

Eurotec[®]

**IMPACT WRENCHES
APPROVAL FOR
WOOD SCREWS**

über
20
JAHRE
Qualität

Impact wrenches - Permissibility for wood screws

Is the installation of screws by means of impact wrenches permissible?

The installation method (continuous rotation or tangential impact) of wood screws is not regulated either by EN 14592 or by the European Technical Assessments (ETA). Especially the setting of long screws is relatively exhausting for the user, so that the question of the admissibility of an impact wrench with tangential impact arises.

To clarify this question, Eurotec wood screws made of carbon steel with a nominal diameter of 8.0 mm were subject of comparative tests. The screws were all installed with rotary drilling and tangential impact. Subsequently, pull-out resistance and tensile strength were tested. This was done in each case with the longest partially and fully threaded screws in the most unfavourable material veneer laminated veneer made of softwood.

It was proven that the installation method has no significant effect on the load-bearing capacity of the screw itself or on the pull-out resistance.

For Eurotec wood screws with partial or full thread made of carbon steel with a nominal diameter of 8.0 mm can therefore be used for installation in solid wood, glulam timber, laminated beams or laminated veneer made of softwoods an tangential impact wrench can be used.



ECO PT

Countersunk head, blue galvanised



Paneltwistec

Countersunk head, yellow galvanised



ECO PT

Flanged button head, blue galvanised



Paneltwistec

Flanged button head, yellow galvanised



KonstruX ST

Countersunk head, blue galvanised



Paneltwistec 1000

Flanged button head, special coated steel



KonstruX ST

Cylinder head, blue galvanised



