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KAWASAKI STEEL GIHO
Vol.13 (1981) No.3

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Applicability of Laser Welding to Steel Strip for Cold Rolling

, Œ / Â(Hiroaki Sasaki) 0 Y £ ¼(Noboru Nishiyama) ¤ - ¶ M 4 {
(Jun-ichiro Tsuboi)

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Synopsis :

Applicability of the CO**2 laser welding to hot-rolled steel coils for a higher efficiency production of cold rolled steel strip is discussed with emphasis on how to determine welding conditions best suited to each production line and on increasing fit-up tolerance. Rollability of welds is evaluated in rimmed, killed, and silicon steels by using reverse bend test and miniature mill rolling. As a result, the CO**2 laser welding is found applicable to cold-rolled sheet steel production, and the weld joints of 3% silicon steel have shown good rollability.

薄鋼板製造プロセスに対するレーザ溶接の適用性に関する基礎的検討

[redacted]

Applicability of Laser Welding to Steel Strip for Cold Rolling

佐々木　弘　明*　　　西　山　　昇*

[redacted]

坪　井　潤一郎**
Jun-ichiro Tsuboi

Synopsis:

Applicability of the CO_2 laser welding to hot-rolled steel coils for a higher efficiency production of cold-rolled steel strip is discussed with emphasis on how to determine welding conditions best suited to each production line and on increasing fit-up tolerance.

Reliability of welds is evaluated in rimmed, killed, and silicon steels by using reverse bend test and miniature [redacted]

[illegible] the CO_2 laser welding is found applicable to cold-rolled sheet steel production, and the [redacted]

(二) 焦点が被切断物表面にあるとき 最小切断幅

[illegible]

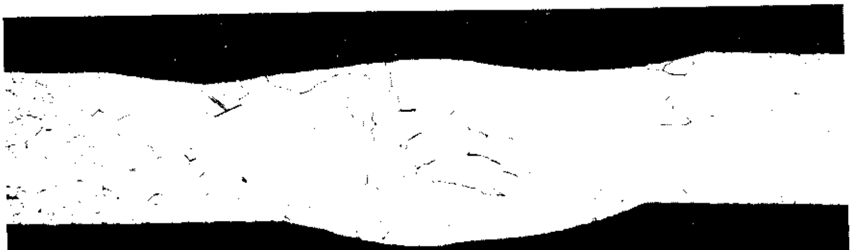
にその組織を示す。ビード中央のビッカース硬さ

に示す。いずれも裏当材を用いないで溶接した。

[illegible]

とに問題は残るが，いずれも反復曲げ延性は良好であった。珪素鋼の溶接継手は通常のTIG，MIG法で行なった場合，熱影響部の結晶粒の粗大化の

レーザ溶接継手は急冷によって結晶粒粗大化が抑止されるため，反復曲げ延性が良好である。**Photo. 3**に珪素鋼のレーザ溶接継手の組織を示す。



Steel A, 2mm thick, TIG 6 000 J/cm