

## ARMOUR JOINT



### TRADITIONAL JOINT ARMOURING IN BETTER VERSION

### ADVANTAGES

- The strongest joint armouring with 10mm square steel
- The best discrete plate dowel load transfer
- Increased rigidity and strength
- High load transfer from high tensile plate dowels
- Improved locking into concrete compared to shear studs
- Reduced random cracking potential
- Stress relief in concrete
- Increased bearing capacity
- Floor life increased

**FlorCon Rus**

FLOOR INNOVATIONS

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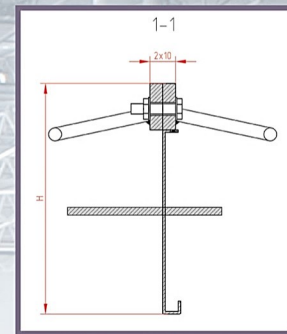
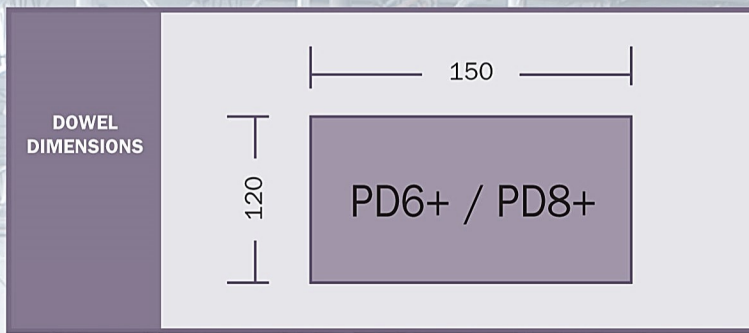
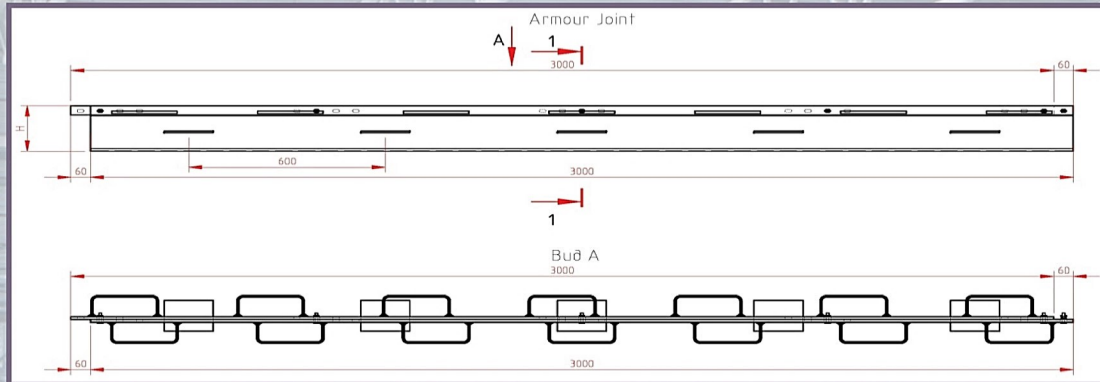


Technical Report 34  
**CONCRETE INDUSTRIAL  
GROUND FLOORS**  
A guide to design and construction

COMPLIANT WITH TR34

# STRUCTURE

# ARMOUR JOINT



## Dowel bearing capacity and load transfer (in accordance with TR34 4-th edition)

For typical concrete slabs, C25/30 concrete grade, joint opening up to 20mm (calculations for unreinforced slab); modulus of subgrade reaction $k_s=0,03 \text{ H/mm}^3$		Bursting, kN		Bending, kN		Max. calculated load transfer within the effective length $2 \times 0,9 \times L^*$	
Slab depth	Dowel type	Dowel	Running meter	Dowel	Running meter	$2 \times 0,9 \times L$ , m	kN
150mm	PD6+	19,2	32,0	44,3	74,0	1,335	43
	PD8+	19,2	32,0	69,8	116,3	1,335	43
200mm	PD6+	31,5	52,5	44,3	74,0	1,657	87
	PD8+	31,5	52,5	69,8	116,3	1,657	87
250mm	PD6+	35,4	58,9	44,3	74,0	1,959	115
	PD8+	35,4	58,9	69,8	116,3	1,959	115
300mm	PD6+	37,6	62,7	44,3	74,0	2,245	140
	PD8+	37,6	62,7	69,8	116,3	2,245	140
350mm	PD6+	42,1	70,2	44,3	74,0	2,521	177
	PD8+	42,1	70,2	69,8	116,3	2,521	177

\* – effective length of the joint participating in load transfer across the joint is  $2 \times 0,9 \times L$  (for the case of a single point load at the joint edge), where  $L$  – radius of relative stiffness depends on slab depth, modulus of subgrade reaction  $k_s$ , concrete strength grade.

This table shows the load at failure in bursting (failure of the concrete) and bending (failure of the dowel) for a joint opening of 20mm. Larger joint openings can be accommodated. The ultimate load has been calculated in accordance with TR34 4-th Edition. For more detailed analysis please contact FlorCon Rus.