

The Sugarcane Industry

Advanced Wear Resistance Technology



 **HARDFACE**
TECHNOLOGIES
by POSTLE INDUSTRIES

www.hardfacetechologies.com



Postalloy® Hardfacing Products for the Sugarcane Industry

Hardface Technologies by Postle Industries, Inc. has a variety of hardfacing wires and tubular electrodes specifically formulated for the Sugarcane Industry to rebuild crusher rolls, hammers, knives, press rolls, scrapers and shredding equipment.



Our goal is to help improve productivity and capacity

At Hardface Technologies we have solutions to address the many abrasive wear, impact, corrosion and maintenance and repair challenges facing sugar production today – from the various aspects of grinding and processing equipment to the cultivation of cane. Our experienced welding professionals along with engineering and metallurgical experts can evaluate and recommend realistic solutions.

Throughout our history servicing the sugar industry, Hardface Technologies has developed a complete line of hardfacing wires and moisture-resistant tubular hardfacing electrodes. As an added technological advancement, many sugar hardfacing products utilize our proprietary RCT™, Reactive Core Technology. This assures better weldability and deposit integrity resulting in optimum wear properties. Our customers have confidence while welding new or rebuilding their crusher rolls, hammers, knives, press rolls, scrapers and shredding equipment using proven quality Postle products.



Complete Rebuild

The total rebuilding and hardfacing of sugarcane crusher rolls requires several different products and is conducted off-line in a shop environment.

Step one – repair any imperfections in the cast iron rolls with Postalloy® NicoTek. It is ideal for heavy weldments and filling in deep cavities. NicoTek provides spatter-free weld deposits.

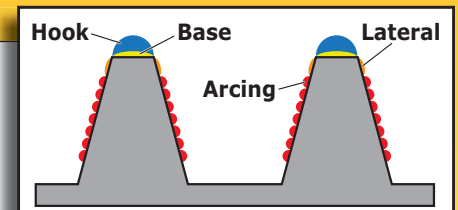
Step two – the application of a base coat. The Postalloy®2892-FCO is an industry favorite for its welder appeal and rebuilding characteristics.

Step three – we apply the specially developed Postalloy®2834-MCO for Picote or hooks that has a proven long-lasting abrasion resistant deposit.

Step four – Roll-Arc application of our Postalloy®2821-MCO for the rough spatter weld or chapisco. With its superior arc drive and sticking abilities combined with outstanding abrasion resistance, it's another of our industry favorites.

In-Service Repair

To improve the service life of in-service rolls the periodic application of Roll-Arc Postalloy®2821-MCO wire or Postalloy®216HD electrode helps to restore the chapisco or spatter arc weld that aids the process of pulling, tearing and dragging the cane through the rolls producing the bagasse or shredded cane.



Another challenge is dealing with the impact and abrasive wear on hammers and knives. (Martillo and Cuchillas)

Many hammers used in shredding cane are made of a low alloy or mild steel. These alloys have a low Rockwell hardness of approximately 19-20 Rc. These softer base metals tend to compress and collapse under high impact, creating an unstable base for the applied hardfacing alloy. It is highly recommended that a hard buildup alloy, such as the Postalloy®2892-FCO, be applied prior to the hardfacing application.

After the buildup alloy is deposited, several hardfacing products are available depending on your wear and abrasion requirements. Postalloy®2834-MCO is a specially formulated chromium carbide alloy developed to produce a superior high polish abrasion-resistant deposit in service. It has a fast-freezing weld deposit characteristic and has good out-of-position capabilities. Postalloy®PS-150 Vanguard, which is a crack free Vanadium-Tungsten carbide alloy can be used. Postalloy®PS-150 Vanguard will produce a longer service life due to its impact and abrasion resistance qualities. Postalloy®2829-MCO is a high hardness overlay well suited for high abrasion combined with mild impact. It's recommended for use on carbon, manganese, 300 series stainless and low alloy steels. Deposits will check-crack.

