



## DECLARATION OF PERFORMANCE

Nr. 0010\_Knauf\_Diamant\_SX\_12,5\_2023-10-20

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|--|---|
| 1. Unique identification code of the product-type: | <b>Knauf Diamant SX 12,5 mm</b>   |
| 2. Intended use/es:                                | <b>Gypsum plasterboards for load-bearing applications</b>   |
| 3. Manufacturer:                                   | <b>Knauf Gips KG   Am Bahnhof 7   D-97346 Iphofen</b><br>Tel: <b>+49 (9323) 31-0</b><br>Fax: <b>+49 (9323) 31-277</b><br>E-Mail: <b>zentrale@knauf.de</b> |
| 4. Authorised representative:                      | <b>not relevant</b>   |
| 5. System/s of AVCP:                               | <b>System 3</b>   |
| 6. a) Harmonised standard:                         | <b>not relevant</b>   |
| Notified body/ies:                                 | <b>not relevant</b>   |
| 6. b) European Assessment Document:                | <b>EAD 070001-02-0504</b>   |
| European Technical Assessment:                     | <b>ETA – 23/0395:2023-10-20</b>   |
| Technical Assessment Body:                         | <b>OIB Österreichisches Institut für Bautechnik</b>   |
| Notified body/ies:                                 | <b>not relevant</b>   |

### 7. Declared performance/s:

Essential characteristics	Performance	
<b>1 Mechanical resistance and stability</b>		
<b>1. Mechanical actions perpendicular to the gypsum plasterboard</b>		
Bending strength		
- in cross direction $f_{m,\perp,CD,k}$	4,1 MPa	EAD 070001-02-0504
- in machine direction $f_{m,\perp,MD,k}$	8,2 MPa	
Bending modulus of elasticity		
- in cross direction $E_{m,\perp,CD,k}$	4 800 MPa	EAD 070001-02-0504
- in machine direction $E_{m,\perp,MD,k}$	5 700 MPa	
Compressive strength		
- in both directions $f_{c,\perp,MCD,k}$	9,8 MPa	EAD 070001-02-0504
<b>2. Mechanical actions in plane of the gypsum plasterboards</b>		
Shear strength		
- in cross direction $f_{v,II,CD,k}$	4,3 MPa	EAD 070001-02-0504
- in machine direction $f_{v,II,MD,k}$	4,3 MPa	
Shear modulus		
- in cross direction $G_{v,II,CD,mean}$	2 400 MPa	EAD 070001-02-0504
- in machine direction $G_{v,II,MD,mean}$	2 400 MPa	
Compression strength		
- in cross direction $f_{c,II,CD,k}$	8,0 MPa	EAD 070001-02-0504
- in machine direction $f_{c,II,MD,k}$	8,0 MPa	
Compression modulus of elasticity		
- in cross direction $E_{c,II,CD,k}$	6 000 MPa	EAD 070001-02-0504
- in machine direction $E_{c,II,MD,k}$	6 000 MPa	
Tensile strength		
- in all directions $f_{t,II,\alpha,k}$	$MAX \begin{cases} 2,7 - 0,0145 \cdot \alpha \\ 2,0 \end{cases}$	EAD 070001-02-0504
Tensile modulus of elasticity		
- in all directions $E_{t,II,\alpha,mean}$	7 200 MPa	EAD 070001-02-0504



3. Other mechanical actions		
Load bearing capacity of the wall elements	Calculation acc. EN 1995-1-1 and ETA Annex 3	EAD 070001-02-0504
Embedment strength of fastener in boards -in both directions $f_{h,MD,k} = f_{h,CD,k}$	$16 d^{-0,7} t^{0,6}$ 1)	EAD 070001-02-0504
Head pull-through resistance of fasteners in boards	NPD	
Creep $k_{def}$ - Service class 1 - Service class 2	3,0 4,0	
And duration $k_{mod}$ of load		
- permanent action	Service class 1: 0,2 Service class 2: 0,15	EAD 070001-02-0504
- long action	Service class 1: 0,4 Service class 2: 0,3	EAD 070001-02-0504
- medium action	Service class 1: 0,6 Service class 2: 0,45	EAD 070001-02-0504
- short action	Service class 1: 0,8 Service class 2: 0,6	EAD 070001-02-0504
- very short action	Service class 1: 1,1 Service class 2: 0,8	EAD 070001-02-0504
Structure of cohesion of the core at high temperature	Board type F	EN 520
Dimensional stability		
Shrinkage and swelling <sup>2)</sup>	$\delta_{165,85,mean} = 0,18$ mm/m $\delta_{165,30,mean} = -0,16$ mm/m	EAD 070001-02-0504
Density	$\geq 1100$ kg/m <sup>3</sup>	EN 520
Surface hardness	Board type I	EN 520
Static ductility of dowel-type fasteners in boards	NPD	



<b>2 Safety in case of fire</b>		
Reaction to fire		
Gypsum plasterboards for load-bearing applications	A2-s1, d0 (B)	EN 520
<b>3 Hygiene, health and the environment</b>		
Water vapour permeability, $\mu$	15,8 / 8,4	EN ISO 12572
Water absorption of board surface	Board type H1	EN 520
<b>4 Safety and accessibility in use</b>		
Hard body impact resistance	IR = 24,1 mm/mm	EN 1128
<b>5 Protection against noise</b>		
Airborne sound insulation	NPD	
Sound absorption	NPD	
<b>6 Energy economy and heat retention</b>		
Thermal conductivity, $\lambda$	0,37 W/(mK)	EN 12664
Air permability	NPD	
Coefficient of thermal expansion	NPD	
<b>7 Aspects of durability</b>		
Mould resistance	NPD	

1) With d as the (core)diameter of the fastener and for  $1,5 \text{ mm} \leq d \leq 5,5 \text{ mm}$

2) Moisture content during service shall not change to such an extend that adverse deformation will occur

8. Appropriate Technical Documentation  
and/or Specific Technical Documentation: **not relevant**

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by

Iphofen, 2024-10-20

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