

SUPERALLOY 1780

Superalloy 1780 is a specially designed alloy which gives Inconel type deposit that possess all the mechanical properties in as welded weld metal only. The weld deposit is austenitic type and insensitive to hot cracking and free from embrittlement at high and also at low temperatures. Non-scaling up to 1000^oC. Its high strength coupled with high ductility, good creep and heat resistance at high temperatures up to 1000 °C and excellent low temperature toughness makes it the automatic choice for high as well as low temperature applications. Thermal stability of structure of the weld deposit is a key feature that makes it able to withstand stresses developed due to thermal shock and thermal cycling. Weld metal possesses an excellent ability to resist corrosion and oxidation at high temperatures in applications such as furnace components and reactor vessels.

Applications:

Joining of various types of stainless steels, Ni-base alloys, dissimilar joints, especially austenitic to ferritic steel, welding of weld cladding on low alloy steels, reactor vessels, welding of joints in nuclear engineering, chemical industry, petrochemical industry, glass works, welding of cryogenic steels, anti-wear and anti-corrosion surfacing of furnace components, heat treatment furnaces and fixtures, Kiln Tyres Drills and cutters, Heavy earth moving cement mill components, making transition joints, gate valves in freon gas plants and similar applications.

Procedure:

Superalloy 1780 is an all position weld electrode (except vertical down). For surfacing applications, flat position is recommended. Remove fatigued metal. Preheating is recommended for heavy sections and crack sensitive base metal. Use short arc to medium. Remove slag at every pass and peen the deposit.

<u>Technical Data</u>	:	SUPERALLOY 1780			
Size (mm)	:	2.5	3.15	4.0	5.0
Recommended Welding Current (Amps)	:	65 - 90	80 – 120	130 – 155	165 - 190
Tensile Strength	:	60 kgf/ mm ² (min.)			
Elongation	:	32% (min.)			
Coating colour	:	Grey			

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