Under certain conditions it may be more practical to use one welding alloy for rebuild and hardfacing instead of two alloys. In these circumstances we recommend Postalloy®2828T-FCO, which is a flux-cored open arc hardfacing wire that deposits a martensitic alloy with a high volume of finely dispersed Titanium carbides. It has excellent abrasion resistance under low and high stress conditions and retains hardness at high temperatures. Crack-free deposits are possible with proper procedures.

General purpose hardfacing

For general purpose hardfacing on harvesting and other equipment, we recommend Postalloy®2898-MCG, a general-purpose self-hardening overlay with a good combination of resistance to impact and abrasion. It is excellent for dozer blades, scrapers, buckets and bucket teeth, augers and farm implements.

Crusher Roll Rebuilding

POSTALLOY® NICO-TEK (CAST IRON)

With an acidic factor of around 5pH corrosive wear also needs to be addressed. The Postalloy® NicoTek tubular electrode does an excellent job of neutralizing the effects. Postalloy® Nico-Tek is a superior tubular cast iron electrode using state of the art manufacturing and coating technology to produce a welding electrode suitable for joining and surfacing various grades of cast iron. Ideal for heavy weldments and filling in deep cavities. Nico-Tek produces a weld deposit with lower weld shrinkage stress which reduces the possibility of weld or heat-affected zone cracking. Nico-Tek has excellent arc-gouging action that penetrates through surface contamination. The easily controlled weld metal results in spatter-free weld deposits with no undercutting.



POSTALLOY® 2892-FCO

A strong, tough, low alloy build-up welding wire. It can be applied to carbon and low alloy steels. Weld deposits are exceptionally sound and dense, and heavy buildups are possible without danger of cracking.

Average hardness is 30-35 Rc

Applications Include:

- ✦ Sugar cane crusher roll buildup
- ✦ Teeth to gear shafts
- ✦ Keyways



POSTALLOY® 2821-MCO (CHAPISCO)

"Spatter Arc" for "Roll Arcing" produces a rougher chapisco weld deposit that will aid in pulling and tearing the cane as it feeds through the rolls for processing. Postalloy® 2821-MCO is a chromium carbide alloy that produces a controlled microstructure of finely sized carbides in a tough matrix. The smaller carbide size absorbs impact and compressive loads better. Ideal for applications involving high abrasion and moderate impact. Used on sugar mill rolls. Can be applied while the rolls are operating.

Work hardens to 55Rc



POSTALLOY® 2834-MCO

A specially formulated chromium carbide alloy developed to produce a superior high polish abrasion resistant deposit in service. The tough alloy matrix combination is designed for high abrasion and moderate impact. Heat resistance to 1000°F (538°C). Use on carbon, manganese, 300 series stainless, and low alloy steels. Good out-of-position capabilities, fast freezing weld deposit, excellent weld bead tie-in and is ideal for dirty surfaces.

Average hardness is 54-60Rc

Applications Include:

- ✦ Shredder & fibrizer hammers
- ✦ Sugar mill roll teeth (Picote)
- ✦ Crusher Roll

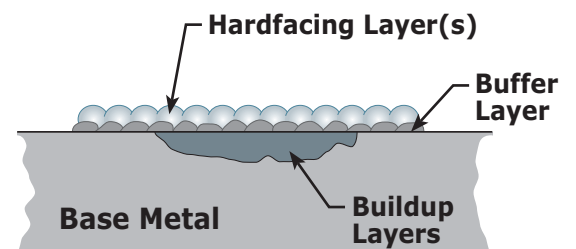


Hammer and Knife Repair (Martillo and Cuchillas)

Build-Up

POSTALLOY® 2892-FCO

A strong, tough, low alloy build-up wire. It can be applied to carbon and low alloy steels. Weld deposits are exceptionally sound and dense, and heavy buildups are possible without danger of cracking.



