infraMOD™
a saskarc company

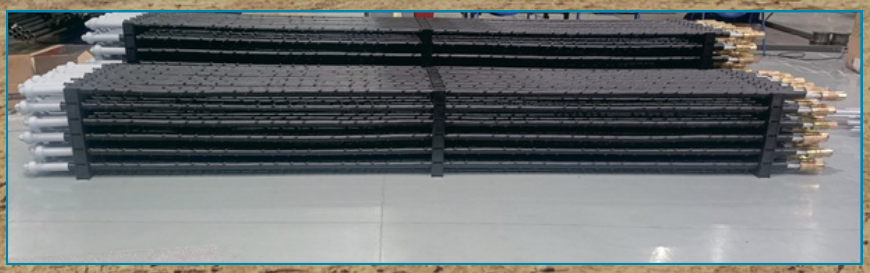
CT-BOLT

POST-TENSIONING ANCHOR SYSTEM

Reliable Anchorage. Superior Performance.







CT-BOLT is infraMOD's combination mechanical anchor bolt — delivering instant point anchorage on installation, with the option to convert to a fully grouted, corrosion-resistant permanent support.

CT-BOLT

POST-TENSIONING ANCHOR SYSTEM

01



EXPANSION SHELL

Provides expansion and anchorage inside the borehole through its frictional grip, ensuring a secure hold.



Rapid anchoring is achieved through the friction between the expansion shell and the hole wall.

Convenient operation and installation, saving time and effort.

02



DOMED-SHAPED GROUTING ADAPTER

Provides a smooth transition for grout flow and protects the anchor end.



Transfer load to the pad.

Serve as grouting hole for grouting.

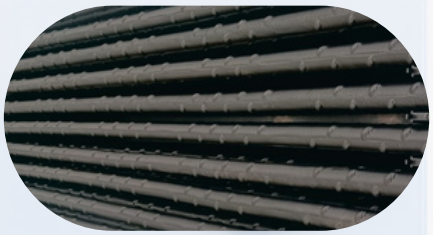
Combine with casing to form grouting pipe-line.

03



POLYETHYLENE SLEEVE

Encapsulates the grout column to prevent leakage and provide corrosion protection.



Increase the anti-corrosion effect of the anchoring system.

Surface bubbles increase the anchoring force of the anchor body.

Pressure-resistant, can be directly connected to the grouting equipment for grouting.

PRODUCT FEATURES

Combination of an **immediate point anchorage** and a **fully grouted** rock bolt.

Corrosion protection **can** be guaranteed by polyethylene sleeve, and the protrusions on the polyethylene sleeve can **center the bolt** in the hole. Anchorage tests have shown that the polyethylene sleeve bubble design provides **excellent pull-out resistance** for the rebar.

Immediate point anchorage and rock reinforcement can be achieved after prestressing on the expansion shell.

Fast installation and flexible post-grouting.

Mechanical installation or manual installation.

Bare steel, **hot-dip galvanizing** or **duplex coating** rock bolt can be chosen (duplex coating combines the advantages of hot-dip galvanized and epoxy coated, and has good corrosion resistance).



PRODUCT PARAMETER

CT-BOLT PERFORMANCE DATA

SPECIFICATIONS

Type	Thread Dimension	Thread Length (mm)	Material	Weight (kg /m)	Borehole Diameter (mm)	Borehole Length (mm)
ϕ20	M20X2.5	150	HRB500E	2.47	45~48	Steel Bar length +0.15m
ϕ22	M22X2.5	150	HRB630E	2.98	45~48	Steel Bar length +0.15m
ϕ25	M24X3.0	150	HRB500E	3.85	46~49	Steel Bar length +0.15m
ϕ32	M33X3.5	200	HRB500E	6.31	64~68	Steel Bar length +0.15m

