

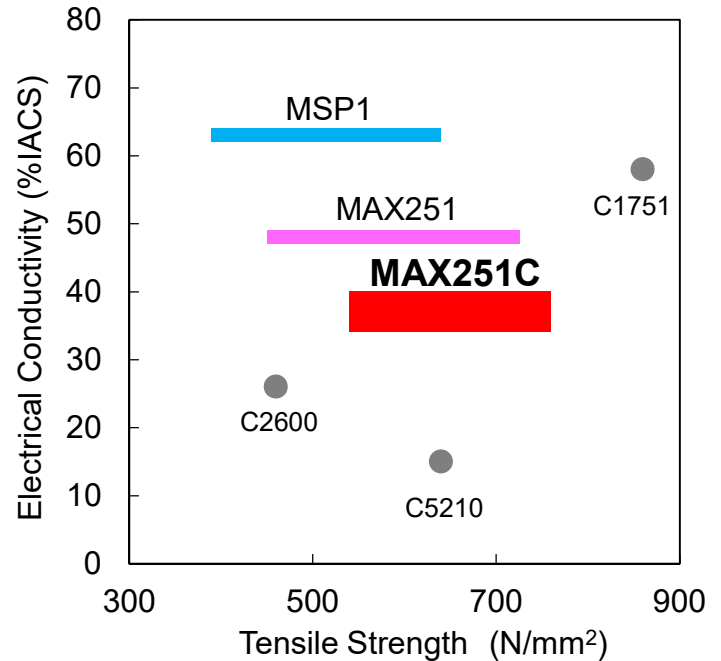
# MAX251C

## CDA alloy No.C64725

### 1. Main features

- Excellent balance of strength · bending workability · conductivity.
- Excellent heat resistance.
- The anisotropy of the mechanical properties is small

### 4. Positioning of Alloy



### 2. Chemical composition

(Weight%)

Ni	Si	Sn	Zn	Cu
1.3 ~ 2.7	0.2 ~ 0.8	0.2 ~ 0.8	0.5 ~ 1.5	Rem. *

\* Including inevitable impurities and trace additive elements

### 3. Physical properties

### 5. Mechanical properties

Property	Representative Value	Temper				Typical values			
		1/2H	H	EH	SH	1/2H	H	EH	
Specific Gravity (293 K)	8.9	Tensile Strength (N/mm²)	540~640	600~700	640~740	700~800	626	675	717
Coefficient of Thermal Expansion ( / K : 293~573 K )	$17.1 \times 10^{-6}$	0.2% Yield Strength (N/mm²)	480~630	540~690	580~735	650~780	554	584	663
Thermal Conductivity ( W / ( m · K ) : 293 K )	160	Elongation (%)	8 min.	5 min.	3 min.	2 min.	17.3	14.8	11.4
Electrical Conductivity ( %IACS : 293 K )	37	Elastic Limit $Kb_{0.1}^{*1}$ (N/mm²)	400 min.	440 min.	460 min.	500 min.	477	529	562
Modulus of Elasticity ( kN / mm² : 293 K )	130	Vickers Hardness $^{*2}$ (HV)	150~215	165~230	180~240	200~250	187	199	211
Poisson's ratio ( 293 K )	0.33								

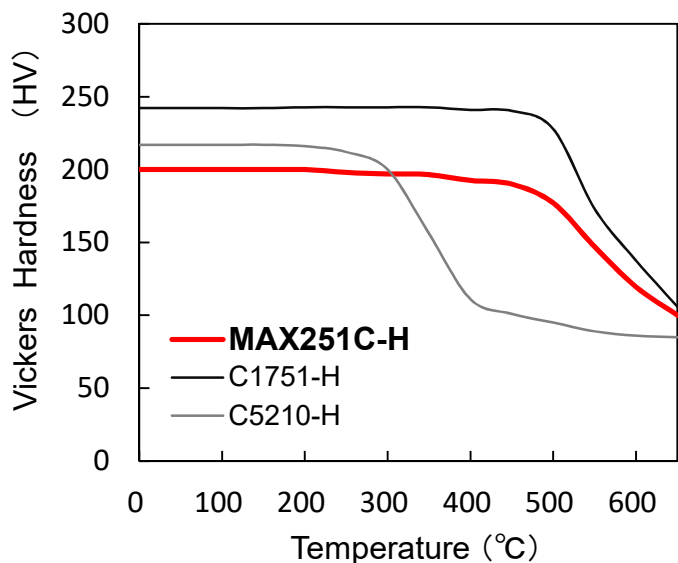
※1 Sampling direction : T.D.

