



Technical information, September 2015

Vivak[®] & Axp[®] Overview fire classifications

Overview classifications:

Contribution to fire	Europe	Germany	France	GB	Italy
not burning	A1 A2	A1 A2	M0	0	0 0
low burning	B C	B1	M1 M2	1	1
normal burning	D E	B2	M3	2 3	2 3
high burning		B3	M4	4	4 5
additional classification	<u>Droplets:</u> d0 - no droplets occur within 600s d1 - no droplets, persisting >10s, occur within 600s d2 - not d0 or d1 or ignites the paper in the ignitability test (EN ISO 11925-2)		nbd = no burning droplets	y : is added to the classification of all thermoplastics if any softening and/or other behaviour occurs, that may affect the flame spread (e.g. class 1y)	
	<u>Smoke:</u> s1 - SMOGRA* ≤ 30 m ² /s ² and TSP600s** ≤ 50 m ² s2 - SMOGRA ≤ 180 m ² /s ² and TSP600s ≤ 200 m ² s3 - not s1 or s2 * SMOGRA: Smoke Growth Rate ** TSP600s: Total Smoke Production within 600s				

Europe, EN 13501-1	Thickness (mm)					
	2	3	4	5	6	8
Vivak [®] clear 099	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0
Vivak [®] all colors	B-s2,d0	B-s2,d0	B-s2,d0	B-s2,d0	B-s2,d0	
Vivak [®] UV clear 2099	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0
Vivak [®] UV all colors	B-s2,d0	B-s2,d0	B-s2,d0	B-s2,d0	B-s2,d0	
Vivak [®] Design clear 099	B-s1,d0	B-s1,d0	B-s1,d0	B-s1,d0		

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Germany, DIN 4102, B-Classifications														
Thickness (mm)	0.5	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12
Vivak [®] clear 099 (indoors)	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
Vivak [®] all colors	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
Vivak [®] UV clear 2099						B1	B1	B1	B1	B1	B1	B1	B1	B1
Axpet [®] clear 099 (indoors)			B1	B1	B1	B1	B1	B1	B1	B1	B1			
Axpet [®] NR clear 099			B1	B1	B1	B1								
Axpet [®] white 130				B1	B1	B1	B1	B1	B1					

Germany, DIN 5510, Preventive fire protection in railway vehicles						
Thickness (mm)	1	2	3	4	5	6
Vivak [®] clear 099		S4, SR2, ST2	S4, SR2, ST2	S4, SR2, ST2	S4, SR2, ST2	S4, SR2, ST2
Axpet [®] clear 099	S4, SR2, ST2					
Axpet [®] NR clear 099	S4, SR2, ST2					

S = Fire behaviour:

S4 : damaged length <20 cm

S3 : damaged length <25 cm

S2 : damaged length <30 cm

SR = Smoke development

SR2 : Integral of light reduction <50% min

SR1 : Integral of light reduction <100% min

ST : Burning droplets

ST2 : no droplets or no burning droplets

ST1 : burning droplets

Germany, DIN 5510 part 2 Smoke toxicity appendix FED (tzul 30 min) < 1 passed (X)															
Thickness (mm)	0.5	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	15
Vivak [®] clear 099									X						

France, NF P 92-501, -504 & -505 (M-classification), NF F 16-101 & -102 (F-classification)															
Thickness (mm)	0.5	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	15
Vivak [®] clear 099						M2	M2	M2	M2	M2					
Axpet [®] white 130	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1
Axpet [®] NR clear 099			M2	M2	M2	M2	M2	M2	M2						

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UK, BS 476, part 7															
Thickness (mm)	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	15	
Vivak [®] clear 099					1Y				1Y					1Y	
Vivak [®] UV clear 2099					1Y								1Y		
Vivak [®] UV white 2130					1Y					1Y					
Vivak [®] Design clear 099					1Y				1Y						
Axp [®] clear 099				1Y						1Y					

Italy, CSE RF 2/75/A & 3/77 acc. to DM 26/6/1984															
Thickness (mm)	0.5	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	
Vivak [®] clear 099						Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1			
Vivak [®] all colors						Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1			

Attention: these classifications are only valid for wall applications

USA, UL 94															
Thickness (mm)	0.5	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	
Vivak [®] clear 099	HB	HB	HB	HB	HB	HB	HB	V2	V2	V2	V2	V2	V2	V2	

Note: classifications based on classification of the resin

Belgium, NBN S 21-203, acc. to BS 476 part 7															
Thickness (mm)	0.75	0.8	1	1.5	2	2.5	3	4	5	6	8	10	12	15	
Vivak [®] clear 099					A1				A1					A1	
Vivak [®] UV clear 2099					A1								A1		
Vivak [®] UV white 2130					A1					A1					
Vivak [®] Design clear 099					A1				A1						
Axp [®] clear 099				A1						A1					

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