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High-formability ERW Stainless Steel Pipes for Automotive Exhaust System

' U u y (Gunji, M.) Y \land o (Miyazaki, A.) $\hat{}$ [\rightarrow f (Toyooka, T.)

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Synopsis:

Applications of stainless steel to automotive parts for lighter weight and higher durability, ultimately contributing to environmental protection, have been increasing. Kawasaki Steel has developed a new forming process and a mill. This mill was termed CBR (chance-free bulge roll) forming mill that adopts a new design of a roll flower pattern. High quality ERW stainless steel pipe, which has excellent formability and high quality of welded seam, satisfactorily produced by this mill. The average r-value of the newly developed stainless steel was improved by more than 1.3 times in comparison with the conventional stainless steel while retaining the same level of heat resistance. Therefore, the formability of the newly developed stainless steel pipes after stress relief annealing.

(c)JFE Steel Corporation, 2003

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	Tabl	e 1 Chemical co	mpositions of s	tainless steel tu	hes for automot	ive exhaust syst	em		
	1451	c i chemica co	inpositions of s	uniness steer tu	bes for automot	IVC CAHdust Syst	.cm	(mass%)	
		1			Flement conten	+			
	Kawasaki Steel standard					NT1			
			51	IVIN	Cr	ND	Mo	11	
	R409L	0.010	0.41	0.28	11.3	_	_	0.23	
	R429EX	0.008	0.80	0.39	14.7	0.45		_	
	DAUNI NUA	0.019	0.00	0.91	120	0.40	0 50		
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Table 5 Parameters in FEM simulation for tube hydroforming of tees



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