

DYWI® Drill Hollow Bar System

Basic Concept

The DYWI® Drill Hollow Bar System combines the geotechnical load-bearing system with the creation of a borehole. Thanks to the self-drilling hollow bar system with simultaneous grout flushing, the installation procedure can be decisively eased and shortened.

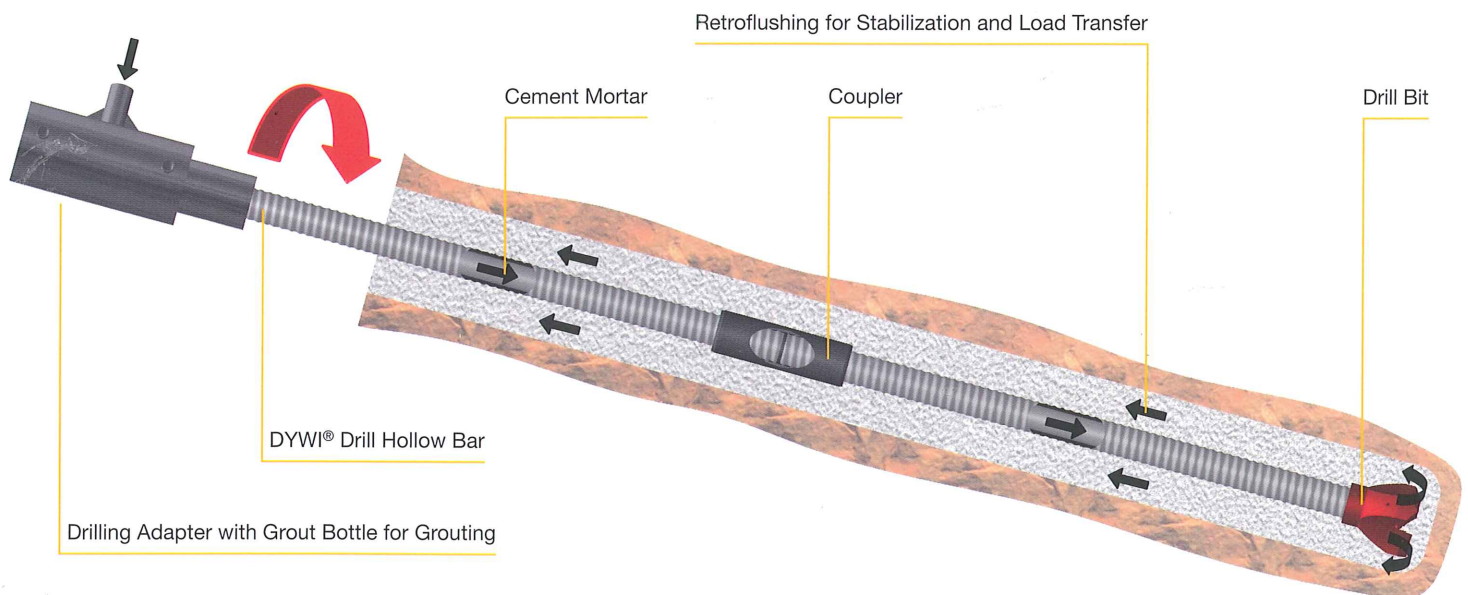
The DYWI® Drill Hollow Bar serves as a drill rod. It is fitted with a lost drill bit at the top that can be adapted to different soil conditions. After each single section of 1 to 6m, the subsequent bar is coupled to the previously installed segment.

At the final stage of drilling, cement mortar is injected into the hollow core of the bar using an injection adapter that is mounted at the drilling unit. The cement mortar exits at the bottom end through the flushing opening in the drill bit. The grout flushing simultaneously serves as slurry to stabilize the borehole and ensures the efficient retroflush of the borehole cuttings.

Once the required installation length has been reached, the grouting unit is switched to grouting mortar because it reaches higher compression strengths and thus ensures better load-bearing capacities. The hollow bar now serves as a steel tendon and can be used both as a soil nail or rock bolt and as a micropile.

DYWI® Drill Hollow Bars are produced in-house in our Center of Competence for Hollow Bars (Pasching, Austria).

The comprehensive DYWI® Drill Hollow Bar System product range offers tendons with ultimate loads from 210kN to 1,900kN including all system components such as drill bits for all soil conditions, couplers, spacers and anchor heads. Additional installation tools such as injection adapters or mortar mixers / pumps are constantly on stock or can be adapted and produced customized or adjusted to job site requirements on short notice.



