

Cosinus Slide® - Load Transfer Capacity

The table shows the load transfer capacity in [kN/m] of the **Cosinus Slide®** Joint at ULS for plain concrete and a joint opening of 15 mm. The values are based on the following formula which is derived from laboratory testing results in accordance with EN 1990 (EC0).

$$V_{Rd,c} = 0,0525 / \gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 0,80 \cdot h / 1,4 \text{ [kN/m]}$$

with: $\gamma_c = 1,50$ [-]; $k = 1 + (200 / d)^{0,5} \leq 2,0$; $d = h - 60\text{mm}$



Cosinus Slide® - load transfer capacity in [kN/m] (kips/ft)			
Slab height h [mm] (inch)	unreinforced (plain) concrete		
	C25/30 (3600 PSI)	C30/37 (4350 PSI)	C35/45 (5000 PSI)
160 (6 3/8)	45,3 (3,1)	49,6 (3,4)	53,5 (3,7)
170 (6 3/4)	48,1 (3,3)	52,7 (3,6)	56,9 (3,9)
180 (7 1/8)	50,9 (3,5)	55,8 (3,8)	60,2 (4,1)
190 (7 1/2)	53,7 (3,7)	58,9 (4,0)	63,6 (4,4)
200 (7 7/8)	56,6 (3,9)	62,0 (4,2)	66,9 (4,6)
210 (8 1/4)	59,4 (4,1)	65,1 (4,5)	70,3 (4,8)
220 (8 5/8)	62,2 (4,3)	68,2 (4,7)	73,6 (5,0)
230 (9)	65,1 (4,5)	71,3 (4,9)	77,0 (5,3)
240 (9 1/2)	67,9 (4,7)	74,4 (5,1)	80,3 (5,5)
250 (9 7/8)	70,7 (4,8)	77,5 (5,3)	83,7 (5,7)
260 (10 1/4)	73,5 (5,0)	80,6 (5,5)	87 (6,0)
270 (10 5/8)	75,0 (5,1)	82,1 (5,6)	88,7 (6,1)
280 (11)	76,4 (5,2)	83,7 (5,7)	90,5 (6,2)
290 (11 3/8)	77,9 (5,3)	85,3 (5,8)	92,2 (6,3)
300 (11 3/4)	79,4 (5,4)	86,9 (6,0)	93,9 (6,4)

The table only provides the material capacity at ULS (safety: $\gamma = 1,5$). This table does not replace the necessary design check. The design check is available for each project upon request.

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