
ELECTRICAL & ELECTRONIC APPLICATION PROFILE

Terminal Block

Ascend Performance Materials' high-performance nylon 6,6 compounds are ideal for electrical and electronic (E&E) applications. With over 150 grades with more than 100 UL approvals and VDE recognition, Vydyne® grades for E&E applications are designed to meet ever stricter regulatory requirements, including fire and safety standards. Vydyne grades provide superior mechanical and thermal performance while maintaining dimensional integrity, and exhibit excellent flow and moldability for complex designs.

Products Used: ECO366, ECO366H

Application Description

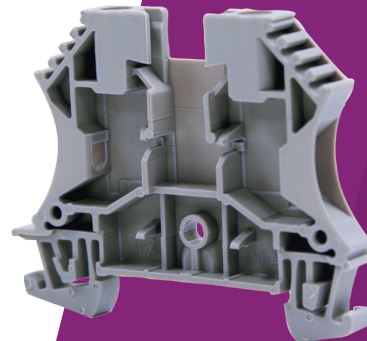
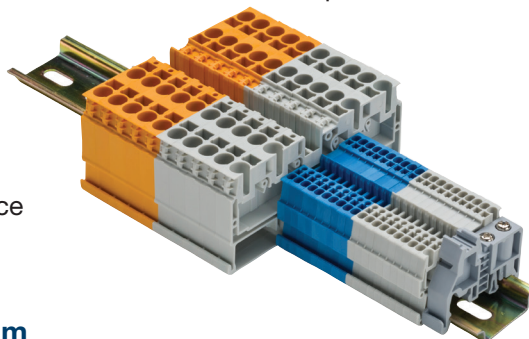
As electrical systems become more integrated and complex, terminal blocks become a critical part of managing the flow of electricity. Used to connect, ground or terminate circuits, terminal blocks must meet strict safety and reliability standards. Materials used to make terminal blocks must have electrical insulation, fire resistance, glow-wire and heat stability properties. Furthermore, terminal block design has become more intricate to accommodate new spaces and uses. As such, manufacturers need to rely on materials with excellent flow and strength, even at thinner gauges.

Benefits

- UL94 V-0 rating
- Electrical tracking resistance (CTI)
- Dielectric strength
- Superior flow
- Non-halogenated
- Temperature resistance
- Chemical resistance

The Vydyne Difference

Vydyne PA66 products expand your manufacturing possibilities so you can push application limits further. Superior flow makes it possible to mold thinner wall sections for smaller parts without sacrificing strength or toughness. Vydyne quality can also lower costs by reducing cycle times and injection-molding reject rates. For non-halogenated electronic applications, ECO366H meets the challenge without losing processing performance.



Application Requirements

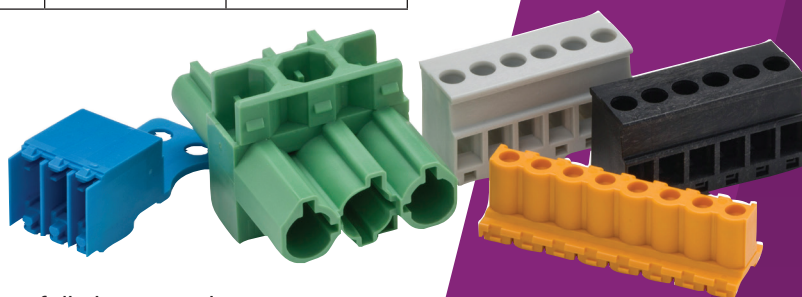


Properties	UL Performance Level Category Rating			
	V0	V2	V2	HB
Hot Wire Ignition (HWI)	4	3	2	2
High Current Arc Ignition (HAI)	3	2	2	1
Comparative Tracking Index (CTI)	3	3	3	3
PA66 RTI electrical	105 °C minimum	105 °C minimum	105 °C minimum	105 °C minimum

Product Properties

ECO366, ECO366H				
Property*	Test Method	Units	ECO366	ECO366H
Density	ISO 1183	g/cm ³	1.17	1.17
Tensile Strength @ Break	ISO 527-2	MPa	83	83
Tensile Elongation @ Break	ISO 527-2	%	5	5
Notched Charpy Impact @ 23°C	ISO 179/1eA	kJ/m ²	3.4	3.4
Notched Charpy Impact @ -30°C	ISO 179/1eA	kJ/m ²	3.7	3.7
Flammability	UL 94	NA	V0 @ 0.4 mm	V0 @ 0.2 mm
RTI Electrical	UL 746B	°C	120 @ 0.4 mm	150 @ 0.4 mm
RTI Strength	UL 746B	°C	105 @ 0.4 mm	130 @ 0.4 mm
Dielectric Strength	IEC 60243	kV/mm	20	20
Volume Resistivity	IEC 60093	ohm/cm	1.0 E+19	1.0 E+19

*Dry as molded (DAM)



Ascend Performance Materials is the world's largest fully integrated producer of nylon 6,6 resin. We manufacture and reliably supply world-class plastics, fibers and chemicals that are used in thousands of everyday applications such as car parts, electronics and cable ties.

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