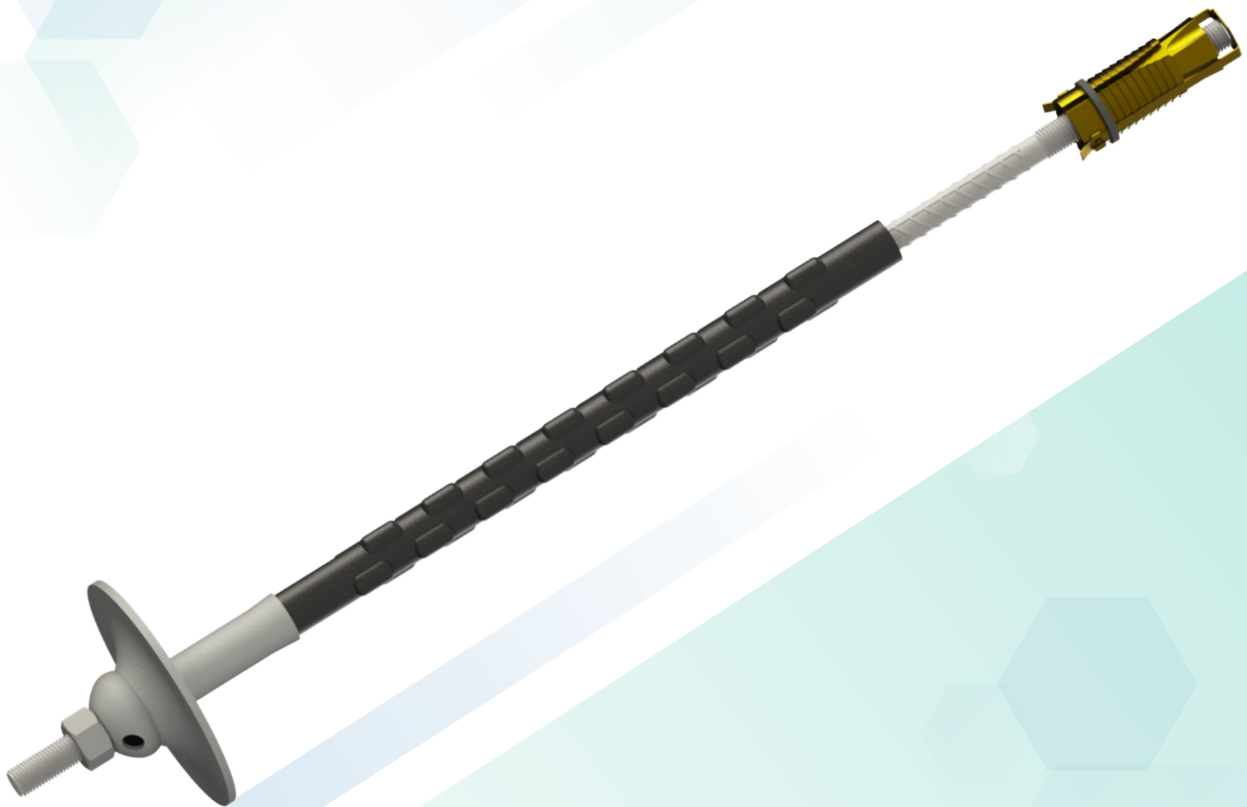




GEOTECH Steel Combination Bolt

Immediate and permanent rock bolting solution



Dextra

About Steel Combination Bolt

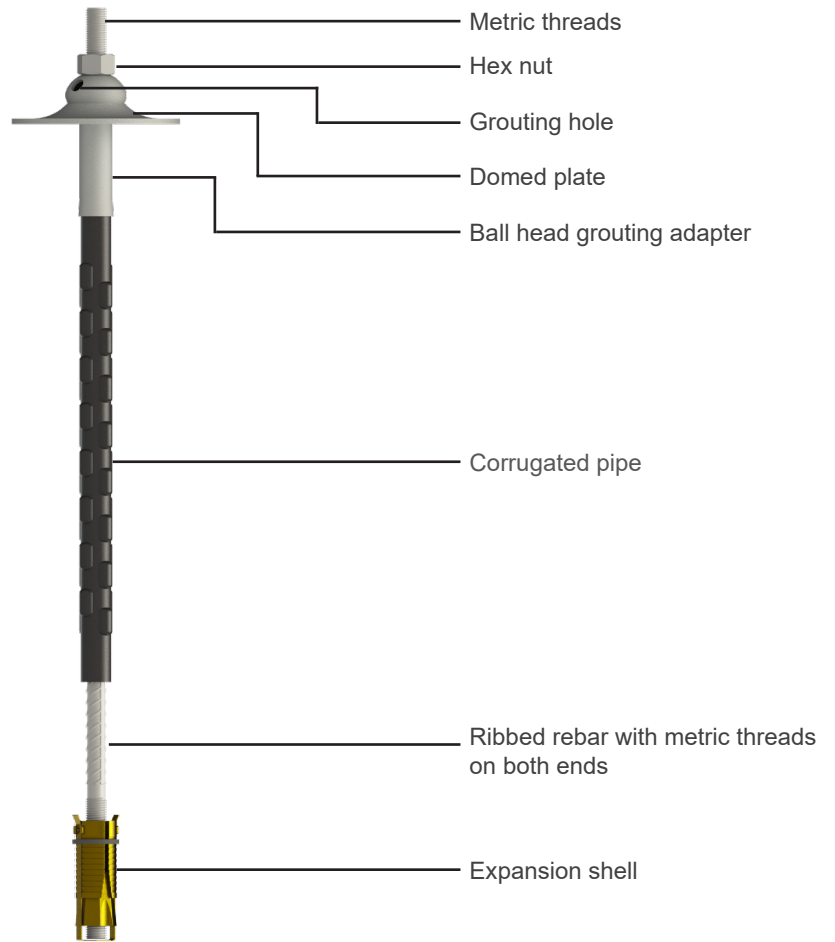
GEOTEC Mechanical Combination Bolt is suitable for the most stringent requirements. A mechanical bolt combined with a corrugated pipe and a double grout layer all along tendon to provide both high bonding and protection against corrosion (similar to Double Corrosion Protection / DCP).

It is initially installed for **immediate support** by the use of an expansion shell, to be fully grouted at a later stage allowing it to be classified as **permanent application**.

Key benefits

- Fast and immediate installation for a high productivity
- Dual anchorage: punctual + full encapsulation
- Suitable for corrosive environment
- Permanent application
- Provide different types of coating to against corrosive environment

Product design & concept



Applications

Permanent roadways



Hydropower and underground oil or gas storage caverns



Sub-sea and sewer tunnels



Technical Information



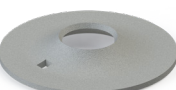


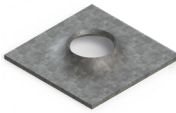


Dimensions							
Thread Size (mm)	Rebar Dia (mm)	Thread length		Grade	Weight (kg/m)	Borehole	
		T1	T2			Dia. (mm)	Depth (mm)
M20 x 2.5	20	150	150	HRB500E	2.47	45 - 48	L + 150
M22 x 2.5	22	150	150	HRB630	2.98	45 - 48	L + 150
M33 x 3.5	32	150	150	HRB500E	6.43	64 - 68	L + 150

