

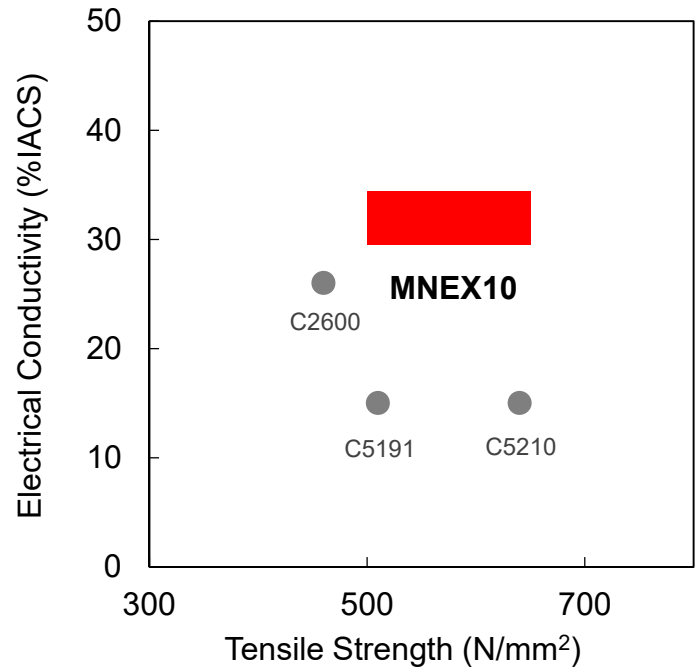
MNEX10

CDA alloy No.C41125

1. Main features

- Superior balance between strength, bending workability and conductivity.
- Excellent stress relaxation resistance.
- Superior stress corrosion resistance.
- Reasonable cost-effectiveness.

4. Positioning of Alloy



2. Chemical composition

(Weight%)

Zn	Ni	Sn	Fe	P	Cu
10	0.6	0.6	0.01	0.04	Rem. *

* Including inevitable impurities and trace additive elements

3. Physical properties

Property	Representative Value
Specific Gravity (293 K)	8.8
Coefficient of Thermal Expansion (/ K : 293~573 K)	18.4×10^{-6}
Thermal Conductivity (W / (m · K) : 293 K)	138
Electrical Conductivity (%IACS : 293 K)	30
Modulus of Elasticity (kN / mm ² : 293 K)	123
Poisson's ratio (293 K)	0.33

5. Mechanical properties

	Temper		Typical values	
	H	EH	H t:0.25mm	EH t:0.25mm
Tensile Strength (N/mm ²)	500 ~ 600	550 ~ 650	541	580
0.2% Yield Strength (N/mm ²)	450 ~ 550	500 ~ 600	508	546
Elongation (%)	7Min.	3Min.	11	10
Elastic Limit Kb _{0.1} ^{※1} (N/mm ²)	-	-	(493)	(589)
Vickers Hardness ^{※2} (HV)	(150 ~ 190)	(160 ~ 210)	(168)	(182)

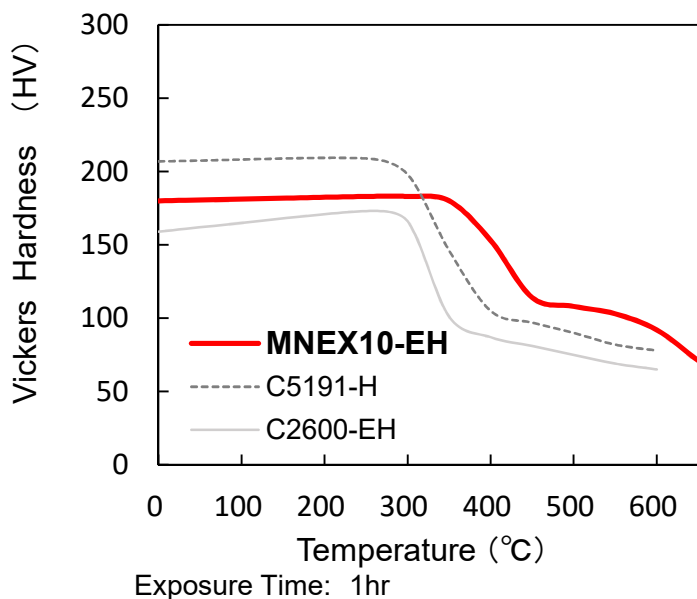
※1 Sampling direction : T.D.

