

**Technical information, June 2010**

**Vivak® & Axpert®**  
Overview fire classifications

**Overview classifications:**

Contribution to fire	Europe	Germany	France	GB	Italy
<b>not burning</b>	A1	A1	M0	0	0
	A2	A2			0
<b>low burning</b>	B	B1	M1	1	1
	C		M2		
<b>normal burning</b>	D	B2	M3	2	2
	E			3	3
<b>high burning</b>		B3	M4	4	4
<b>additional classification</b>	<b>Droplets:</b> 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) <b>Smoke:</b> s1 - SMOGRA* ≤ 30 m <sup>2</sup> /s <sup>2</sup> and TSP600s** ≤ 50 m <sup>2</sup> s2 - SMOGRA ≤ 180 m <sup>2</sup> /s <sup>2</sup> and TSP600s ≤ 200 m <sup>2</sup> s3 - not s1 or s2 * SMOGRA: Smoke Growth Rate ** TSP600s: Total Smoke Production within 600s		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)	

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	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
Vivak® Design clear 099						B1	B1	B1	B1	B1				
Vivak® Design all colors						B1	B1	B1	B1	B1				
Axpert® clear 099			B1	B1	B1	B1	B1	B1	B1	B1	B1			
Axpert® NR clear 099			B1	B1	B1	B1								
Axpert® 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
Vivak® UV clear 099		S4, SR2, ST2				
Axpert® clear 099	S4, SR2, ST2					
Axpert® 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

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					
	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1
Vivak® UV clear 2099						M2	M2	M2	M2	M2					
						F1	F1	F1	F1	F1	F1	F1	F1	F1	
Vivak® UV white 2130						M2	M2	M2	M2						
						F1	F1	F1	F1						
Axpert® clear 099			M2	M2	M2	M2	M2	M2	M2	M2	M1				
			F1	F1	F1	F1	F1	F1	F1	F1	F1				
Axpert® white 130						M2	M2	M2	M2						
				F1	F1	F1	F1	F1	F1						
Axpert® 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					
Axpel® 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					
Axpel® clear 099				A1						A1				

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axpet®



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