Hardfacing Alloys

POSTALLOY® 2834-MCO

A specially formulated chromium carbide alloy that produces a superior high-polish abrasion-resistant deposit in service. The tough alloy matrix combination is designed for high abrasion and moderate impact. Heat resistant to 1000°F (538°C). Use on low carbon mild steel, manganese, stainless, and low alloy steels.

- ✦ Good out-of-position capabilities
- ✦ Fast freezing weld deposit
- ✦ Very good weld bead tie-in
- ✦ Ideal for dirty surfaces
- ✦ Excellent matrix wire for tungsten carbide drop applications

Average hardness is 54-60Rc.



POSTALLOY®216HD

Chromium carbide tubular electrode with extremely good abrasion resistance coupled with mild to moderate impact resistance.

Average hardness is 58-62Rc

Applications Include:

- ✦ Teeth of sugar cane crusher rolls
- ✦ Sugar mill roll teeth (Picote)
- ✦ Cane rakes & combs
- ✦ Casing cane crushers
- ✦ Hammers (Martillo)
- ✦ Sugar mill rolls
- ✦ Cane knives (Cuchillas)

POSTALLOY®2829-MCO

A high hardness hardfacing overlay well suited for applications involving high abrasion or abrasion combined with mild impact. Use on carbon, manganese, 300 series stainless and low alloy steels.

Average hardness is 64-68Rc.

POSTALLOY®PS-150 VANGUARD

A tubular metal-cored hardfacing wire that provides a dense, heterogeneous deposit of vanadium - tungsten carbides, along with other elements to enhance wear resistance, resulting in a very good combination of abrasion and impact resistance that is superior to chromium carbide hardfacing alloys. Almost equal to tungsten carbide in hardness, and half the weight. Postalloy Vanguard PS-150 is not a replacement for tungsten carbide overlays. However, it is a good alternative to tungsten carbide hardfacing alloys when they are too expensive or when MIG carbide embedding is not available or impractical.

Average hardness is 59-61Rc.

One Wire Build-Up and Hardface

POSTALLOY®2828T-FCO (Multiple Layer Hardfacing)

A flux-cored, open-arc hardfacing wire that deposits a martensitic alloy with a high volume of finely dispersed Titanium Carbides (TiC). It has excellent abrasion resistance under low and high stress conditions and retains hardness at high temperatures. Crack-free deposits are possible with proper procedures. Use on carbon and low alloy steels.

- ✦ Excellent welding characteristics.
- ✦ Multiple layers maintain their hardness and abrasion resistance.
- ✦ Produces full slag coverage that does not require removal between passes. Slag is easily removed with a chipping hammer.
- ✦ Deposits are crack-free even after multiple layers.

Average hardness is 64-68Rc.

Tubular Electrodes

POSTALLOY® 216HD

Chromium carbide tubular electrode with extremely good abrasion resistance coupled with mild to moderate impact resistance.

Average hardness is 58-62Rc

Applications Include:

- ✦ Teeth of sugar cane crusher rolls
- ✦ Sugar mill roll teeth (Picote)
- ✦ Cane rakes & combs
- ✦ Casing cane crushers
- ✦ Hammers (Martillo)
- ✦ Sugar mill rolls
- ✦ Cane knives (Cuchillas)



General Purpose Hardfacing

POSTALLOY® 2898-MCG

General-purpose self-hardening overlay with a good combination of resistance to abrasion and impact. Postalloy® 2898-MCG is very tough, with excellent resistance to chipping and spalling.

Average hardness is 55-59 Rc

Applications Include:

- ✦ Scrapers
- ✦ Turn plates
- ✦ Buckets & bucket teeth
- ✦ Dozer blades
- ✦ Farm implements
- ✦ Augers



Wear Resistant Solutions for All Industries



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WOOD/MULCH

 **HARDFACE**
TECHNOLOGIES
by POSTLE INDUSTRIES

Cleveland Ohio 44142, USA
+01 216.265.9000, Fax: 216.265.9030
and

North Ayrshire, Scotland KA12 8LN
+44 1294 446017

www.hardfacetechnologies.com