※1, 2 Reference value

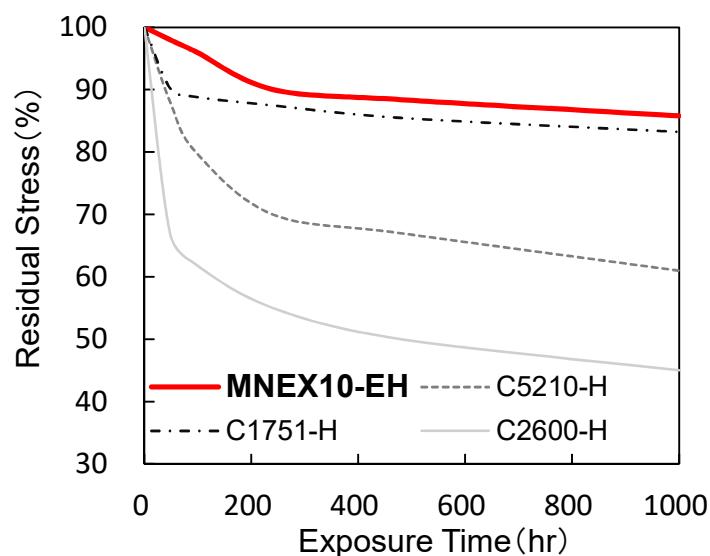
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6. Resistance to Softening



7. Stress relaxation resistance



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

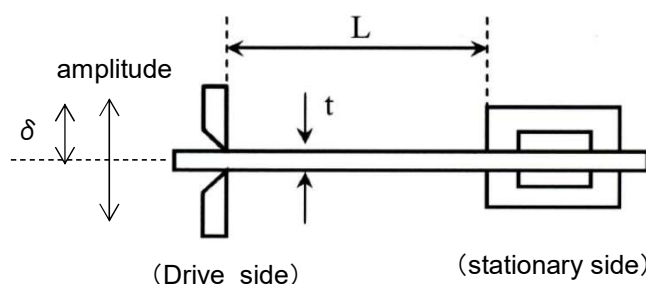
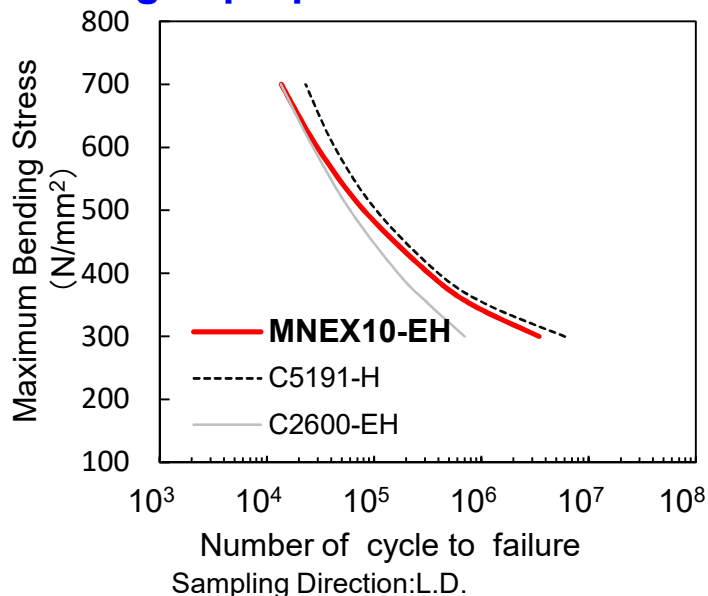
8. Bendability

Specimen: Width 10mm Test Method: 90° W-Bend Load: 9.8kN

Temper	Sampling Direction (to the rolling direction)	Bending Radius(mm) R							R/t
		0.0	0.1	0.125	0.15	0.20	0.25	0.40	
H t:0.25mm	0°: (Good Way)	△	○	○	○	○	◎	◎	0.0
	90°: (Bad Way)	△	○	○	○	○	◎	◎	0.0
EH t:0.25mm	0°: (Good Way)	△	△	△	○	○	○	◎	0.0
	90°: (Bad Way)	▲	▲	△	△	△	△	○	0.5

Evaluation criteria : ◎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/mm²)

t: Thickness of specimen (mm)

L: Length of specimen (mm)

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