

KAWASAKI STEEL GIHO

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Recent Activities in Research of Steel Sheets



要旨

薄鋼板研究のここ 10 年間の歩みについて、特に新熱間圧延設備を活用した新製品開発を中心に述べる。(1) 超高 r 値冷間圧延鋼板の連続生産設備の開発と実用化、(2) 連続熱間圧延鋼板の

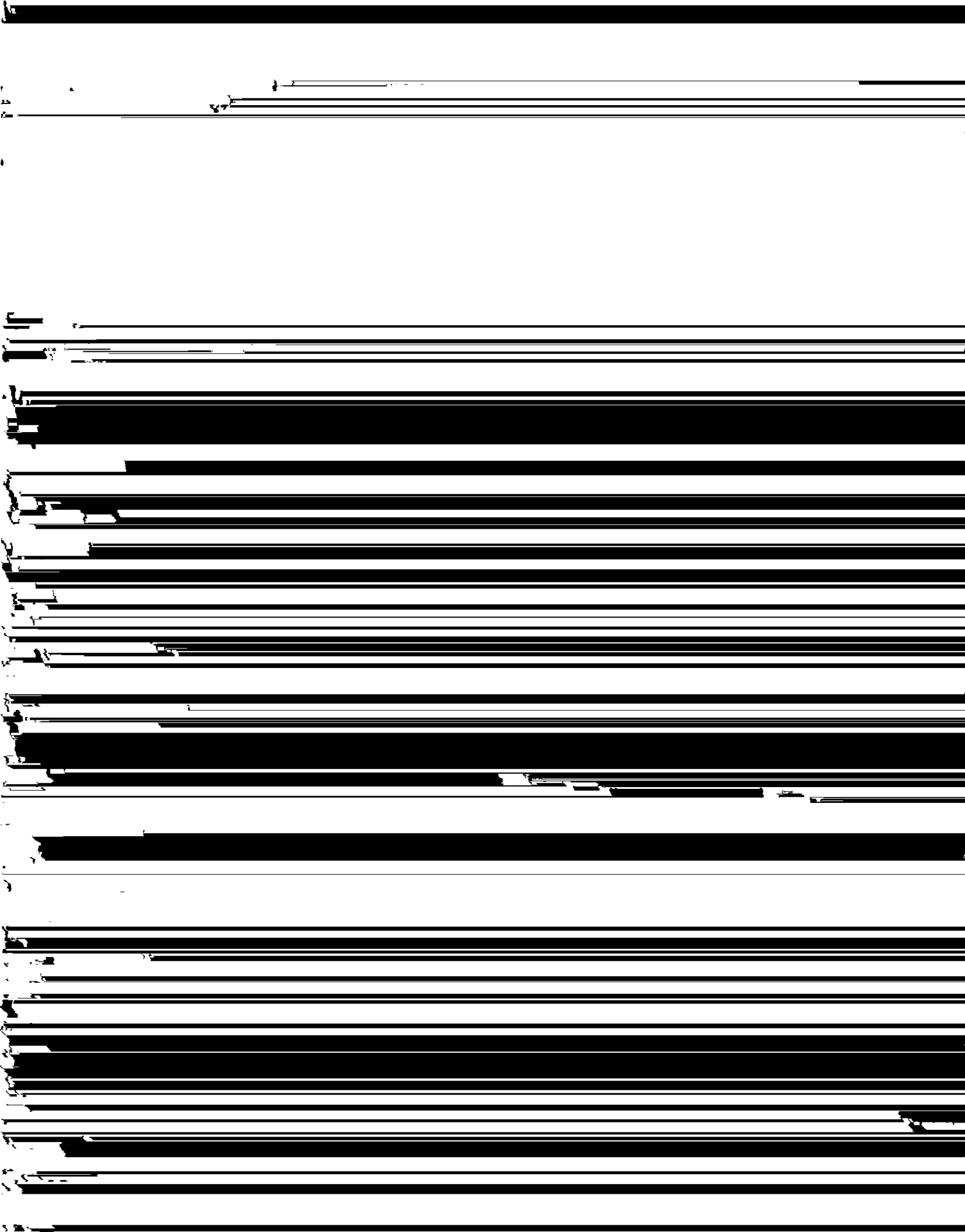
Table 1 Typical mechanical properties of high r -value steel sheets

Table 2 Typical mechanical properties of TS590 MPa grade hot-rolled dual phase steel sheets

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Austenite Ferrite + TiC

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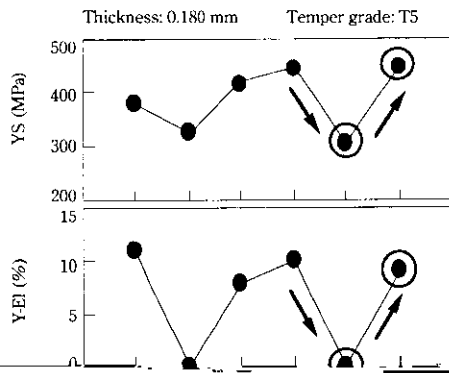


Table 5 Typical mechanical properties of N solution strengthened thin gauge steel sheets for can use

| Steel | As temper rolled | | | After aging (at 210°C) | | |
|-------------------------|------------------|----------|--------|------------------------|----------|--------|
| | YS (MPa) | TS (MPa) | El (%) | YS (MPa) | TS (MPa) | El (%) |
| Conventional | 322 | 415 | 25 | 381 | 406 | 27 |
| With 100 ppm N addition | 331 | 454 | 26 | 442 | 462 | 27 |

Thickness: 0.18 mm JIS No. 5 specimen (longitudinal direction)
Base steel: 0.04%C-0.2%Mn-0.04%Al

After reflow treatment After flexor treatment

Fig. 7 Change of tensile properties of N solution strengthened

以上の問題点を解決する手段として、従来、積極的には使用されていなかった強化元素である N を SR (single reduce) 材に適用することで、主として 3 ピース缶用素材の研究開発が行なわれた。その