MECHANICAL PROPERTIES

Type	Steel Bar Thread Cross-sectional Area (mm^2)	Steel Bar Cross-sectional Area (mm^2)	Yield Strength (MPa)	Ultimate Strength (MPa)	Ultimate Load Strain Agt
ϕ20	245	314	500	630	9%
ϕ22	303	380	630	790	9%
ϕ25	353	491	500	630	9%
ϕ32	694	804	500	630	9%

MINIMUM LOAD CAPACITY

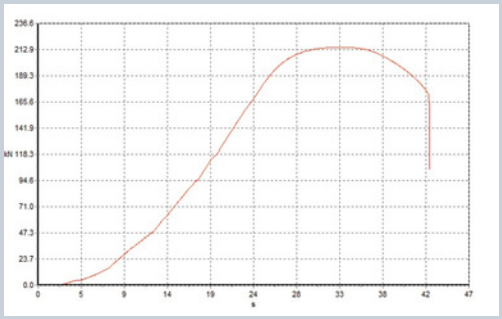
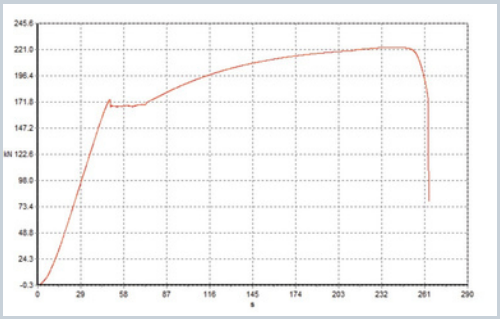
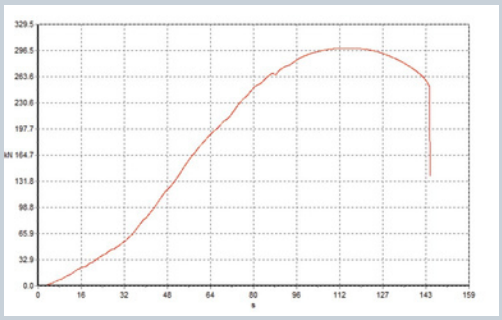
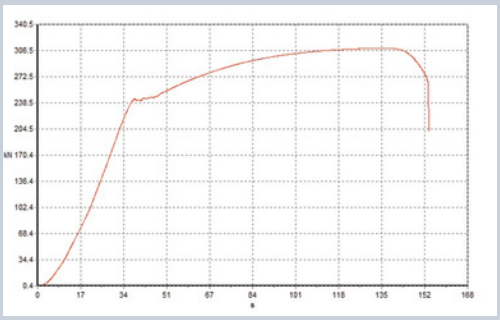
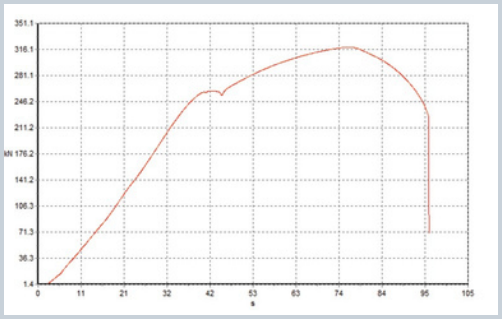
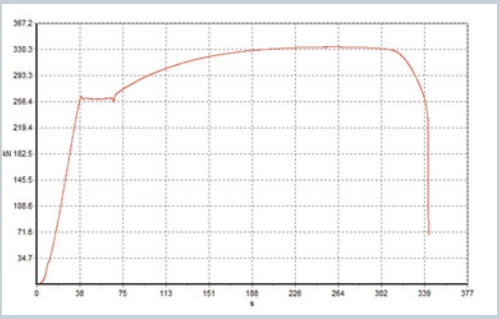
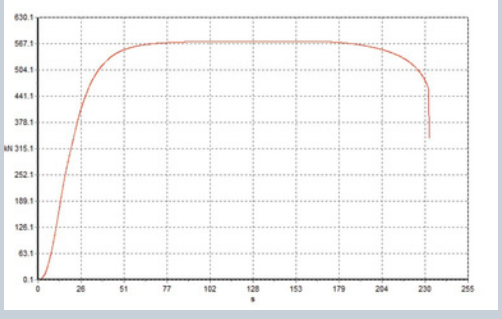
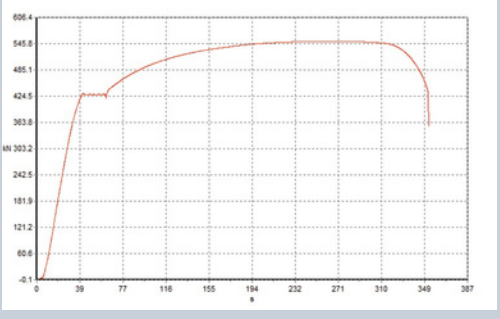
Type	End Anchored		Fully Grouted		Pre-tension (kN)
	Yield Load (kN)	Ultimate Load (kN)	Yield Load (kN)	Ultimate Load (kN)	
ϕ20	123	147	157	198	40~60
ϕ22	191	239	240	300	40~60
ϕ25	177	222	246	309	40~60
ϕ32	347	437	402	507	40~60

