



DECLARATION OF PERFORMANCE

Nr. 0010_Diamant_X_18_2016-12-01

1. Unique identification code of the product-type: **Knauf Diamant X 18 mm / ETA-13/0800**
2. Intended use/es: **Gypsum plasterboards for load-bearing applications**
3. Manufacturer: **Knauf Gips KG, Am Bahnhof 7, D-97346 Iphofen, Germany
Tel. +49-9323-31-0, Fax +49-9323-31-277, e-mail Zentrale@knauf.de**
5. System/s of AVCP: **System 3**
6. b) European Assessment Document: **EAD 070001-01-0504: 2016-08**
European Technical Assessment: **ETA 13/0800 – 2016-10-28**
Technical Assessment Body: **OIB Österreichisches Institut für Bautechnik**
Notified body/ies: **TAB Österreich**
7. Declared performance/s:

Essential characteristics	Performance
1 Mechanical resistance and stability	
1. Mechanical actions perpendicular to the gypsum plasterboard	
Bending strength - in transverse direction $f_{m,90,k}$ - in longitudinal direction $f_{m,0,k}$	1.8 MPa 4.4 MPa
Bending modulus of elasticity - in transverse direction $E_{m,90,mean}$ - in longitudinal direction $E_{m,0,mean}$	2100 MPa 3000 MPa
Compressive strength - perpendicular to the grain of the board $f_{c,k}$	7.0 MPa
2. Mechanical actions in plane of the gypsum plasterboard	
Bending strength - in transverse direction $f_{m,90,k}$ - in longitudinal direction $f_{m,0,k}$	1.7 MPa 3.3 MPa
Bending modulus of elasticity - in transverse direction $E_{m,90,mean}$ - in longitudinal direction $E_{m,0,mean}$	900 MPa 1250 MPa
Shear strength - in transverse direction $f_{v,90,k}$ - in longitudinal direction $f_{v,0,k}$	2.1 MPa 2.1 MPa
Shear modulus - in transverse direction $G_{v,90,mean}$ - in longitudinal direction $G_{v,0,mean}$	1900 MPa 1900 MPa
Compression strength - in transverse direction $f_{c,90,k}$ - in longitudinal direction $f_{c,0,k}$	7.0 MPa 7.0 MPa
Compression modulus of elasticity - in transverse direction $E_{c,90,mean}$ - in longitudinal direction $E_{c,0,mean}$	4000 MPa 4000 MPa
Tensile strength $f_{t,a,k}$	1.40 MPa
Tensile modulus of elasticity - in transverse direction $E_{t,90,mean}$	3900 MPa

Essential characteristics (continuation)		Performance
3. Other mechanical actions		
Fasteners - embedding strength $f_{h,k}$ (Diameter of the fastener $d \leq 3,9$ mm)		$40 d^{-0,65}$
Creep - k_{def} - service class 1 - service class 2		3.0 4.0
Duration of load - k_{mod} Load duration class		
- permanent action		service class 1: 0.2 service class 2: 0.15
- long action		service class 1: 0.4 service class 2: 0.3
- medium action		service class 1: 0.6 service class 2: 0.45
- short action		service class 1: 0.8 service class 2: 0.6
- very short action		service class 1: 1.1 service class 2: 0.8
Structure of the cohesion of the core at high temperature (EN 520)		Pass for board type F
Dimensions (EN 520) - board thickness: - width: - length: - squareness:		18 mm \pm 0.7 mm b: +0/-4 mm l: +0/-5 mm ≤ 2.5 mm/m
Dimensional stability – shrinkage and swelling - per 1% variation in rel. humidity:		0.005 to 0.008 mm/m
Density (EN 520)		$\rho \geq 1000$ kg/m ³
Surface hardness (EN 520)		Pass for board type I
2 Reaction to fire		
Gypsum plasterboards for load-bearing applications (EN 520)		Euroclass A2-s1,d0 (B)
3 Hygiene, health and environment		
Vapour permeability - μ (EN ISO 12572)		10 - 11
Water absorption (EN 520) – surface – total		≤ 220 g/m ² ≤ 10 %
4 Energy economy and heat retention		
Thermal conductivity – λ (EN 12664)		0.27 W/(m·K)

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:
ppa. Dr. Markus Biebl
(Head of Research & Development Knauf Group)



At Iphofen, on 2016-12-01