



## **TITAN** Tie Bars & Accessories

The best anchoring system for your formwork

- inexpensive
- economical
- approved



## TITAN tie bar

- conforming to DIN 18216
- world wide proven Dywidag thread
- hot rolled thread, resistant against damage and hydrogen embrittlement

- self cleaning thread by deformed ribs
- vibration resistant speed thread

### TITAN tie bar 15 and accessories

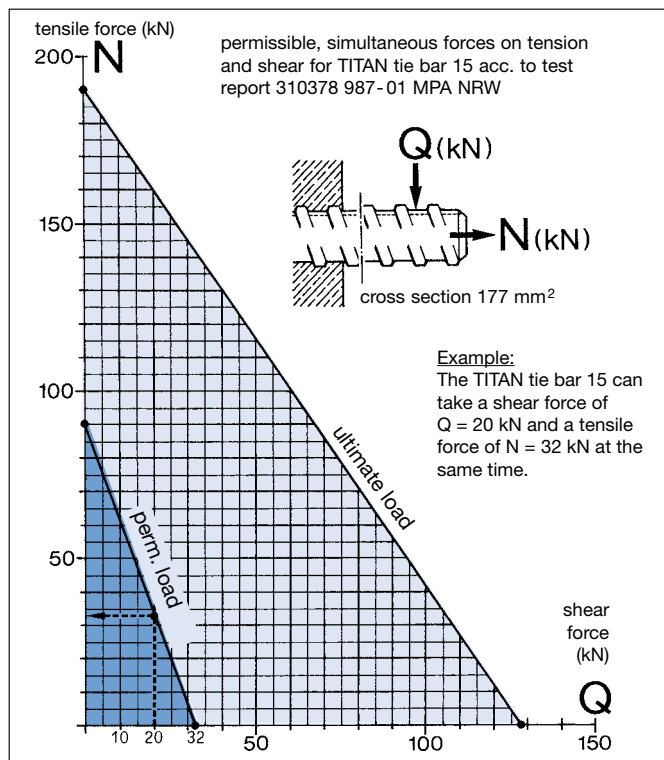
**TITAN TIE BAR 15**, 15 mm across flat sides, 17 mm across thread, black (also available in galvanized, factory (mill) length 6.0 m, approx. 1.44 kg/m.



SWL on tension to DIN 18216	=	90 kN
SWL on shear	=	32 kN
ultimate load	≥	190 kN
yield point	≥	158 kN
elongation at rupture	=	15 %

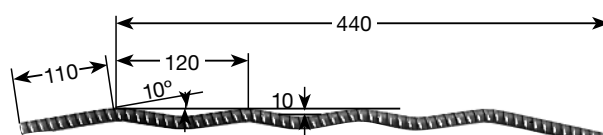
Constant supervising of production and mill certificate acc.




to DIN 50049-2.3



	<b>TITAN HEX. NUT SW 30 x 50</b> material C 35, 50 mm long, 30 mm hex. nut, black 0.2 kg
	<b>TITAN HEX. NUT SW 30 x 35</b> 35 mm long, 30 mm hex. nut, malleable cast iron, to fix corners of formwork panels, max SWL 60 kN, galvanized, 0.14 kg
	<b>TITAN HEX. JOINT NUT SW 30 x 90</b> 90 mm long, 30 mm hex. nut, with center pin, black, 0.39 kg
	<b>TITAN WALER PLATE GP 12/1,0</b> 120 x 120 mm, 10 mm thick, cold formed, galvanized, 1.1 kg
	<b>TITAN THREADED WALER PLATE GWP 12</b> 120 x 120 mm, malleable cast iron, stays on the tie bar and acts as handle, 2 notches hold the plate captive when the form is closed from the opposite side, galvanized, 1.1 kg
	<b>Combi plate 15</b> high quality forging, plate 110 x 145 x 8 mm, wing nut captive to plate, easy to release and runs smoothly on the bar, for battered walls up to 3°, galvanized, 1.0 kg
	<b>Welding Stud 15</b> 130 x 130 x 50 mm, material steel S 355, <b>weldable</b> , for single face forming against sheet piles etc., welding seam to be 4 mm thick to be welded 300 mm all around, black, 0.41 kg
	<b>Steel Cone 15</b> 100 mm long, 30 mm hex. nut, <b>recoverable</b> (to be released within 24 hours), galvanized, 0.65 kg
	<b>TITAN WING NUT 15</b> of malleable cast iron, with hex. body 28 mm, galvanized, 0.3 kg
	<b>TITAN F 70 WASHER-FACED NUT</b> for small panel type formwork, Ø 70 mm base, with 28 mm hex. body, galvanized, 0.45 kg
	<b>TITAN F 100 WASHER-FACED NUT</b> for h. d. panel type formwork, Ø 100 mm base, with 28 mm hex. body, galvanized, 0.78 kg
	<b>Pig Tail Anchor 15</b> overall length 550 mm, made from tie bar 15, black, 0.8 kg

