

Nickel Base Alloy SMAW Electrodes

Welding Notes

1. The filler metal selection must match base metal's chemical composition.
2. During welding, recommend low welding current in order to avoid covered flux burn. If the covered flux suffers serious burn, this will worsen the weld metal mechanical properties.
3. No preheat necessary and the inter-pass temperature $\leq 150^{\circ}\text{C}$.
4. During welding, the arc starting point should be 1~2 cm behind the welding start point. Once the arc starts, pull it back to the welding start point to begin welding to avoid the occurrence of blow hole. This is known as the forehand & backhand arc starting technique. In addition, keep arc length as short as possible. When performing dissimilar metal welding, try to avoid as much as possible the over dilution from weld metal and base metal fusion.
5. In principle, use mainly fl at and horizontal welding positions, keep the covered electrode inclined angle approximately 20° perpendicular to welding line, so as to keep arc at the front of metal pool.
6. Nickel base alloy has inferior thermal conductivity, so high heat input during welding will create coarse grain. Ni-Mo and Ni-Cr-Mo alloy should use lower welding current and string bead. If weaving is desired, its width should be limited to 3 times of core wire diameter. Proper fill up the crater at arc stopping area.
7. Nickel base alloy might easily get brittle with Pb or S and lead to hot crack. The surface of weldment base metal must be completely cleaned of all filth like grease, paint, dirt, etc.
8. The polarity illustration:
DCEP (DC+): Electrode positive or DC reverse polarity.
DCEN (DC-): Electrode negative or DC straight polarity.