



INDUSTRIA DE FORTIFICACIÓN MINERA

# Expansion Bolt HIDROTUBE

## Description

Active friction bolt with immediate action. This expansion-type bolt is injected with high-pressure water (250–300 bar). Its main feature is the ability to expand from 29 mm to 42 mm. Thanks to its non-return valve, the water remains inside the bolt, exerting constant radial pressure along the entire length of the borehole.

This interaction allows the bolt to close fractures and discontinuities in the rock mass, providing immediate reinforcement in the form of a beam or arch. The bolt includes a load indicator valve that shows whether the inflation has been correctly performed, serving as verification of proper installation.

The bolt can be installed using manual or mechanized methods.



## Advantages

- ❖ Immediate load-bearing capacity along the entire length of the installed anchor.
- ❖ Safe and simple installation.
- ❖ Adaptable to boreholes of various diameters.
- ❖ Consistent installation quality.
- ❖ Fast installation process.
- ❖ Compatible with high-pressure electric and pneumatic pumps.

## Chemical Composition and Mechanical Properties of the Bolt Body Steel

Standar Grade	Carbon (C) % Máx.	Manganese (Mn) % Máx.	Phosphorus (P) % Máx.	Sulfur (S) % Máx.	Silicon (Si) % Máx.	Minimum Yield Strength (Ton)	Tensile Strength (Ton)	Elongation%
ASTM A1011	0.26	1.2	0.04	0.05	0.4	8.0	9.0 – 11.00	21 - 23

## Especificaciones Técnicas del Producto

Minimum Breaking Load (Ton)	Tube Thickness (mm)	Ø Initial Tube (mm)	Ø Initial Tube (mm)	Ø Injection Bushing (mm)	Ø Recommended Borehole (mm)	Ø Recommended Drill Bit (mm)	Inflation Pressure (Bar)	Weight (Kg/m)
> 11Ton	2.5	42	29	30	36.0 – 38.0	35.5 – 37.5	250 - 300	2.5

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## General Specifications:

The HIDRO TUBO system includes the following complementary elements:

- ❖ A manual high-pressure pump (up to 300 bar).
- ❖ A yellow load indicator to ensure proper installation.
- ❖ Supplied in packs of 10 units, each including a plate.
- ❖ Each pack is labeled with product name, standard, production date, and weight.



## Bearing Plate

- Perforated structural steel plate, ASTM A36.
- Serves as a base for positioning the HIDRO TUBO.
- Bearing plate with a hemispherical dome.

