



HIGH SPEED SOLUTIONS

DOMO EN 45545-2 and NFPA 130
Certified solutions for railway applications

All materials used in rail vehicles nowadays, must follow the EN 45545-2 standard (in Europe) or/and NFPA 130 standard (in USA) to achieve the highest possible level of safety in the event of a fire. The standard affects manufacturers of rail vehicles including high speed trains, regional trains, subways and trains in industrial transportation.

Polyamide's intrinsic flammability properties make it the ideal material for electrical devices and equipment with high risk of fire. When combined with flame retardant additives, polyamide achieves the most demanding levels of fire and electrical resistance and also "safe smoke" (not toxic and clear enough), providing an optimal response to increasingly rigorous safety standards.

Our TECHNYL® and DOMAMID® brands offer a variety of solutions for this specific transportation segment, including PA6, PA66 and co-polymers-based products. The portfolio lists flame retardant solutions, fast cycle, excellent stiffness, high fluidity and high temperature performances, as well as high hydrolysis-, chemical and fuel barrier resistance, for many applications like insulating parts for electrical, structural and interior components, rail insulation plates and much more.

TECHNYL-DOMAMID RAILWAY CERTIFICATIONS / EUROPEAN STANDARD

EN 45545-2: Fire protection on railway vehicles - Requirements for the behavior of materials and components

PRODUCT TYPE	PRODUCT NAME	R22	R23	R24	R25
PA6 FR(30)	TECHNYL® C 50H2	HL3	HL3	HL3	HL3
PA6-GF20 FR(30)	TECHNYL® C 52G1 V20	HL2	HL2		
PA6-GF30 FR(40)	TECHNYLSTAR® S 60G1 V30	HL2	HL3		
	TECHNYLSTAR® S 60X1 V30	HL2	HL3		
	TECHNYLSTAR® XS 1680 (future S 60X2 V30)	HL3	HL3		
	DOMAMID® FR 6G30 V0E	HL2	HL2	HL2	
PA6-MF25 FR(30)	TECHNYL® C 52G4 MZ25	HL2	HL2		
PA6/66 FR(30)	TECHNYL® B 50H1	HL2	HL3		
PA66	TECHNYL® A 205F	HL2	HL2		
	TECHNYL® A 208F	HL3	HL3		
	TECHNYL® A 217	HL2	HL2		
PA66 FR(30)	TECHNYL® A 50H1	HL3	HL3		
PA66+PA6 FR(30)	TECHNYL® A 50X1	HL3	HL3		
PA66-GF15 FR(40)	TECHNYL® A 60G1 V15	HL2	HL3		
PA66-GF25 FR(40)	TECHNYL® A 60G1 V25	HL3	HL3		
	TECHNYL® A 60X1 V25	HL3	HL3		
	TECHNYLSTAR® AF 60SX V25	HL2	HL3		
PA66-GF30 FR(17)	TECHNYL® A 30H1 V30	HL1	HL2		
PA66-GF30 FR(40)	TECHNYL® A 60G1 V30	HL3	HL3		
	TECHNYL® A 60X1 V30	HL2	HL3		
	TECHNYLSTAR® AF 60SX V30	HL3	HL3		
	DOMAMID® FR 66G30 V0E	HL3	HL3	HL3	
PA66-GF35 FR(52)	TECHNYL® A 20 V35	HL2	HL2		
PA66-GF45 FR(40)	TECHNYLSTAR® AFX 60G1 V45	HL2	HL3		
PA66-PET-GF25 FR(52)	TECHNYL® AT 20 V25	HL2	HL2		
PA66/6T-GF30 FR(40)	TECHNYL® ONE J 60X1 V30	HL3	HL3		

<p>REQUIREMENTS:</p> <p>R22 - Interior located products: Seals; Electrotechnical equipments (Supply line system, R23 - Exterior located products: High power devices, choke and coils); Mechanical equipments (Hoses); All not listed products with exposed area ≤0.20m2:</p> <p>R24 R25</p> <p>Electrotechnical equipments (Printed circuit boards)</p>	<p>HAZARD LEVELS:</p> <p>HL3 - highest level of performance HL2 - medium level of performance (represents about 90% of the market with intercity and high speed trains) HL1 - lowest level of performance</p>
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TECHNYL-DOMAMID RAILWAY CERTIFICATIONS / AMERICAN STANDARD

NFPA 130: Standard for fixed guideway transit and passenger rail systems

PRODUCT TYPE	PRODUCT NAME	ASTM E 162	ASTM E 662	ASTM E 1354	SMP 800-C	BSS 7239
PA6-GF20 FR(30)	TECHNYL® C 52G1 V20	OK	OK	/	OK	/
PA6-GF30 FR(40)	TECHNYLSTAR® S 60G1 V30	OK (5mm)	OK (2mm)	OK	OK	OK
	TECHNYLSTAR® S 60X1 V30	OK	OK	/	OK	OK
PA66 FR(30)	TECHNYL® A 50H1	OK	OK	OK	OK	/
PA66+PA6 FR(30)	TECHNYL® A 50X1	OK	OK	/	OK	/
PA66/6T-GF30 FR(40)	TECHNYL® ONE J 60X1 V30	OK	OK	/	OK	/

<p>REQUIREMENTS:</p> <p>ASTM E 162: Standard test method for surface flammability of materials using a radiant heat energy source ASTM E 662: Standard test method for specific optical density of smoke generated by solid materials ASTM E 1354: Standard test method for heat and visible smoke release rates for materials and products using an oxygen consumption calorimeter SMP 800-C: Standard test method for determining toxic gas generation BSS 7239: Standard test method for determining toxic gas generation</p>