	<b>TITAN WING NUT 15</b> of malleable cast iron, with hex. body 28 mm, galvanized, 0.3 kg
	<b>TITAN F 70 WASHER-FACED NUT</b> for small panel type formwork, Ø 70 mm base, with 28 mm hex. body, galvanized, 0.45 kg
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	<b>V-holder 15</b> for positioning the anchoring loop in the reinforcement
	<b>Anchoring Loop 15</b> made from 1,70 m long tie bar, to fix single face forms onto concrete slabs with min. 200 mm thickness, black, 2.45 kg
	<b>Tie Bar Wrench 15</b> with open jaw, forceful grip, for turning the tie bar 15, (useful tool for waterstop, steel cone, concrete / rock anchors), 1.0 kg
	<b>Friction Spanner 15</b> with insert for wing nuts, combi plate, 500 mm long lever arm, prevents damage of plastic spacers and plywood, prestresses manually to approx. 30 kN, painted / galvanized, 2.0 kg

### Tie bar 26.5 + accessories

SWL 300 kN



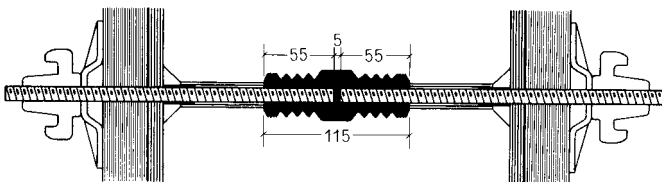
**TIE BAR 26.5**, 26.5 mm across flat sides, 30 mm across thread, black, factory (mill) length 6.0 m, **not weldable**, material St. 950/1050, approx. 4.5 kg/m

	<b>Collar Faced Hex. Nut SW 46 x 55</b> 50 mm long, 55 mm across flats, drop forged, black, 0.5 kg
	<b>Hex. Joint Nut SW 46 x 150</b> 150 mm long, 46 mm hex. nut, with center pin, SWL 300 kN, black, 1.4 kg

### TITAN waterstop 15

for water- and gasproof concrete walls,

- waterproof tested up to 7 bar to DIN 1048 (test report no. 1982/152)
- SWL 90 kN (test report no. 130 178 675-01 MPA Dortmund)
- no need to keep a stock of various lengths of lost center bars, the TITAN waterstop fits to all wall thicknesses
- compact shape prevents vibration and separation of concrete, also prevents cracks during the curing of the concrete
- the grooved surface is designed for sieve 3, size 0 - 16 mm, to DIN 1045
- easier to handle than two-component epoxy



	<b>Adapter for Waterstop 15</b> fits to PVC spacer tube, 22 mm inside Ø
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### Tie bar 20 + accessories

SWL 160 kN, (ultimate load 350 kN)



**TIE BAR 20**, 20 mm across flat sides, 22.5 mm across thread, black, factory (mill) length 6.0 m, **not weldable**, material St. 900/1100, approx. 2.56 kg/m

