

## EN 45 545 Fire Protection Certificates on Angst + Pfister products



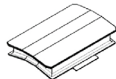

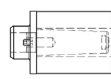

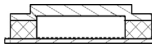
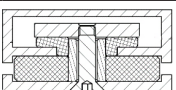

The new pan-European mandatory fire protection standard EN 45 545 unifies the European legal requirements. Published in September 2013 it provides that all material over 100g of weight needs to be subjected to a fire test. EN 45 545 replaces all previously valid national regulations from March 2016 onwards.

The new standard regulates 7 areas, EN 45 545-2 regulates the railway applications - fire protection in railway rolling stock - Part 2: Requirements for fire behavior of materials and components. Already in effect since August 2013, EN 45 545-2 replaces the DIN norm DIN 5510 which expired or was withdrawn as of 31 March 2016.

Until 2023 all railway rolling-stock must be converted to meet EN 45 545-2 requirements. For ongoing projects DIN 5510 will still be applicable until then.

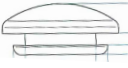
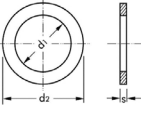
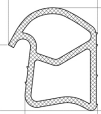
The fire protection regulation NF F 16-101 can still be applied until the end of 2017. With regard to regulations UNI CEI 11170-3 and also BS6853 there is no information available so far.

### APSOvib® Antivibration Technology

Part type		Material	Hardness ShA +/-5	DIN EN 45 545
Antivibration elements for bogies (layer springs, primary buffers, round and stop buffers)		NR	50 ShA	R24: HL2
	 	NR(BR)	70 ShA	R24: HL3
Floor supports		CR	45 ShA	R10: HL2
		CR	49 ShA	R9: HL3, R10: HL3
		CR	70 ShA	R9: HL3, R10: HL3
		EPDM	46 ShA	R10: HL3
Floor supports – Metal Cushion		Metal Cushion		> HL3
Floor supports – PUR – metal		APSOPUR® L55 (12.5 mm)		R10: HL3

In addition to this range of products, we can supply you with special and/or customized products upon request at any time: consult us!

## APSOseal® Sealing Technology

Part type		Production technology	Material	Type	Hardness ShA +/-5 (Density g/cm³)	DIN EN 45 545
Molded parts, molded flat gaskets, O-rings		Compression	EPDM	Compact	60 ShA	R1: HLR2
			EPDM	Compact	70 ShA	R22: HL3, R23: HL3
			VMQ	Compact	40 ShA	R22: HL3, R23: HL3
			VMQ	Compact	70 ShA	R22: HL2, R23: HL3
Flat gaskets		Punching	EPDM	Compact	70 ShA	R22: HL3, R23: HL3
			VMQ	Foam	(0,16 g/cm³)	R22: HL3, R23: HL3
			VMQ	Foam	(0,208 g/cm³)	R22: HL2, R23: HL2
			VMQ	Foam	(0,35 g/cm³)	R22: HL3, R23: HL3
			VMQ	Foam	(0,43 g/cm³)	R22: HL3, R23: HL3
			CR	Foam – closed cells	(0,195 g/cm³)	R24: HL3
Elastomeric profiles		Extrusion	EPDM	Compact	50 ShA	R22: HL2, R23: HL2, R24: HL2
			EPDM	Compact	60 ShA	R22: HL3, R23: HL3, R24: HL3
			EPDM	Compact	65 ShA	R22: HL3, R23: HL3
			EPDM	Compact	70 ShA	R22: HL3, R23: HL3
			EPDM	Compact	75 ShA	R22: HL3, R23: HL3
			EPDM	Compact	77 ShA	R22: HL3, R23: HL3
			EPDM	Foam	(0,8 g/cm³)	R22: HL2, R23: HL2
			EPDM	Foam – mixed closed and open cells	(0,8 g/cm³)	R22: HL2, R23: HL2
			VMQ	Compact	40 ShA	R22: HL3, R23: HL3
			VMQ	Compact	50 ShA	R22: HL3, R23: HL3
			VMQ	Compact	60 ShA	R22: HL3, R23: HL3
			VMQ	Compact	70 ShA	R22: HL3, R23: HL3
			VMQ	Foam – closed cells	(0,35 g/cm³)	R22: HL3, R23: HL3
			VMQ	Foam – closed cells	(0,55 g/cm³)	R22: HL3, R23: HL3

## APSOfluid® Fluid Handling Technology

Part type	Product	Material	DIN EN 45 545
Industrial hoses	Conveyance hose for water	EPDM	R22: HL3 R23: HL3
	Cable protection hose	EPDM and NBR	R22: HL3 R23: HL3
	Cable protection hose	Silicon	R22: HL3 R23: HL3
	Air brake hose	CR	R22: HL3 R23: HL3
Hydraulic hoses	Hydraulic hose Type 2TE	NBR/EPDM	R22: HL3 R23: HL3
	Hydraulic hose Type 1SC	NBR/EPDM	R22: HL3 R23: HL3
	Hydraulic hose Type 2SC	NBR/EPDM	R22: HL3 R23: HL3
	Hydraulic hose Type 1SN	NBR/EPDM	R22: HL3 R23: HL3
	Hydraulic hose Type 2SN	NBR/EPDM	R22: HL3 R23: HL3
	Metal hoses	ASSIWELL® metal hoses	Stainless Steel

## APSOplast® Engineering Plastics Technology

Material	Type	DIN EN 45 545
UP-HLM FR	Hand layup GRP Laminate	R1, R2, R3: HL2
UP-GRP	Pultrusion profile	R1, R2, R3: HL3 R22, R23, R24: HL3
UP-GM 203	Red/white	R1, R2, R3: HL2 R22, R23, R24: HL3
EP-GC 202	Natural, (Yellow/brown)	R7, R17: HL2 R1, R2, R3, R11, R12, R22, R23, R24: HL3
PE-UHMW FR	Black	R7: HL2 R10, R24, R26: HL3
PA 66 FR	Black	R17, R23: HL1 R24, R26: HL3
PA 6 FR	White	R22, R23, R24, R26: HL3
PA 6 FR	Extrusion profile, coloured	R22, R23, R24, R26: HL3
PC FR transp	Transparent, flame-retardant	R4: HL3

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### Contact

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