# Trimay® Wear Plate T171 Iron-based Steel Overlay

**Category :** Metal , Ferrous Metal , Stainless Steel

**Material Notes:**

Overlay Description: T171 is a patented iron based steel overlay wear solution with a near nanoscale (submicron) microstructure. T171 is well suited for the toughest jobs in the most extreme service environments. T171 was developed in partnership with The NanoSteel® Company, Inc., an international leader in the research, development and production of nanomaterials. Key Performance Characteristics: 68 - 71 HRc single and double pass weld deposits, Maintains high hardness after exposure to high temperatures, Exceptional resistance to severe sliding abrasion, Toughness equivalent to 400 Brinell Q&T plate T171 is a steel alloy with a unique glass forming chemistry that allows high undercooling to be achieved during welding. This results in considerable refinement of the crystalline microstructure to a near nanosize (submicron) range. The ultra refined microstructure allows T171 to provide vastly improved hardness that lasts significantly longer than traditional carbide remedies.High Hardness: T171 maintains maximum hardness performance of 68-71 HRc from the weld interface throughout the entire overlay in single pass applications. This allows the overlay to be fully protective throughout the volume. HRc hardness values in the micrograph were measured from a single pass T171 overlay applied to 44W/300W mild steel plate substrate. Exceptional Wear Resistance: T171 provides exceptional resistance to severe sliding abrasion in extreme service environments. T171 can be built up to 1/2" overlay thickness in two passes as necessary with all layers providing maximum wear resistance of 0.08 - 0.10 g (+/- 0.03) mass loss in ASTM G65-04 abrasion tests.Impact Resistance: The superior toughness of T171 results from the in-weld formation of a large quantity of refined complex borocarbide phases which are surrounded by ductile ferrite phases. The borocarbide phases are completely wetted by the matrix and prevent premature pull-out, delamination and crack nucleation. Their refined nature allows the reduction of stress concentration sites and the ductile matrix supplies effective crack blunting and bridging, resulting in improved impact resistance.Information provided by Trimay®

Order this product through the following link:
http://www.lookpolymers.com/polymer_Trimay-Wear-Plate-T171-Iron-based-Steel-Overlay.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 7.36 g/cc | 0.266 lb/in³ | |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Hardness, Rockwell C | 68 - 71 | 68 - 71 | |
| K Factor (Wear Factor) | 0.060 - 0.12 | 0.060 - 0.12 | [g], 6000 cycles mass loss; ASTM G65-04 Procedure A |

| Component Elements Properties | Metric | English | Comments |
|---|---|---|---|
| Boron, B | <= 10 % | <= 10 % | |
| Carbon, C | <= 2.0 % | <= 2.0 % | |
| Chromium, Cr | <= 25 % | <= 25 % | |
| Iron, Fe | >= 33 % | >= 33 % | |

| Component Elements Properties | Metric | English | Comments |
|---|---|---|---|
| Manganese, Mn | <= 5.0 % | <= 5.0 % | |
| Molybdenum, Mo | <= 10 % | <= 10 % | |
| Niobium, Nb (Columbium, Cb) | <= 10 % | <= 10 % | |
| Silicon, Si | <= 5.0 % | <= 5.0 % | |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Available Sizes: Wire | 1.2 | [mm], cored wire |
| | 1.6 | [mm], cored wire |
| | 2.4 | [mm], cored wire |
| | 2.8 | [mm], cored wire |
| Drop Impact Testing | Passed | |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China