	<b>Wing Nut 20</b> the world's "easiest to release" and smoothest running wing nut special drop forged steel, 36 mm hex. body, galvanized, 0.45 kg
	<b>Hex. Nut SW 36 x 60</b> black, 0.6 kg
	<b>Anchoring loop 20</b> SWL = 2 x 160 kN, space between ends 300 mm, 5.1 kg
	<b>Water plate 20 GP 10/15</b> 100 x 150 mm, high quality forging, SWL 150 kN, smooth surface, galvanized, 0.7 kg
	<b>Combi Plate 20</b> high quality forging, plate 100 x 150 mm, wing nut captive to plate, easy to release and runs smoothly on the bar, for battered walls up to 3°, galvanized, 1.0 kg
	<b>Waterstop 20</b> 46 mm hexagon, SWL 160 kN, black, 1.17 kg
	<b>Adapter for Waterstop 20</b> fits to PVC spacer tube, 26 mm inside Ø

### TITAN rock anchor 15

To fix single-face formwork to existing concrete walls or to rock (e.g. concrete pile wall)

The tie bar is recoverable

(tested acc. to test report no. 211 055 177 MPA Dortmund)

- If properly applied and prestressed with a hydraulic press the permissible load (SWL) of 90 kN contains a safety factor of 1.75
- large spread of 18 mm for soft rock
- forced spreading via the spring steel brace
- friction area more than 100 cm<sup>2</sup>

length 110 mm, SWL 90 kN, 35 mm (1 3/8") diam. of bore hole, min. depth of hole 230 mm, black, 0.4 kg



### Hydraulic press

with through hole, with pressure gauge and transport box for testing (prestressing) of rock- and concrete anchors

max. pressure 220 kN  
stroke .... 75 mm  
bore diam. 25 mm  
o/a height 130 mm  
weight approx. 17 kg



### TITAN concrete anchor 15

length 120 mm, SWL 90 kN at 30 N/mm<sup>2</sup> concrete strength, 35 mm (1 3/8") diam. of bore hole, min. depth of hole 230 mm, black 0.3 kg



### TITAN-SIS resin cartridge

- consists of 2 components, polyester resin and peroxide hardener, separately packed in plastic hose, at the correct mixing ratio.
- ideal for tension-free fixing of TITAN tie bars or reinforcement bars into concrete, brick-walls or rock.
- reinforcement bars not being positioned during the concrete pour, can be installed later.
- no glas capsule, less dangerous on the jobsite.
- the consistency of the 2 components is like honey, so the material does not flow out of the hole.
- retaining device for overhead fixing is provided with each cartridge.
- reaction takes place even under wet conditions.
- approved under No. 18.43.22-6-19 dd.22.06.1978.

<p><b>1</b></p> <p><math>\text{Ø B} = \text{Ø A} + 6-8 \text{ mm}</math> <math>L = 20 \times \text{Ø A}</math></p>	<p><b>2</b></p> <p>clean hole by water or air flushing</p>
<p><b>3</b></p> <p>feed in the cartridge</p>	<p><b>4</b></p> <p>the slow rotation of the bar ensures the proper mixing of the 2 components</p>
<p>Eyes and hands should be protected properly. A hydraulic press should be used for controlling the sired load.</p>	
<p>the reaction starts after 3 min.* 90 % of the final strength is achieved after 1 hour. Minimum life time for storage at 20°: 6 months. (*shorter reaction times on request)</p>	

	<p><b>Mixing Spring</b> to tie bar 15 for TITAN cartridge 24 mm ø, packing unit 30 pcs.</p>
	<p><b>Adapter</b> adapts the tie bar 15 to standard drilling machines hex. 12 mm, galvanized, 0.20 kg</p>



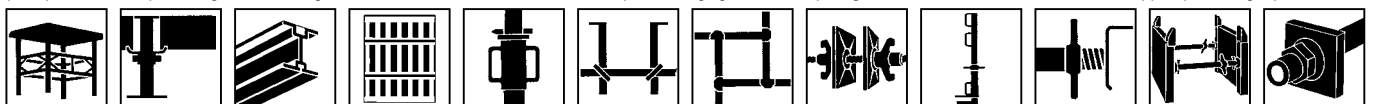
... technically advanced formwork, shoring, trenching and geotechnical systems

DIN EN ISO 9001



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