Fields of Application

- Slope, embankment and rock stabilization
- Excavations without special requirements
- Fixation of rock fall mesh
- Avalanche barriers
- Foundation
- Baseplates

Key Features

- The tendon simultaneously serves as a drill rod
- Extremely fast installation because borehole drilling is made redundant by simultaneous drilling and grouting
- Compact equipment – space saving installation
- Drill bits are available for all varieties of soil and rock
- Can be used as a nail or a pile – many head varieties are available

Additional Information

German Approval DIBt Z-14.4-674 and Z-34.13-208 / Austrian Approval BMVIT-327.120/0010-IV/ST2/2012 / European Approval ETA-12/0603

DYWI® Drill Hollow Bar System

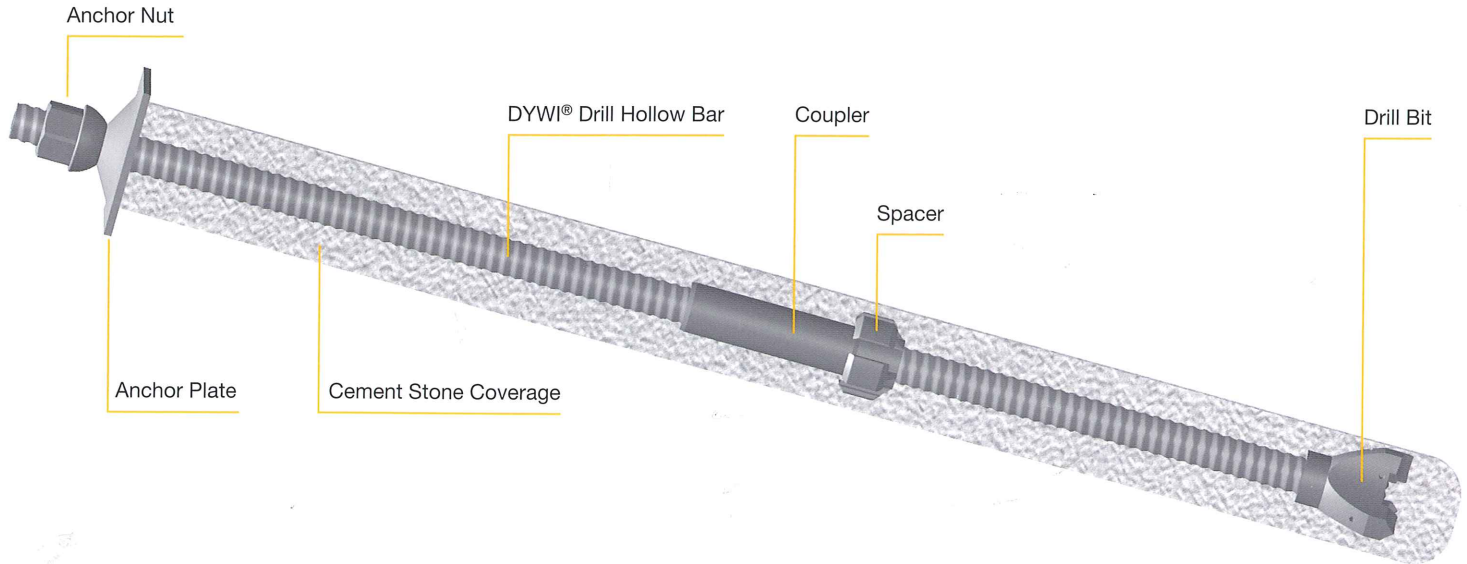
Short Term Bolt / Temporary Bolt

Short Term Bolt with Extended Service Life / Semi Permanent Bolt

- Temporary use of up to two years
- Extended use of up to 50 years after prior agreement of involved experts
- Galvanized design and Duplex Coating available
- Combination with different slope faces such as shotcreting construction, precast concrete elements, mesh or sheet pile walls
- Spacers center the nail inside the borehole and ensure sufficient coverage
- Several varieties are available for angle compensation

Fields of Application

- Temporary slope stabilization
- Temporary embankment stabilization
- Stabilisation of states of construction
- Excavations without special requirements



Technical Data

Type	Cross-sectional area	Load at yield	Ultimate load	Weight	Approval
	A	F_{yk}	F_{tk}		
	[mm ²]	[kN]	[kN]	[kg/m]	
R32-210 (R32L)	340	160	210	2.65	○ × △
R32-250	370	190	250	2.90	○ × △
R32-280 (R32N)	410	220	280	3.20	○ × △
R32-320	470	250	320	3.70	○ × △
R32-360 (R32S)	510	280	360	4.00	○ × △
R32-400	560	330	400	4.40	○ × △
R38-420	660	350	420	5.15	○ × △
R38-500 (R38N)	750	400	500	5.85	○ × △
R38-550	800	450	550	6.25	○ × △
R51-550 (R51L)	890	450	550	6.95	○ × △
R51-660	970	540	660	7.65	○ × △
R51-800 (R51N)	1,150	640	800	9.00	○ × △
T76-1200 (T76L)	1,610	1,000	1,200	12.60	
T76-1600 (T76N)	1,990	1,200	1,600	15.60	
T76-1900 (T76S)	2,360	1,500	1,900	18.50	

Lengths of delivery L = 2/3/4/6m

- Germany: Z-14.4-674 & Z-34.13-208
- × Austria: BMVIT-327.120/0010-IV/ST2/2012
- △ Europe: ETA-12/0603

Additional Information

German Approval DIBt Z-14.4-674 und Z-34.13-208 / Austrian Approval BMVIT-327.120/0010-IV/ST2/2012 / European Approval ETA-12/0603