

DIFFUSALLOY 4351

Diffusalloy 4351 is a special purpose basic coated electrode with excellent arc stability and an easily detachable slag on a smooth bead. The weld metal is a Cr-Ni-Mo martensitic stainless steel. When deposited on mild steel, it gives a hardness of 40-42 Rc on second layer and 37-39 Rc on fifth layer. The weld metal has excellent resistance to corrosion, pitting and impact loads.

Applications :

The alloy is highly suitable for welding on tough, corrosion resistant continuous-cast rolls and also wear parts from the steel industry and large machinery. Bridge store; depositions to thick areas of water, steam and gas fittings for operating temperatures upto 450⁰C. The electrode is ideally suited for surfacing applications. However it can also be used for joining martensitic stainless steels of identical composition. Typical applications include surfacing of steam turbines blades, valve seats and high pressure valves. It can also be used for the repair of pulp and paper plant equipment.

Procedure :

Usual cleaning and edge preparation for joining is required, for surfacing, grinding of the surface is recommended. For joining martensitic stainless steels, the base metal should be preheated to about 400⁰C. PWHT is also necessary. Ensure that the electrodes are dry. If moisture is picked up, the electrodes should be redried at 250⁰C for 1 hour. Use a short arc and minimum heat input during welding.

<u>Technical Data</u>	:	DIFFUSALLOY 4351		
Size (mm)	:	3.15	4.0	5.0
Recommended Welding Current (Amps)	:	80 – 110	110 – 150	150-190
Hardness	:	38 – 42 HRC		
Tensile Strength	:	77 kgf/ mm ² (min.)		
Elongation	:	15% (min.)		
Tip Colour	:	Golden Brown		

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