CT-BOLT

POST-TENSIONING ANCHOR SYSTEM

DISPLACEMENT & LOAD CHARACTERISTICS

The following chart shows the displacement and load characteristics of various specifications of CT Bolt products in different applications, including **point anchoring** and **full grouting**.

	POINT ANCHORING	FULL GROUTING
M20		
M22		
M24		
M33		

QUALITY CONTROL

The CT bolt manufacturing has a complete and has established a **three-level quality inspection mechanism**, covering the entire cycle from raw materials entering the factory, production and processing, to finished product delivery, to ensure consistent product quality.

infraMOD is a certified ISO9001 company and the products produced can achieve full process traceability.

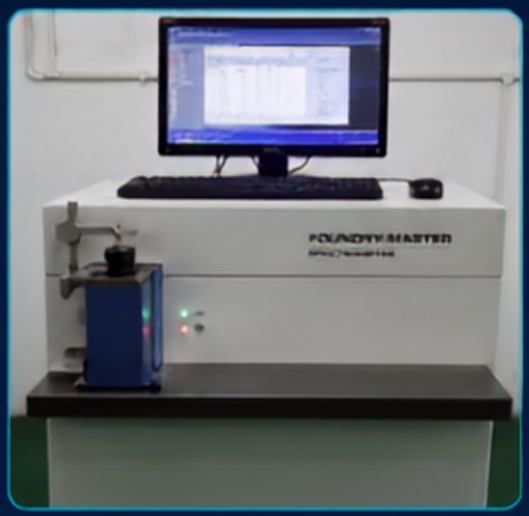
Tensile Testing Machine



Coating Thickness Gauge



Spectrometer



Hardness Tester



APPLICATION AND INSTALLATION

CT BOLT

POST-TENSIONING ANCHOR SYSTEM

CT Bolt is mainly used in geotechnical reinforcement projects such as roadbeds, submarine tunnels, railway tunnels, underground mining and other underground works. CT Bolt is used in areas with moderately good surrounding rock conditions, and can also be used in areas with high crustal stress to prevent rock bursts or advance support for roadways.

01

BOREHOLE DRILLING

Drill holes to the design depth and thoroughly remove drill cuttings and accumulated water.



02

BOLT INSTALLATION

Insert one of the CT Bolt into the pre-drilled borehole. Press the plate firmly against the excavation surface.



03

PRE-STRESSING

Activate the expansion shell with a special wrench or other tools, pre-stressing until it can't be twisted.



04

GROUTING

Connect an injector on adapter to the dome-shaped grouting adapter and then grout. Stop grouting when the grout flows from the vent hole of the domed plate.



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