

HIGH PERFORMANCE TUNGSTEN-CARBIDE BASED HARDFACING



TECHNODUR® TGG

Flexible length on reels for Oxy-acetylene welding
6 to 14 mm thick coatings

Main Application

Oil drilling stabilizers.

The manufacturers of drilling equipment find that TECHNODUR®TGG has the required qualities for ensuring the reliability of their equipment.

Exceptional resistance to abrasion, resistance to impacts, ease of repair, absence of cracking.

Description

TECHNODUR®TGG is a flexible length made of a small diameter nickel core wire with a thick coating.

The coating contains a specially formulated matrix of molten tungsten-carbide particles, blended with a high nickel content alloy.

Characteristics and Properties

1° Tungsten-carbides :

The hardfacing coatings are made with a mixture of tungsten-carbide particles of different sizes.

With TECHNODUR®TGG, the main dimension of the majority of the particles lies between 1.2 and 2.4 mm, with a proportion of secondary particles graded to obtain a compound that is as compact as possible.

2° Bonding Alloy :

Nickel alloy

Hardness : 40-44 HRC

3° Average Expansion Co-efficient :

6 to 7 10^{-6} cm/cm/°C (estimated)

4° Coating Density :

13,6 g/cm³

5° Tungsten-carbide Concentration :

The tungsten-carbide concentration depends upon the space left free by the arrangement of tungsten-carbide particles. It is possible to reduce this space by an appropriate grading of tungsten-carbide. In the course of welding the particles are deposited in a relatively compact arrangement. The excess brazing alloy used to prevent oxidation during welding rises to the surface of the coating, giving it a smooth finish. That is evidence of proper welding and of optimum particle arrangement.

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WEAR PROTECTIONS

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TECHNODUR®TGG provides an optimised concentration of approximately :

$$\frac{\text{Carbide weight}}{\text{Carbide weight} + \text{Alloy}} \times 100 = 68$$

6° Chemical Resistance :

No corrosion has been recorded, even at high temperatures.

Other Typical Applications

- Mixer blades
(ceramic and chemical industries, concrete etc.)
- Armouring (ceramics industry)
- Augers
- Sugar cane mill ribbed cylinders

Application

TECHNODUR®TGG is applied with an oxyacetylene torch. We recommend the use of the Techno 2000 torch, which is simple to use and easy to maintain.

For volume applications, the FD 2000 automatic device increases the hourly coating rate by 20% to 30%, with a corresponding reduction in consumption of welding gas.

It is recommended to spray MB 40 powder over the work surface prior to applying TECHNODUR®TGG (using the Techno 2000 torch).

The surface to be coated should be ground before hardfacing.

Successive layers of TECHNODUR®TGG can easily be welded upon each other.

20 kg coils

Diameters : 6 and 8 mm.

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Z.A. des Marais - BP 51

74410 SAINT-JORIOZ - FRANCE

Tel : +33 (0)4 50 68 56 60

Fax : +33 (0)4 50 68 62 77

E-mail : [technogenia @ wcube.fr](mailto:technogenia@wcube.fr)

Web site : [http : //www.wcube.fr/technogenia](http://www.wcube.fr/technogenia)