



AMTEC P 444 SPRAY AND FUSE POWDER

MEDIUM HARDNESS NICKEL BASED OVERLAY

General Characteristics

Amtec P 444 is a special, gas atomized, spherically shaped, nickel based, spray and fuse “puddle torch” powder containing Chromium, Silicon and Boron elements for build-up and medium hardness surfaces on cast iron. It has a particle size that enhances the bonding capabilities, and reduces over-spray. The metallurgical structure of this powder makes it good for general repair work such as blow holes in castings, repairs to glass molds and pump parts. Amtec P 444 is machinable and has excellent resistance to impact. The color match is excellent on most cast irons and steels. P 444 can be used as a build-up prior to putting on hard overlays. It has excellent strength and contains certain synergistic elements that make it self-wetting on cast iron and most other ferrous metals. Use when a harder deposit is required than the Amtec P 350.

Procedure

The area to be overlaid must be cleaned just prior to applying the powder. It is recommended to use a grinder to clean and roughen the surface to be sprayed. Preheat the entire area to 600°F (a blue tint to the metal will be seen) and spray a thin layer of powder over the entire area to be built up, keeping the torch at least 2-3” above the workpiece. Without spraying any more powder, lower the torch flame to ¾” to 1” from the surface and wet the alloy out. The part will be a dull red and the powder will start to look glassy as it fuses. To increase the thickness of the deposit, spray over the fused alloy and continue to spray and fuse until the necessary build-up has been reached.

Application

Amtec P 444 is used primarily as a final coat on any type of cast iron or steel. It is excellent for building up broken corners, cladding ferrous metals such as cast iron and steel and is sometimes used as a hard overlay on its own. With its high strength, toughness, and resistance to friction and impact, P444 is ideal for heavier build-ups especially prior to spraying final coatings of hardsurfacing powder such as P199, P222 or P666.

Typical Properties

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| Nominal Chemistry: | Carbon 0.30, Iron 1.5, Silicon 4.0, Boron 1.4, Chromium 7.5, Nickel - Balance. |
| Hardness: (Rockwell C) | 36-42 RC |
| Particle Size: | -140+325 mesh |
| Melting Temperature | 1875°F |
| Packaging: | Available in 1 lb. and 5 lb. containers |

CONFIDENTIAL INFORMATION

Subject to change without notice