

IABCO 21.33

MIG and TIG wire for Alloy 800H

Product name	IABCO 21.33		
Classification EN ISO	14343: G/W Z 21 33 Mn Nb		
Material No.	Nearest 1.4850		
Applications	<p>Micro-alloyed 21%Cr-33%Ni-1%Nb wire for welding matching 'alloy 800' heat resistant alloys. The wire can be used for welding any of the standard grades of base material UNS N08800, N08810 and N08811. These alloys have good resistance to thermal fatigue, thermal shock, corrosion and ageing embrittlement at service temperatures up to ~1000°C. The nearly matching 21.33 wire has the additional benefit, compared to nickel base alloys, of having sulphidation resistance and thermal coefficient of expansion very similar to the base materials. Typical applications can be found in the petrochemical, furnace and nuclear industries where the alloys are used for manifolds, radiant tubes, muffles and heat treatment trays.</p>		
Base materials	<p>ASTM A351: CT15C. EN: 1.4850, 1.4859, 1.4876, 1.4958, 1.4959. UNS: N08800, N08810, N08811. Proprietary alloys include: Centralloy G4859 (Centracero), Incoloy 800/800H/800HT (Special Metals), Manaurite 900 (Manoir), MO-RE 21 (Duraloy), Nicrofer 3220/3220H/3220HP (VDM), RA330 (Rolled Alloys), Sanicro 30 and 31HT (Sandvik), SEL 2032Nb (Cronite Scomark).</p>		
Typical analysis of wire, weight %	C: 0.15	Si: 0.2	
	Mn: 4.7	Cr: 21.5	
	Ni: 32.5	Mo: 0.3	
	Nb: 1.2	Ti: 0.20	
	Al: 0.15	Fe: Balance	
Typical heat treatment ⁽¹⁾	<p>Preheat: Not normally required. Interpass temperature: 150°C. PWHT: Not required for many applications but some sections of the ASME BPVC require PWHT under some circumstances.</p>		
Typical mechanical properties of weld deposit ⁽²⁾	<p>0.2% proof stress, Rp0.2%: 400MPa. Tensile strength, Rm: 600MPa. Elongation, 4d/5d: 25%.</p>		

Notes (1) Application codes and project specifications should always be referred to for specific requirements.

(2) Actual mechanical properties will be dependent on specific welding procedure (including shielding gas, flux, PWHT etc) and should always be confirmed by approval of an appropriate welding procedure.