

EN 45545-2: SET OF MATERIAL REQUIREMENTS



Requirement set	Test Standard	Max or Min	HL1	HL2	HL3
R1	ISO 5658: CFE kW/m²	Min	20 ^a	20 ^a	20 ^a
	ISO 5660-1: 50 kW/m² MARHE	Max	-	90	60
	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	600	300	150
	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	1200	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5658: CFE kW/m²	Min	13 ^a	13 ^a	13 ^a
	ISO 5660-1: 50 kW/m² MARHE	Max	-	-	90
	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	600	300	150
R2	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	1200	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5658: CFE kW/m²	Min	13 ^a	13 ^a	13 ^a
	ISO 5660-1: 50 kW/m² MARHE	Max	-	-	-
R3	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	-	480	240
	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	-	960	480
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	EN ISO 11925-2: 30 sec flame	Max	150 mm	150 mm	150 mm
R4	EN ISO 11925-2: 30 sec flame	no flaming droplets			
	EN ISO 5658-2: CFE kW/m²	Min	13	13	13
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	EN ISO 11925-2: 30 sec flame	Max	150 mm	150 mm	150 mm
R5	ISO 5660-1: 25 kW/m² MARHE	Max	50	50	50
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	250	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5660-1: 50 kW/m² MARHE	Max	90	90	60
R6	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	600	300	150
	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	1200	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5658: CFE kW/m²	Min	20 ^a	20 ^a	20 ^a
R7	ISO 5660-1: 50 kW/m² MARHE	Max	-	90	60
	EN ISO 5659-2: 50 kW/m² D ₃ max	Max	-	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	-	1.8	1.5
	EN ISO 9239-1: CHF kW/m²	Min	4.5	6	8
R8	ISO 5660-1: 25 kW/m² MARHE	Max	-	50	50
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	-	600	300
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	-	1.8	1.5
	ISO 5660-1: 25 kW/m² MARHE	Max	90	90	60
R9	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	-	600	300
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	-	1.8	1.5

Requirement set	Test Standard	Max or Min	HL1	HL2	HL3
R10	EN ISO 9239-1: CHF kW/m²	Min	4.5	6	8
	ISO 5660-1: 25 kW/m² MARHE	Max	-	-	-
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
R11	ISO 5658: CFE kW/m²	Min	30 ^a	30 ^a	30 ^a
	ISO 5660-1: 50 kW/m² MARHE	Max	90	90	60
	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	600	300	150
	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	1200	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5658: CFE kW/m²	Min	40 ^a	40 ^a	40 ^a
	ISO 5660-1: 50 kW/m² MARHE	Max	60	60	60
	EN ISO 5659-2: 50 kW/m² D ₄ (4)	Max	600	300	150
R12	EN ISO 5659-2: 50 kW/m² VOF ₄	Max	1200	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	1.2	0.9	0.75
	EN ISO 13501-1: Euroclasse	Min	A1	A1	A1
	ISO 5658: CFE kW/m²	Min	13 ^a	13 ^a	13 ^a
R13	ISO 5660-1: 50 kW/m² MARHE	Max	-	90	60
	EN ISO 5659-2: 50 kW/m² D ₃ max	Max	-	600	300
	EN ISO 5659-2: 50 kW/m² CIT _G	Max	-	1.8	1.5
	EN ISO 9705-2: MARHE kW	Max	75	50	20
R17	ISO 5660-1: 25 kW/m² MARHE	Max	50	50	50
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	250	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 5660-1: 50 kW/m² MARHE	Max	90	90	60
R18 ^b	ISO 9705-2: RHR Peak kW	Max	350	350	350
	ISO 5660-1: 25 kW/m² MARHE	Max	75	50	50
	ISO 12952-2: CFE: max. sec	Max	10	10	10
	ISO 5660-1: 25 kW/m² MARHE	Max	50	50	50
R19	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	200	200	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	0.75	0.75	0.75
	ISO 5660-1: 25 kW/m² MARHE	Max	75	50	50
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	300	200
R20	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
	NFX70-100-182 600°C CIT _{NLP}	Max	1.2	0.9	0.75
R21	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	300	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
R22	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
	NFX70-100-182 600°C CIT _{NLP}	Max	1.2	0.9	0.75
R23	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	300	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
R24	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
	NFX70-100-182 600°C CIT _{NLP}	Max	1.2	0.9	0.75
R25	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	300	300	200
	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
R26	EN ISO 5659-2: 25 kW/m² CIT _G	Max	1.2	0.9	0.75
	ISO 4589-2: Oxygen Content %	Min	28	28	32
	EN ISO 5659-2: 25 kW/m² D ₃ max	Max	600	300	150
	NFX70-100-182 600°C CIT _{NLP}	Max	1.2	0.9	0.75

- Where no requirement is specified in the tables of requirements the symbol "-" is inserted

* If flaming droplets/particles are reported according to 5.3.7 during the test ISO 5658-2, or for the special case of materials which do not ignite in ISO 5658-2 and are additionally reported as unclassifiable, the following additional requirements shall be added: **Test to the requirements of EN 11925-2 with 30 s flame application.** The acceptance requirements are: - flame spread < 150 mm within 60s; - no burning droplets/particles.

b - during the test, the flame spread shall not reach the edges of the seat surface or the backrest;

- during the test, the flame height above the highest point of the seat surface shall not exceed 1 000 mm;

- if the peak heat release values are too high for test equipment safety then they are probably too high for passenger safety.

