

POSTALLOY® Hardband BuildUp MCG

Description

Postalloy® Hardband BU-MCG is a premium manganese, carbon steel metal cored wire for gas shielded arc welding with a very smooth arc transfer. This wire is intended for multi layer build-up of the critical area directly beneath the hardbanding alloy, where compatibility with higher carbon steel chemistries is critical. Modern manufacturing technology ensures the best consistency, in both weldability and feedability. The cleanliness of Postalloy® Hardband BU-MCG contributes to low subsurface porosity and the elimination of lack of fusion or "cold laps". Deposits are crack-free, can be readily machined with high speed and carbide tools and can be flame or plasma cut.

Application

Premium wire for buildup of tool joint directly below the Hardband. Not to be used over full surface of tool joint as the hardness is insufficient.

Weld Deposit Properties

Tensile Strength	91,500	psi
Wire Diameter	1/16"	

POSTALLOY® Tool Joint BuildUp MCG

Description

POSTALLOY® Tool Joint BU-MCG is a Premium Build-Up wire for Rebuilding of Tool Joints.

The rebuilding of tong spaces on a tool joint box or pin is quite similar to traditional hardbanding applications. Careful attention to preheating procedures and temperatures as well as slow cooling during post-welding procedures is critical. Particular attention should be given to inspection of services for cracks using MPI methods. The Data Sheet procedure outlines the basic requirements to successfully rebuild tong spaces with Postalloy® Tool Joint BU-MCG. Some adjustments will be required to accommodate various diameters of tool joints.

*Please note that this procedure will be harmful to the threads of the tool joint and re-cutting of connections will be required.

Application

Premium wire for Box and Pin Tong Space Rebuilding.

Weld Deposit Properties

Using Proper Weld Procedures:
Hardness readings taken will fall
between 28 RC and 35 RC

POSTALLOY® Tool Joint BuildUp SA

Description

POSTALLOY® Tool Joint BU-SA is a premium chrome-moly, medium manganese, carbon steel cored wire for submerged arc welding. The wire is intended for multi-layer buildup of oil drilling tool joints, where compatibility with higher carbon steel chemistries are critical. Modern manufacturing technology ensures the best consistency in both weldability and feedability. The cleanliness of POSTALLOY® Tool Joint BU-SA contributes to low subsurface porosity and the elimination of "lack of fusion" or "cold laps". Deposits are crack-free, can be readily machined with high speed and carbide tools and can be flame or plasma cut.

Application

A premium Low Alloy, Submerged Arc wire for complete Tool Joint Re-Building

Weld Deposit Properties

Using Proper Weld Procedures:	
Hardness on 4137 steel	30-35 Rc.
Wire Diameter	1/8"

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® Tuffband® NC

Description

Postalloy® Tuffband® NC is a high hardness hardband that may be used by itself for casing friendly hardband applications or used as a weld matrix with Tungsten Carbide (WC) when casing protection is not a factor. Hardbanding deposits are NON-CRACKING, providing proper preheat, interpass and cooling temperature procedures are followed. The microstructure consists of a hard, but tough tool steel matrix. Tuffband® NC can be applied over itself without removal.

Applications

A premium casing friendly Hardbanding wire. Can be used with or without Tungsten Carbide.

Weld Deposit Properties

Using Proper Weld Procedures:

Wire Hardness ~55Rc

Wire Diameter 1/16"

Wc Hardness ~76Rc (1550 HV)

POSTALLOY® Duraband® NC

Description

Postalloy® DURABAND® NC is a 100% crack-free hardband that provides maximum protection of the tool joint and casing. DURABAND® NC microstructure consists of a hard, but tough tool steel matrix with a high volume of tightly packed microconstituents. This combination ensures excellent wear resistance in open hole drilling as well as being CASING FRIENDLY. Deposits are smooth and free of any slag. DURABAND® NC can be applied over itself and over TUFFBAND® NC without removal, but only if the surface has been properly cleaned and inspected.

Applications

A premium casing friendly Hardbanding wire. Can be used with or without Tungsten Carbide.

Weld Deposit Properties

Using Proper Weld Procedures:

Wire Hardness ~60Rc

Wire Diameter 1/16"

Microconstituent Hardness 2450 HV

POSTALLOY® Ultraband™ NM

Description

Ultraband™NM is a hard, 100% crack free Hardband designed for non-mag drill collars and related components. Meets magnetic permeability specifications and offers substantially improved wear resistance compared to conventional non-mag welding alloys, like 310 stainless (400% to 500% improvement). In addition, the abrasion resistance of Ultraband™NM is 400% to 500% better than drill collar base materials. It can be applied in multiple layers without spalling providing the interpass temperatures are properly controlled All tests are carried out according to ASTM A342 Method 3

Applications

Premium wire for non-mag drill collars and related components.

Use on non-mag base materials such as P530, AG17, 15-15LC, NMS-100 and others. Meets all requirements of API Specification 7

Relative Permeability – less than 1.01.

Can be used with or without non-magnetic Tungsten Carbide.

Weld Deposit Properties

Using Proper Weld Procedures:

As Welded Hardness 40Rc

Work Hardens to 50Rc

Wc Hardness ~74Rc (1400 HV)

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WeldCor® Gouge Wire®

Description

WeldCor Gouge Wire is an arc cut wire designed to remove hardfacing or hardbanding deposits without air assist.

For the Hardbanding Industry: WeldCor Gouge Wire was developed for operators to remove old hardbanding deposits from circumferential shaped parts including drill pipe tool joints to prepare for new welds, without the use of compressed air. WeldCor Gouge Wire offers very high metal removal rates and is an excellent choice for drilling tools, tool joints, and drill collars.

Applications

A premium wire for the removal of metal on drilling tools, tool joints, and drill collars.

Cut Characteristics

On Carbon steel:

Very clean - light brushing

On Hardfaced steel:

Light soft scale- remove with very light brushing

WeldCor® WC (Tungsten Carbide)

Description

WeldCor® WC is a fully sintered Wc that has been crushed into smaller particles and is used in many types of hardfacing applications. As this material is normally obtained from used Wc tools and bits, WeldCor® WC includes pieces with surface coatings (generally Titanium-Nitride) from the original tool or bit on some of the particle surfaces. Also, due to the fact that the matrix used to cement the particles of Wc together is either a cobalt or nickel material, the WeldCor® WC is magnetic in nature. For this reason the re-crushed Wc is used only for standard hardbanding with wires that are also magnetic in nature.

Applications

Applications where the use of impregnated Tungsten Carbide in a metal matrix is beneficial for the increase of the life of a specific part.

Weld Deposit Properties

WC Hardness ~76Rc (1550 HV)

WeldCor® NM WC

Description

WeldCor® NM WC, also called cast & crushed, is a eutectic mixture of both tungsten carbides, W2C and WC, which has a particularly high degree of hardness and wear resistance. For this reason, it is primarily used in advanced wear protection and tooling technology. One of the properties of WeldCor® NM WC is that it is non-magnetic in nature. So when doing tool joints or pipes that require non-magnetic properties, WeldCor® NM WC is used in conjunction with a non-magnetic wire such as an ER310 Stainless, ERNiCrMo-3 or ERNiCrMo-4 Nickel based wires, or the Postalloy® UltraBand™ NM wire.

Applications

Applications where the use of impregnated Tungsten Carbide in a metal matrix is beneficial for the increase of the life of a specific part.

Weld Deposit Properties

WC Hardness ~74Rc (1400 HV)

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