

High-Efficiency Submerged Arc Fillet Welding Process of T-Joint with Heavy Section

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(1)

25mm

80mm (2)

KW-50

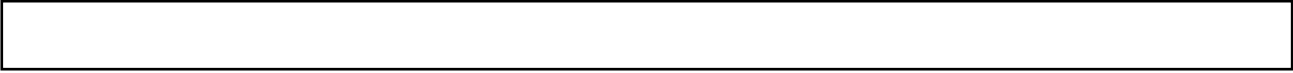
25mm 0.18

80mm 0.14 (3)

SM-490 (4) 20mm

Synopsis :

To develop a high-efficiency welding process of T-joints with a heavy section, welding materials and welding conditions were examined from the viewpoints of penetration depth and weld defects, especially weld metal cracking. The most appropriate



溶接技術*

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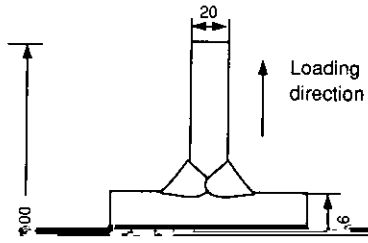
要旨

厚鋼板のT型すみ肉サブマージアーク溶接の高能率化を目的に、溶接材料、最適溶接パラメータを、とくに溶込み深さと溶接金属の

Table 1 Chemical compositions of base metals and wire

(mass%)

Grade	Thickness (mm)	C	Si	Mn	P	S	Ni	Nb
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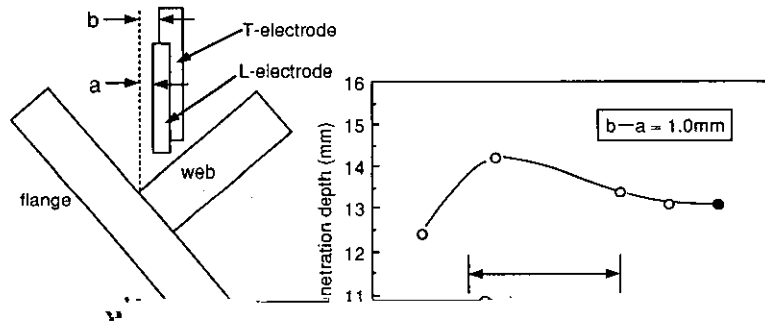


溶接ワイヤは、本技術の場合も溶接割れ防止の観点より、低C系である KW-50 の適用が基本となる。

3.2 最適溶接条件

3.2.1 無開先 T 継手溶接のための最適溶接条件選定

厚肉材の大入熱サブマージアーク溶接においては、完全溶込みを



Distance of L-electrode from root, a, (mm)

Fig. 6 Effect of wire location on penetration depth in fillet welding without groove

a = -1mm, b = 0mm	a = 0.5mm, b = 1.5mm	a = 5mm, b = 6mm

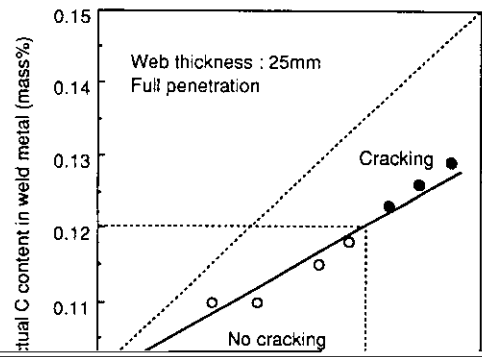
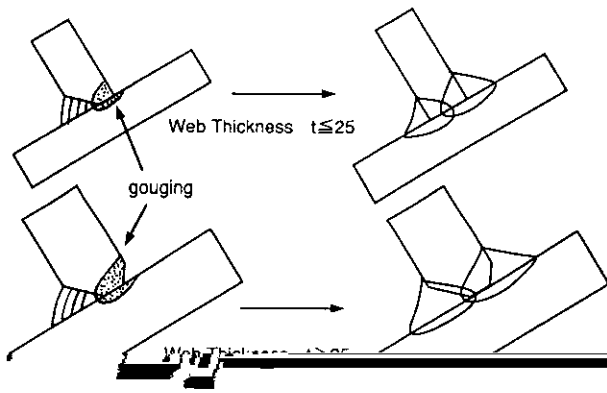


Table 3 Mechanical properties of welded T-joints