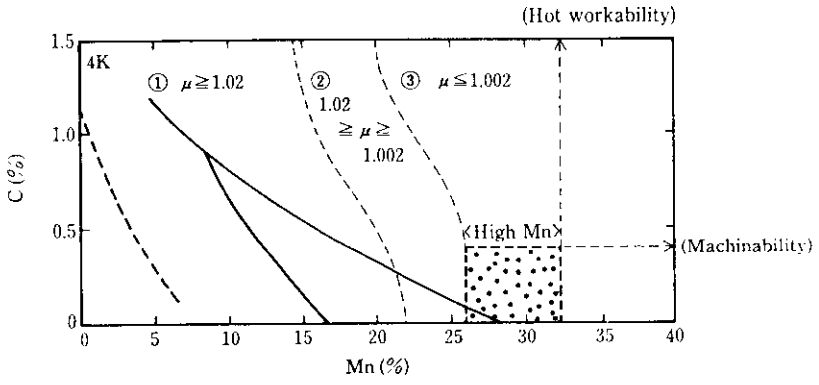
(1) High performance, high reliability

cable

(2) Cryogenic, high-strength non-magnetic supporting material

notch portion of the specimen from room temperature to 4 K was about 3 min. For the stamping and spot-

(3) High magnetic-yoke material for cryogenic magnetic



[redacted]

(μ was measured at 4 K on specimens temper cold rolled by 10% after full annealing.)

[redacted]

Table 1 Chemical compositions of newly developed high Mn steel and 316LN stainless steel for reference (wt.%)

Steel		C	Si	Mn	P	S	Cr	Ni	N	V
High Mn*	Nominal	≦0.4	≦1.0	26~32	≦0.04	≦0.01	6~8	0.5~1.5	0.05~0.15	0.05~1.0
	[redacted]	0.12	0.6	[redacted]	0.035	0.007	7.0	1.5	0.09	0.06


1.500
1.400
1.300
1.200
1.100
4 K
5 kOe
μ
2 000
1 500
60
40
σ_s(MPa)
σ_s
λ (%)

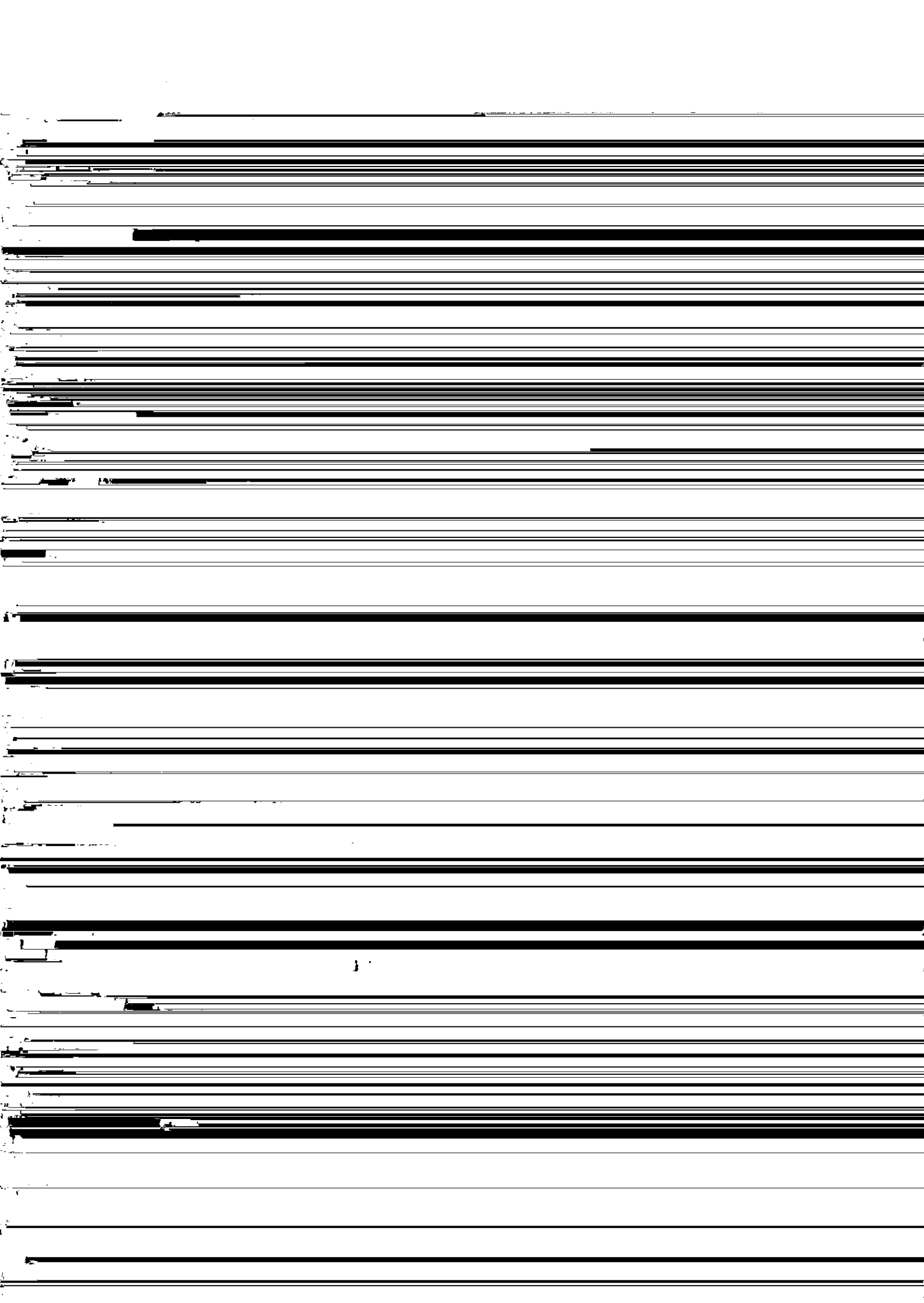


Table 2 Experimental stamping conditions

Sample	① High Mn ② 316LN
Sample thickness	1.5 mm
Hydraulic machine	10 t HP
Tool material	SKD 11

Table 4 Experimental conditions for [illegible]

Voltage	0.5～1.3 V
Current	1.6～7.3 kA
Load	600 kg
[illegible]	[illegible]

there was no particular difference between the two types of steel. Namely, the high-Mn steel is not considered to be inferior in spot-weldability to the austenitic

1 200 MPa at 4 K. This is desirable against the loads of electromagnetic force and pre-stress.

(4) An addition of V into this steel has made it possible