

## Product data sheet

# Rigips Fire protection Plasterboard 18



**Product description:** Gypsum plasterboard acc. to DIN EN 520, type DFR, made of a special, reinforced gypsum core encased in cardboard.

**Area of application:** For installation of wall- and ceiling systems with fire protection requirements.

						
Anwendung Innenraum	Baustoffklasse A2	Gewicht 14,4 kg/m <sup>2</sup>	Plattendicke 18 mm	Längskante VARIO	Querkante SKF	Wetterfeste Lagerung

## Technical specifications

Parameters	Sign	Value	Unit	Certification
<b>Material</b>				
Type of material		gypsum plasterboard		
<b>Typesetting</b>				
Type		DFR		EN 520
		GKF		DIN 18180
<b>Building material class</b>				
Fire behaviour		A2-s1, d0		EN 13501-1
<b>Edges</b>				
Longitudinal edge		VARIO		
Transverse edge		SKF		
<b>Dimensions</b>				
Thickness	t	18	mm	EN 520
Width	w	1250	mm	EN 520
Length	l	2000	mm	EN 520

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Parameters	Sign	Value	Unit	Certification
<b>Tolerances</b>				
Thickness		±0.5	mm	EN 520
Width		+0/-4	mm	EN 520
Length		+0/-5	mm	EN 520
Perpendicularity: deviation per meter of width		≤2.5	mm/m	EN 520
<b>Nominal Weight</b>				
Surface-related mass	≥	14.4	kg/m <sup>2</sup>	DIN 18180
Bulk density	≥	800	kg/m <sup>3</sup>	EN 520

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Parameters	Sign	Value	Unit	Certification
<b>Characteristic strength values</b>				
Bending breaking load - in parallel direction of the board	≥	432	N	EN 520 / DIN 18180
Bending fracture load - in transverse direction of the board	≥	1044	N	EN 520 / DIN 18180
Bending tensile strength - parallel to the fibre (in the transverse direction of the sheet)		2.3	N/mm <sup>2</sup>	Calculated
Bending tensile strength - transverse to the fibre (in the longitudinal direction of the panel)		5.6	N/mm <sup>2</sup>	Calculated
Tensile strengths - across the board fibre (in board transverse direction) approx.		1.0-1.2	N/mm <sup>2</sup>	Gypsum data book
Tensile strengths - in longitudinal direction of board approx.		1.8-2.5	N/mm <sup>2</sup>	Gypsum data book
Modulus of elasticity - parallel to the fibre (in the transverse direction of the board)	≥	2200	N/mm <sup>2</sup>	DIN 18180
Modulus of elasticity - transverse to the fibre (in the longitudinal direction of the panel)	≥	2800	N/mm <sup>2</sup>	DIN 18180
Adhesion strength - of joint filler	≥	0.25	N/mm <sup>2</sup>	EN 13963
Shear strength - of the connection between panel and substructure		NPD	N	EN 520
Shear strength - vertical to the surface approx.		3.0-4.5	N/mm <sup>2</sup>	Gypsum data book
Shear strength - parallel to the surface approx.		2.5-4.0	N/mm <sup>2</sup>	Gypsum data book
Compressive strength - perpendicular to the surface approx.		5-10	N/mm <sup>2</sup>	Gypsum data book
Surface hardness - according to Brinell		10-18	N/mm <sup>2</sup>	EN ISO 6506-1
Improved structural cohesion at high temperatures		approved		EN 520
<b>Heat</b>				
Thermal conductivity	$\lambda_{R,Board}$	0.25	W/(m·K)	EN ISO 10456
Specific heat capacity c at 20°C	c	0.96	kJ/(kg·K)	Gypsum data book
Specific heat capacity	c	0.96	kJ/(kg·K)	EN 12524
Coefficient of thermal expansion at 60% relative humidity approx.		0.013-0.020	mm/(m·K)	Gypsum data book
Limit load by heat (long-term exposure)		max. 50 (short term 60)	°C	Gypsum data book

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Parameters	Sign	Value	Unit	Certification
<b>Humidity</b>				
Moisture expansion when the RH changes by 30% (20°C)		0.015	%	EN 318
Moisture absorption at 20°C, 80% rel. h. approx.»		1.0-2.0	mass-%	Gypsum data book
Moisture absorption at 20°C, 60% rel. humidity approx.		0.6-1.0	mass-%	Gypsum data book
Moisture absorption at 20°C, 40% rel. humidity approx.		0.3-0.6	mass-%	Gypsum data book
Capillary rise of water / immersion time approx. 24 h		20-22	cm	Gypsum data book
Capillary rise of water / diving time approx. 2 h		7-8	cm	Gypsum data book
Capillary rise of water / dive time approx. ½ h		3-4	cm	Gypsum data book
Drying time after 2 h water storage approx.		70	hour(s)	Gypsum data book
Water vapour diffusion equivalent air layer thickness (wet)	$s_{d_{wet}}$	0.07	m	Calculated
Water vapour diffusion equivalent air layer thickness (dry)	$s_{d_{dry}}$	0.18	m	Calculated
Water vapour diffusion resistance factor	$\mu_{wet}$	4		EN ISO 10456
	$\mu_{dry}$	10		EN ISO 10456
<b>Miscellaneous</b>				
Air permeability		$1,4 \cdot 10^6$	$m^3/(m^2 \cdot s \cdot Pa)$	EN 520
pH value		6-9	ph	

### Notes

Storage		Dry Flat and level Shady Air access		
Shelf Life		Unlimited		
Form of delivery		According to Pricelist		
Wast key		170802		

The values listed in this product data sheet only reflect the performance characteristics of the products. In addition, gypsum plaster systems have structural and structural properties, which can be found in our system documentation (e. g. Planen und Bauen).

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