

## Wall Colmonoy COLMONOY® 88 Hard-Surfacing Alloy

Category: Metal, Metal Matrix Composite, Nonferrous Metal, Nickel Alloy

## **Material Notes:**

Description: Colmonoy 88 is a unique alloy containing fine, multiple hard phases which are uniformly distributed throughout a Ni-Cr-B matrix. These hard phases, comprised of complex bi- and tri-metallic borides and carbides, are precipitated during manufacturing, and are therefore an inherent part of the microstructure and not added externally as in conventional composite powders. The hard phases, remain uniformly distributed shipping, spraying and fusing to ensure consistent performance throughout the coating. They are an intimate part of the matrix and will not erode prematurely. Their fine size (5-10 microns) contributes to better finishing characteristics. The hard phases, along with the high-hardness Ni-Cr-B matrix, resist extreme abrasion and corrosion. Method of Application: Spraywelder, HVOF, Fusewelder, PTAApplications: Colmonoy 88 has proved successful in increasing the service life of glass mold plungers, where the alloy withstands wear from hot (1800°F), extremely abrasive, molten silica. Other applications include: pump plungers and sleeves, valve seats, thermowells, centrifuges, plastics processing screws and barrels, wire drawing capstans, and catalytic cracker components. Information provided by Wall Colmonoy Corporation.

## Order this product through the following link:

http://www.lookpolymers.com/polymer\_Wall-Colmonoy-COLMONOY-88-Hard-Surfacing-Alloy.php

| Physical Properties | Metric    | English      | Comments |
|---------------------|-----------|--------------|----------|
| Density             | 4.78 g/cc | 0.173 lb/in³ | apparent |
|                     | 9.89 g/cc | 0.357 lb/in³ |          |

| Mechanical Properties | Metric  | English | Comments |
|-----------------------|---------|---------|----------|
| Hardness, Rockwell C  | 59 - 64 | 59 - 64 |          |

| Thermal Properties | Metric        | English        | Comments |
|--------------------|---------------|----------------|----------|
| Melting Point      | 988 - 1180 °C | 1810 - 2160 °F |          |
| Solidus            | 988 °C        | 1810 °F        |          |
| Liquidus           | 1180 °C       | 2160 °F        |          |

| Component Elements Properties | Metric | English | Comments   |
|-------------------------------|--------|---------|------------|
| Boron, B                      | 3.0 %  | 3.0 %   |            |
| Carbon, C                     | 0.80 % | 0.80 %  |            |
| Chromium, Cr                  | 15 %   | 15 %    |            |
| Iron, Fe                      | 3.5 %  | 3.5 %   |            |
| Nickel, Ni                    | 56.4 % | 56.4 %  | As Balance |
|                               |        |         |            |



| Silicon, Si<br>Component Elements Properties | 4 0 %<br>Metric | 4 0 %<br>English | Comments |  |
|--|-----------------|------------------|----------|--|
| Tungsten, W                                  | 17.3 %          | 17.3 %           |          |  |

## **Contact Songhan Plastic Technology Co.,Ltd.**

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