23025

Rotofuse Powder For wear-resistant coatings

Description:
23025 is a nickel based MicroFlo alloy combining ductility, corrosion resistance and machinability. It is used for protection and rebuilding. Its excellent wetting properties makes it possible to use it on a wide variety of ferrous metals such as steel, stainless steel and cast iron. Deposits are almost free of porosity and can be machined to a high finish.
Good ductility and mechanical resistance.
Easy to machine.
Corrosion resistant

Technical data:

	Minimum	Typical	
Hardness (HRC):	35	40	
Solidus liquidus (°C):	1080	1120	
Working temperature (°C):			~1100
Maximum service temperature (°C):			800
Specific weight (g / cm3):			8.2

Coefficients of thermal expansion α(mm/(m K))

20 to 200°C	0,0132
20 to 400 °C	0,0145
20 to 600°C	0,0146
20 to 800°C	0,0154

Applications:
Shaft ends, ball bearing seats, rebuilding / intermediate layers, threads, corrosion resistant claddings

Procedure for use:
Preparation:
All areas to be overlayed must be free from oxides, oil, grease, etc., and worn or damaged base material. Parts may be prepared by grit-blasting or by rough machining, once the preparation has been achieved; protect against contamination (finger marks, grease, etc.). Where sharp edges or corners exist, prepare to 30° angle to avoid melting of the base material.
Preheating:
Preheating will depend upon type and size of base material. As a general rule, preheating between 100-300°C will be required.
For stainless steels and steels containing tungsten, molybdenum, aluminium or titanium, there will be a tendency for oxides to form during heating operations. This in time may impair the quality of the overlayed deposit. Therefore care should be taken during heating.
It is recommended that cylindrical parts be rotated in a lathe for preheating and coating. Preheating should be applied by allowing for soaking throughout the component to be coated. Preheating may be applied using CastoFuse extension necks 30 or 40 depending upon size of part.

Spraying procedure :
CDS 8000:

Typical spray parameters for the CastoDyn DS 8000	
Coat	23025
Standard Spray Module	SSM 20 *
Setting of container mounting	4
Flame setting	Neutral
Air with extension neck (bar)	1
Spraying distance (mm)	200
Rotation speed (m/min)	20
Advance (mm/rev)	3
Pressure: Ox = 4 bar; Ac = 0.7 bar; Air = 0-6 bar	

RotoTec 80:
Oxygen: 4 bar (58 lbf/in2).
Acetylene: 0.7 bar (10 lbf/in2)
Torch control setting: A = N.
Lathe rotation speed: 20 m/sec.
Spray a layer of 23025 alloy to the overlay area, maximum thickness/pass 0.2 mm. Maintain a spraying distance of 200 mm (about 8") between torch tip and workpiece.
Fusion:
Fusion of the pre-sprayed alloy should be performed using CastoFuse extension necks 30 or 40. Commence heating approximately 30 mm from one end of the component, and progress outwards towards the end; begin again at the original start and progress in the opposite direction. Fusion of 23025 will result in shiny appearance. Once this is achieved, steady progression is made along the component. Continue spraying and fusing, layer by layer, until the required depth of deposit has been reached.
Due to possible shrinkage effects of the base material, allowances should be made in order to obtain the required finish thickness. When fusing overlays on tapered components, progress from the smaller end towards the larger end.
Cooling:
Ensure that completed components are allowed to cool slowly to room temperature by immersing the part in vermiculite, warm dry sand etc. Avoid chilling effects and draughts.
Machining:
Turning by tungsten carbide tipped tool RotoTool I or ISO K 01 or K 10.
Rake angle -5°; free angle 5°
Cutting speed: 32 m/min.

	Rough	Finish
Advance (mm/rev)	0,1-0,2	0,08
Depth of pass(mm)	1-1,5	0,05

Grinding:
With a grinding stone corresponding to DIN 6926 C 46 17 V
Use a coolant for cutting and grinding.

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