SawTec

Cylinder head, blue galvanised



Paneltwistec AG

Countersunk head, blue galvanised



Topduo

Flanged button head, specially coated



Paneltwistec AG

Flanged button head, blue galvanised



Topduo

Cylinder head, specially coated

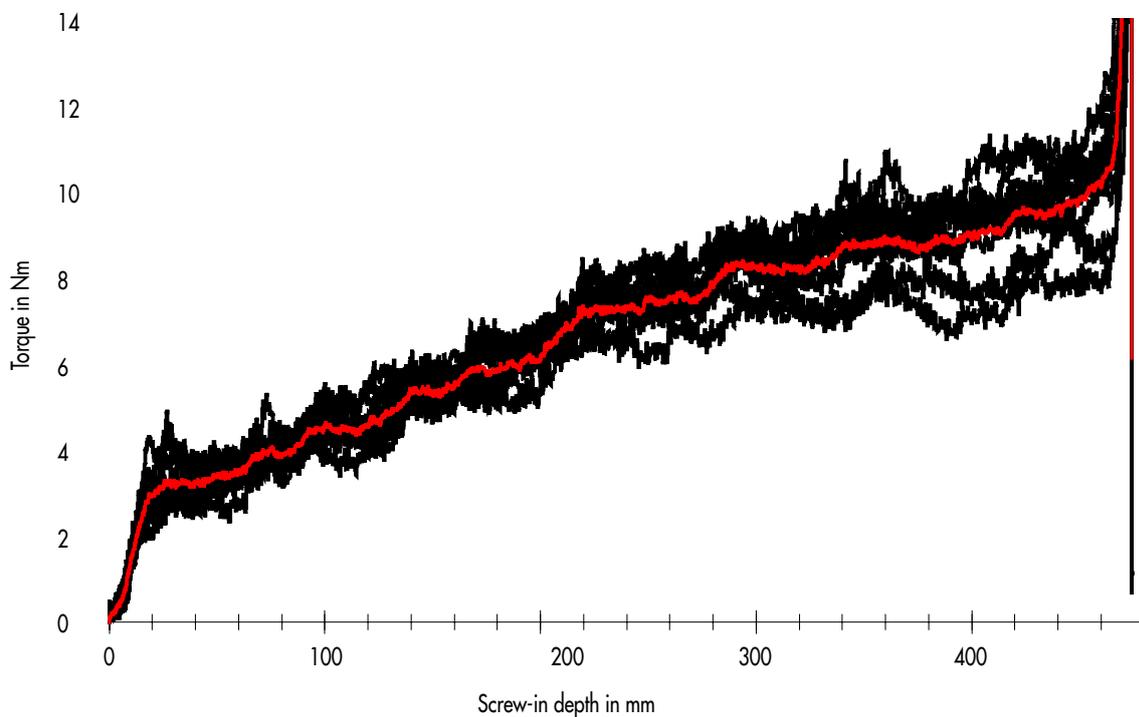


Pull-out resistance made of softwood with $\alpha=90$

	No.	KonstruX 8,0 x 195		PT SK ^{a)} 8,0 x 300 mm	
		Screwdrivers	Impact wrenches	Screwdrivers	Impact wrenches
Individual values [kN]	1	16,4	18,7	13,0	13,4
	2	17,2	18,4	14,4	14,8
	3	15,7	15,6	12,2	12,6
	4	17,1	16,8	13,5	14,0
	5	17,9	21,4	17,6	13,8
	6	15,4	16,0	14,2	15,6
	7	18,8	18,6	12,6	12,5
	8	14,7	13,9	13,5	12,3
	9	17,1	17,4	12,6	12,9
	10	16,1	15,7	15,2	14,6
average value [Nm]		16,6	17,3	13,8	13,7
Standard deviation [Nm]		1,20	2,12	1,61	1,08
coefficient of variation [%]		7,23	12,3	11,6	7,94
Embedment depth [mm]			112		95

a) Panelwister Countersunk-head

Diagram for the screw-in torques KonstruX 8,0 x 480 mm

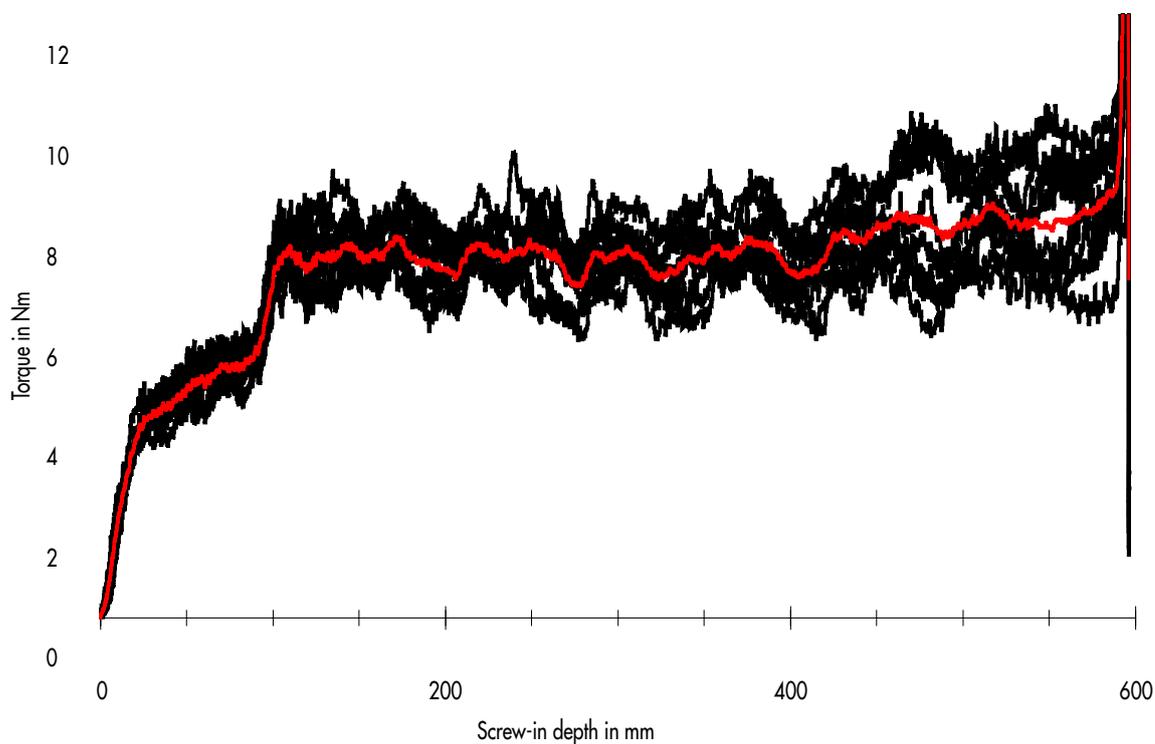


Tensile carrying capacity

	No.	KonstruX 8,0 x 480		PT TK ^{a)} AG 8,0 x 600 mm	
		Screwdrivers	Impact wrenches	Screwdrivers	Impact wrenches
Individual values [kN]	1	31,3	30,8	25,9	26,0
	2	31,3	31,1	26,1	26,2
	3	31,5	31,2	26,2	26,0
	4	31,3	31,2	25,8	25,9
	5	31,2	31,2	25,8	26,1
	6	30,9	31,2	25,6	25,2
	7	31,2	30,6	26,2	25,9
	8	31,2	31,2	26,0	25,7
	9	31,3	31,3	26,2	26,1
	10	31,0	31,3	26,2	26,0
average value [Nm]		31,2	31,1	26,0	25,9
Standard deviation [Nm]		0,152	0,239	0,210	0,286
Embedment depth [%]		0,487	0,767	0,809	1,104

a) Paneltwister: Flanged button-head

Diagram for the screw-in torques Paneltwister TK AG 8,0 x 600 mm



The specialist for fastening technology



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