※1, 2 Reference value

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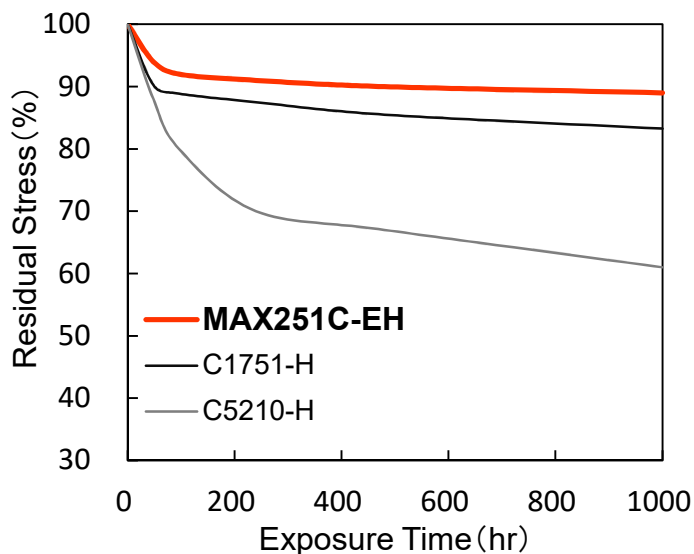
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### 6. Resistance to Softening



Exposure Time: 1hr

### 7. Stress relaxation resistance



Exposure Temperature: 150°C Sampling Direction: L.D.  
Bending Stress: 80% of 0.2% yield strength

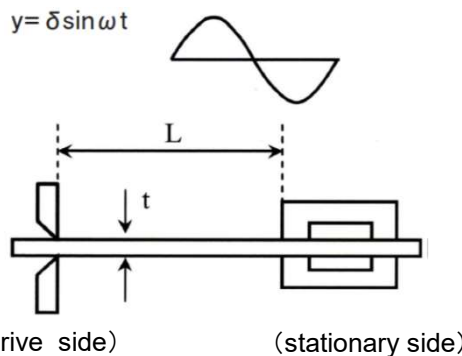
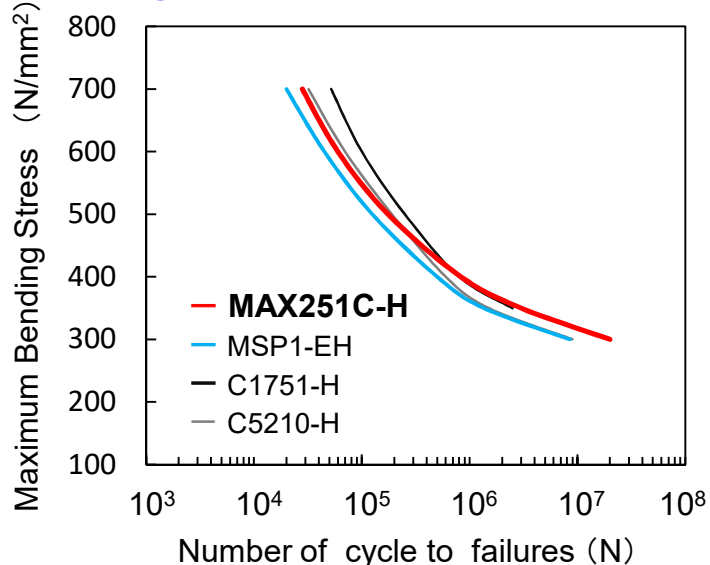
### 8. Bendability

Specimen: Thickness t= 0.25mm Width 10mm Test Method: 90° W-Bend Load: 9807N

Temper	Sampling Direction (to the rolling direction)	Bending Radius(mm) R										R/t
		0.0	0.1	0.125	0.15	0.2	0.25	0.4	0.6	0.8	1.0	
1/2H	0°: (Good Way)	△	○	○	○	○	○	◎	◎	◎	◎	0.0
	90°: (Bad Way)	○	○	○	○	○	○	◎	◎	◎	◎	0.0
H	0°: (Good Way)	△	△	△	△	△	△	○	◎	◎	◎	0.0
	90°: (Bad Way)	○	○	○	○	○	○	◎	◎	◎	◎	0.0
EH	0°: (Good Way)	▲	▲	▲	△	△	△	△	○	○	○	0.6
	90°: (Bad Way)	▲	▲	△	○	○	○	○	◎	◎	◎	0.5

Method of evaluation: ◎Good (Acceptance), ○Minor rough surface (Acceptance), △Major rough surface (Acceptance), ▲Minor crack (Rejection), × Major crack (Rejection)

### 9. Fatigue properties



Calculation of formula of Bending stress

$$\sigma = 3/2 \cdot [(E \cdot t) / L^2] \cdot \delta$$

E: Modulus of Elasticity of specimen (N/mm<sup>2</sup>)

t: Thickness of specimen (mm) L: Length of specimen (mm)

δ: Half amplitude on specimen (mm) ※2mm