

3100 + (z)(f1), ET3113 + (z)(f1), ET3113 + RE (f1),
3105 + (z)(f2), 3107 + (z)(f1), 3108 + (z), ET3117 +
(z)(f1), ET3117 + RE (f1)

File Number: E41613

Yellow Card®



COMPANY

Covestro Deutschland AG [PC Resins]
Chempark
Gebaeude B207
Leverkusen, 51368 Germany

MODEL INFO

Makrolon: 3100 + (z)(f1), ET3113 + (z)(f1), ET3113 + RE (f1), 3105 + (z)(f2), 3107 + (z)(f1), 3108 + (z), ET3117 + (z)(f1), ET3117 + RE (f1)
Polycarbonate (PC), furnished as pellets
+ – Material designations may be followed by a six digit numerical code denoting color.
(z) – Material designation and color code may be followed by up to three letters and/or three numbers (does not include grades which are separately recognized with above material designation and suffix)
(f2) – Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by UL.
(f1) – Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

FLAMMABILITY PROPERTIES	VALUE	TEST METHOD
Flammability		ANSI/UL 94
0.75 to 1.4 mm, Color: ALL	V-2	
1.5 mm, Color: ALL	HB	
3.0 mm, Color: ALL	HB	
6.0 mm, Color: ALL	HB	

ISO/IEC FLAMMABILITY PROPERTIES	VALUE	TEST METHOD
Flammability		IEC 60695-11-10
0.75 to 1.4 mm, Color: ALL	V-2	

1.5 mm, Color: ALL	HB75
3.0 mm, Color: ALL	HB40
6.0 mm, Color: ALL	HB40

ELECTRICAL PROPERTIES	VALUE	TEST METHOD
Hot-wire Ignition (HWI)		UL 746A
1.5 mm	PLC 3	
3.0 mm	PLC 2	
6.0 mm	PLC 0	
High Amp Arc Ignition (HAI)		UL 746A
1.5 mm	PLC 0	
3.0 mm	PLC 0	
6.0 mm	PLC 0	
Comparative Tracking Index (CTI)	PLC 2	UL 746A
Dielectric Strength	23 kV/mm	ASTM D149
High Voltage Arc Tracking Rate (HVTR)	PLC 0	
Volume Resistivity	1.0E+16 ohms·cm	ASTM D257/IEC 60093
High Voltage, Low Current Arc Resistance	PLC 6	

THERMAL PROPERTIES	VALUE	TEST METHOD
Relative Thermal Index - Electrical Strength		UL 746B
1.5 mm	125 °C	
3.0 mm	125 °C	
6.0 mm	125 °C	
Relative Thermal Index - Mechanical Impact		UL 746B
1.5 mm	115 °C	
3.0 mm	115 °C	
6.0 mm	115 °C	
Relative Thermal Index - Mechanical Strength		UL 746B
1.5 mm	125 °C	

3.0 mm	125 °C
6.0 mm	125 °C

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Dimensional Change	0.0 %	ASTM D1042/ISO 2796
UV Exposure & Water Immersion	f2 f1	UL 746C

Report Date: 1969-08-22
Revision Date: 2021-09-23

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2021 UL LLC"