CYCOLOY™ Resin CM4300

Europe-Africa-Middle East: COMMERCIAL

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Modulus, 5 mm/min	71300	kgf/cm²	ASTM D 638
Tensile Stress, break, 5 mm/min	100	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Flexural Stress, yield, 2 mm/min	150	MPa	ISO 178
Flexural Modulus, 2 mm/min	6700	MPa	ISO 178
Hardness, Rockwell R	115	-	ISO 2039-2
IMPACT			
Izod Impact, notched, 23°C	8	cm-kgf/cm	ASTM D 256
Multiaxial Impact	112	cm-kgf	ISO 6603
Izod Impact, unnotched 80*10*3 +23°C	31	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	9	kJ/m²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	93	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	90	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	94	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.E-05	1/°C	ASTM E 831
Specific Heat	1440	J/g-°C	ASTM C 351
Thermal Conductivity @ 50 °C	0.2	W/m-°C	ASTM C 177
Vicat Softening Temp, Rate B/120	98	°C	ISO 306
PHYSICAL			
Water Absorption, (23°C/sat)	0.15	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	12	cm³/10 min	ISO 1133

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	3	mm	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	80 - 90	°C
Drying Time	3 - 4	hrs
Maximum Moisture Content	0.01	%
Melt Temperature	250 - 280	°C
Nozzle Temperature	250 - 280	°C
Front - Zone 3 Temperature	250 - 280	°C
Middle - Zone 2 Temperature	240 - 280	°C
Rear - Zone 1 Temperature	230 - 270	°C
Mold Temperature	80 - 100	°C
Back Pressure	0.3 - 0.9	MPa
Screw Speed	30 - 150	rpm

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