Volume 1 Number 1

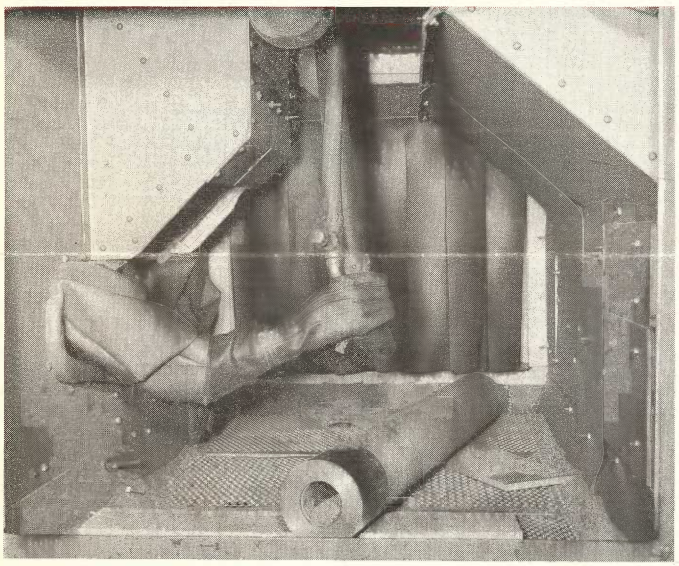
Colmonoy ALLOY NEWS

Hard-facing and Brazing Alloys Wearproof Castings Stainless Steel Processing

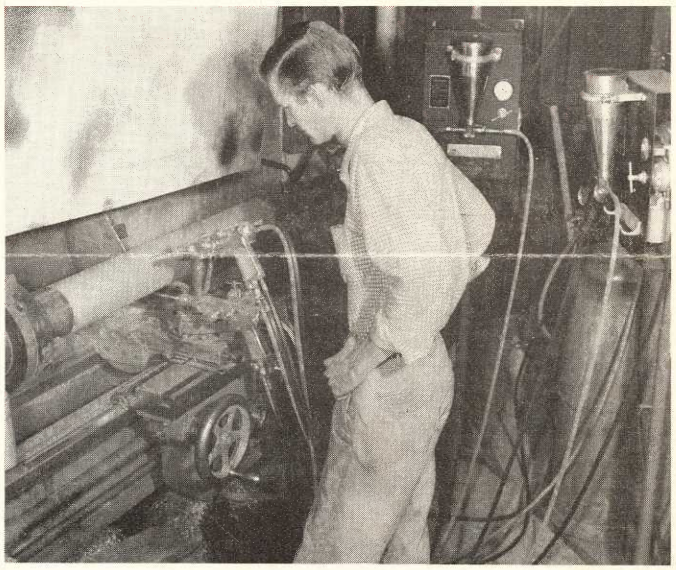
WALL COLMONOY CORPORATION • 19345 John R Street • Detroit 3, Michigan • TW 3-3800

Manufacturing Subsidiaries: Wall Colmonoy (Canada) Ltd., 3001 Broadway, Montreal East, Quebec; Wall Colmonoy (Canada) Ltd., Lanarkshire, Scotland

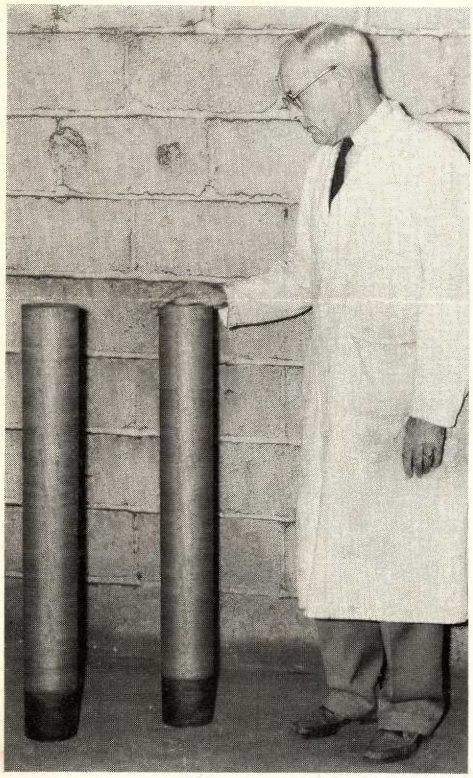
Branches: Buffalo, N. Y.; Linden, N. J.; Chicago, Ill.; Pittsburgh, Pa.; Morrisville, Pa.; Birmingham, Ala.; Houston, Texas; Los Angeles, Calif.



GRIT BLASTING the surface of the SAE 1020 steel pump plunger to produce a good surface for mechanical bonding of the Spraywelded Colmonoy No. 6 alloy to the base metal.



APPLYING the Colmonoy No. 6 wear-proofing alloy to a pump plunger using a unique two-pistol Spraywelding setup which insures efficient, thorough application of the alloy powder.



TWO PUMP PLUNGERS as they appear following the oxy-acetylene heating process that provides a non-porous, fusion-bonded coating of wear-proof alloy. Plunger OD is ground prior to installation in 2,000 psi pumps.