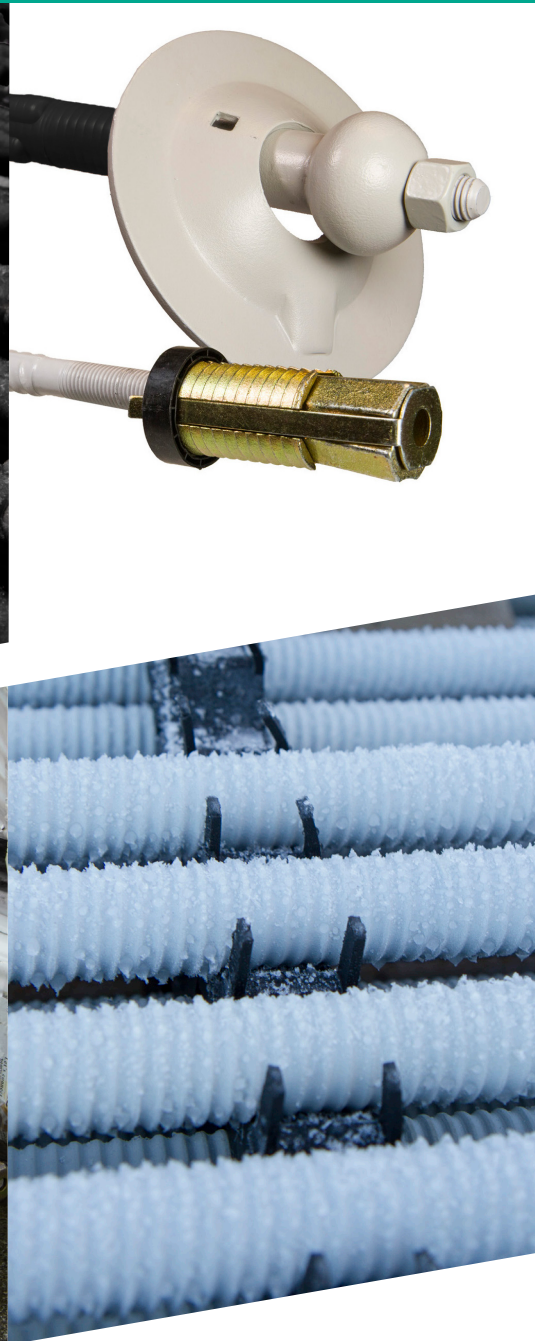
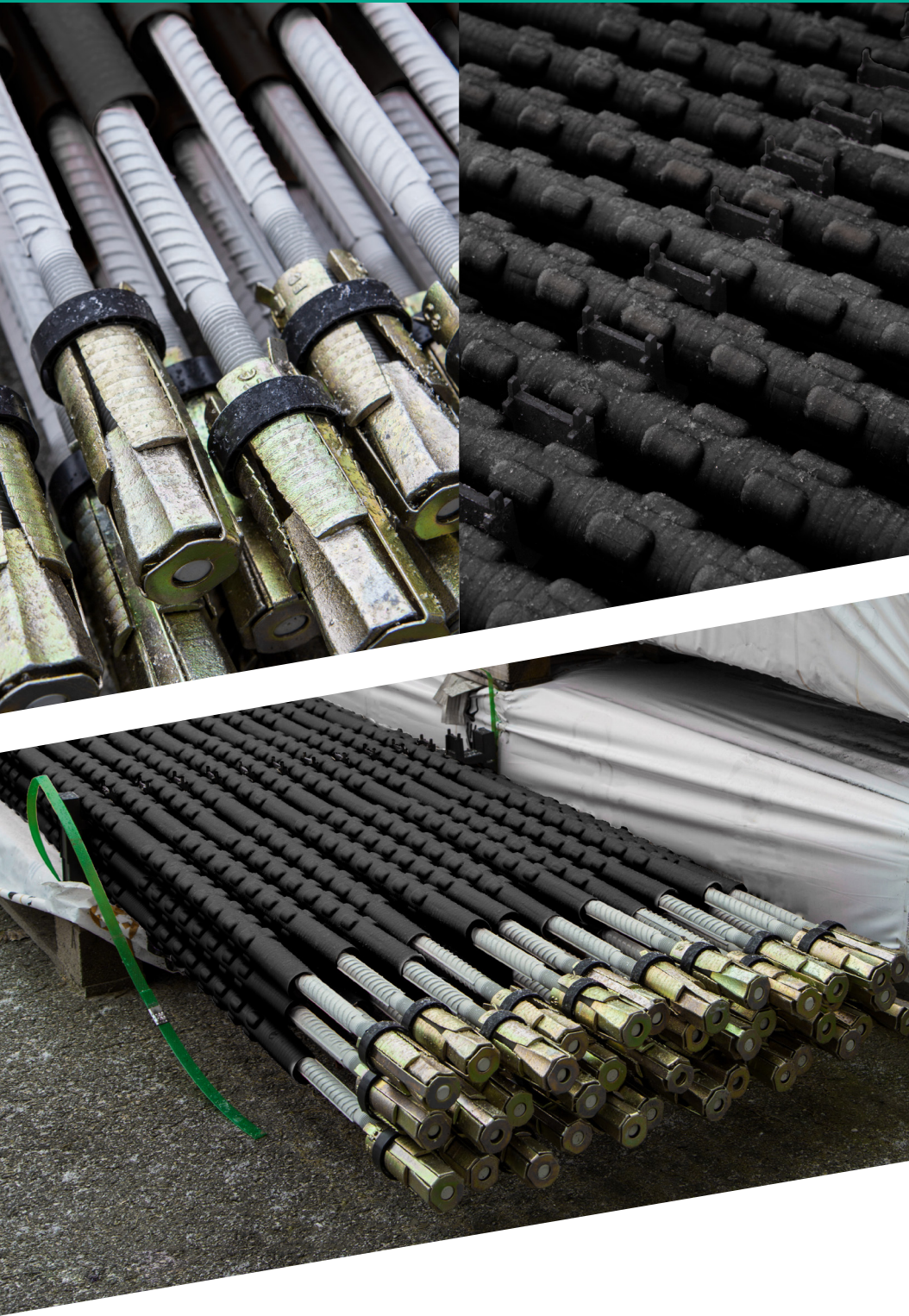
Mechanical Properties					
Thread Size (mm)	Thread Nominal Stress Area (mm ²)	Rebar Cross Sectional Area (mm ²)	Yield stress Reh (N/mm ²)	Tensile stress Rm (N/mm ²)	Ductility Agt (%)
M20 x 2.5	245	314	Min. 500	Min. 600	Min 8%
M22 x 2.5	303	380	Min. 630	Min. 790	Min 7.5%
M33 x 3.5	694	804	Min. 500	Min. 600	Min 8%

