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Characteristics of Stainless Steel for Automotive Exhaust System and Its Production by Tandem Cold Rolling Mill

Ø % (Makoto Kobayashi)] î < _ µ (Tatsuo Kawasaki) U N ã 7 (Masuo Mihara) ,.(È J (Hirotake Sato) 9x#ã G (Masakazu Takada) ! á 'v “ (Fumiya Yanagishima)

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Synopsis :

Ferritic stainless steels for automotive exhaust systems are reexamined for corrosion resistance and properties at elevated temperatures. Production process of the steels using conventional facilities for plain carbon steels is also studied. Stainless steels have good resistance against corrosion by inner condensate and outer road salt. Ti-stabilized type 409L is better than nonstabilized type 410L in both corrosive environments. Type 409L also has better properties at elevated temperature and better press formability, and is considered to be the optimum material for these automotive applications. It is shown that rolling by the high-productive tandem mill and optimizing the condition of the annealing process can provide stainless steel strips with sufficient quality of dimensions, surfaces and properties.

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自動車排気部品用ステンレス鋼の特性とタンデム 圧延による製造*

川崎製鉄技報
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要旨

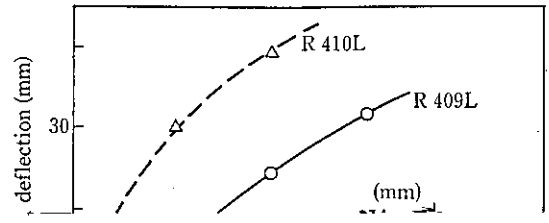
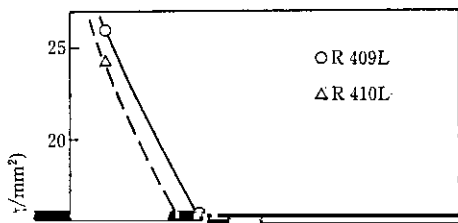
自動車排気系部品用ステンレス鋼について、最適鋼種を耐食性および高温特性の点から検討した。また、並流鋼冷延設備を用いた製

Table 1. Properties required for materials of construction in a vacuum furnace system.

haust system			
Parts	Properties required	Material selection	
		Conventional	Substituting

パーリング性が要求される。

3 最適ステンレス鋼種の検討

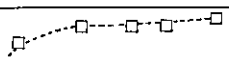




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○ R409L



品質制御工程の検討

#3STD

#1STD

#2STD

#3STD

#1STD

Tension limit control