SPRAYWELDED STEEL PUMP PLUNGERS REDUCE MAINTENANCE, IMPROVE ECONOMY

Withstand Severe Abrasive Conditions At Army Ordnance Tube Mill

Application of Colmonoy No. 6, a nickel-chrome-boron hard-facing alloy, to wearproof low carbon steel pump plungers has saved over $100.00 a month in maintenance time and materials at an Army Ordnance tube mill.

The plungers (44-in. long x 4¼-in. dia.) are installed in 2000 psi horizontal hydraulic pumps that handle river water containing severely abrasive dirt, grit and mill scale.

Uncoated plungers or those chrome-plated or metallized score immediately and require repacking almost daily and sometimes twice a day. Plungers Spraywelded with 0.025-in. thick Colmonoy No. 6 alloy coating showed no scoring, required repacking but twice in 6 months.

In preparation for the Colmonoy Sprayweld process, the plunger is drilled to a depth of 38-in. with a 2-in. dia. drill. Thinning the section speeds the fusion process, wherein the sprayed-on coating is fused to the base metal.

Alloy Application Method

To produce a surface that will give a good mechanical bond between base metal and sprayed-on alloy coating, the outside surface is first grit blasted with SAE #18 steel grit. Then the plunger is chucked in a lathe for Spraywelding by the unique two-pistol arrangement shown in the upper right-hand photo.

A fusion-bonded, non-porous alloy coating is achieved with the application of two multi-flame oxy-acetylene fusing torches as the plunger rotates in the engine lathe. The plunger surface is heated to approximately 1900° F. to thoroughly fuse the coating. Following a light grinding operation, the plunger is ready to be placed in service.

What's Your Opinion?

This is the first issue of Colmonoy Alloy News. Its material content is representative of what we plan to give you each month. Each issue will contain basic information about a product and at least one interesting application feature.

From time to time, we will include similar material relating to Nicrobraz stainless steel brazing alloys as well as other developments and accomplishments of our Stainless Processing Division.

Our aim is to present news and information about Colmonoy products in action which will prove not only interesting, but useful to you in your work as well. Now that you have thoroughly read and digested this first issue, we would like to hear what you think of it.

We invite your comments and criticisms, whether they be bouquets or brickbats. Drop us a line and tell us what you think of our initial effort.

Write to:

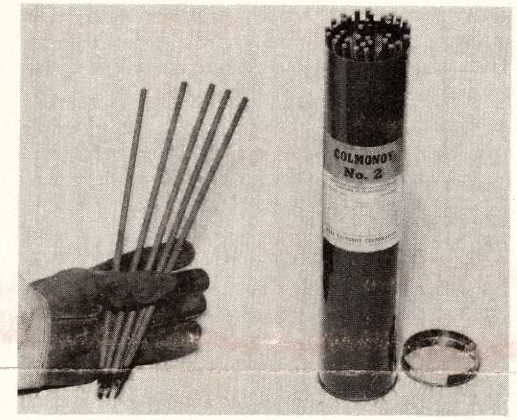
The Editor
Colmonoy Alloy News
19345 John R Street
Detroit 3, Michigan.

Any suggestions you may have for future articles will be welcomed. Certain equipment you use or a particular job you must perform, where abrasion and corrosion resistance are serious problems, are the sort of things we'd like to hear about.

Well, there you have it. Now then, what's your opinion?

COLMONOY PRODUCT OF THE MONTH

Colmonoy No. 2 Low Hydrogen Hard-Facing AC-DC Electrode



LOW HYDROGEN Colmonoy No. 2 chrome-molybdenum-silicon hard-facing electrodes. This January Product of the Month is available in 1/8, 5/32, 3/16 and 1/4-inch diameters, packed as shown in 10-lb. metal containers.

Colmonoy No. 2 is a low hydrogen iron base chrome-molybdenum-silicon hard-facing alloy, available for general purpose hard-facing application to manganese and other steels in the form of AC-DC electrodes.

Low in cost, it is especially well-suited for application to working surfaces of construction, brick, mining and aggregate handling machinery and similar heavy-duty equipment where impact and wear resistance are required.

Colmonoy No. 2 was developed by Wall Colmonoy's research laboratories to provide a low-cost, non-critical material having superior welding characteristics. These electrodes are of special value in extending the life of such earthmoving and handling machinery components as tractor treads, clay augers, bucket teeth, truck beds, scraper blades, driving spindles and asphalt mill liners.

Spatter loss with this material is low; fluidity is excellent. Colmonoy No. 2 is *not* recommended for applications requiring heavy build-up where specifications demand crack-free deposits.

Physical Properties

As deposited, Colmonoy No. 2 has a Rockwell hardness of 50-55 on the C scale following the first pass, and 55-60 after the second pass. Tensile strength is about 75,000 psi and specific gravity is 7.6.

WALL COLMONOY CORPORATION
19345 John R Street
Detroit 3, Michigan

DETROIT 2 MICH. U.S. POSTAGE 02 PB METER P.B. 301475

Your Personal Copy of Colmonoy Alloy News"

RECEIVED FEB 3 1956

Mr. A. D. Arnaut
Wall Colmonoy Corporation
575 Linden Ave., East
Linden, New Jersey

printed in U.S.A.