System Capacity						
Thread Size (mm)	End Anchored		Fully Grouted		Others	
	Yield (kN)	Failure (kN)	Yield (kN)	Failure (kN)	Torque (Nm)	Pre-tension (kN)
M20 x 2.5	123	147	157	186	150 - 250	40 - 60
M22 x 2.5	191	239	239	300	150 - 250	40 - 60
M33 x 3.5	347	416	402	482	200 - 300	40 - 60

* Other dimensions upon request.

Accessories

	Duplex Coated Nut		Galvanized Flat Plate with Handles
	Duplex Coated Round Plate		Stainless Steel Flat Plate with Handles (Upon request)
	Epoxy Nut		Galvanized Flat Plate without Handles
	Expansion Shell		Stainless Steel Round Plate (Upon request)



Commercial presence
in more than
55 countries



Dextra

**HEADQUARTERS
THAILAND**

Dextra Manufacturing Co.,Ltd.
Tel: (66) 2 021 3800

CHINA

Dextra Building Products (Guangdong) Co.,Ltd.
Tel: (86) 20 2261 9901

HONG KONG

Dextra Pacific Ltd.
Tel: (852) 2511 8236

EUROPE

Dextra Europe SARL
Tel: (33) 1 45 53 70 82

MIDDLE EAST

Dextra Middle East FZE
Tel: (971) 4886 5620

INDIA

Dextra India Pvt.,Ltd.
Tel: (91) 22 2839 2694

NORTH AMERICA

Dextra America Inc.
Tel: (1) 818 261 5166

LATIN AMERICA

Dextra Latam
Tel: (507) 831 1422

BRAZIL

Dextra do Brasil
Tel: (55) 119 7577 8112