 9% - Zn 0,6% - Mn 0,2%	Cu - Sn 5% - Zn 5% - Pb 5%	Cu - Sn 7% - Zn 5% - Pb 7%	Fe-C 2,5%-Mn 0,4%-Si 1,5%	Nylons	Acetal H	Polycarbonates GP	Polycarbonates GR	Polyphenylene Sulphide GR - R4
2,8	2,7	2,7	1,8	8,8	8,9	7,2 - 7,4	1,14	1,42	1,20	1,35	1,67
515 - 605	555 - 615	540 - 595	468 - 596	855 - 1010	855 - 975	>2250	—	—	—	—	—
21,5	21,5	21,8	27	18	18	11,9	40	100	66 - 70	27	16
109	151	96,2	67	72	59	—	0,07	0,37	0,05	0,06	0,08
27	39	27	12	15	12	4,5	—	—	—	—	—

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