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*NKC286S* is a new Hyper Corson alloy(Cu-Ni-Si) which is improved bend formability, maintaining high strength, high conductivity of NKC286. It has excellent bend formability, enabling applications involving rigorous bending of small radiuses. Further, NKC286S has the Young's modulus lower than conventional Corson alloys, which enhances the flexibility of design. This combination of properties lends the alloy to be used in a wide variety of applications including automotive and electrical connectors.

JX Nippon Mining & Metals is also able to provide NKC286S with reflow tin plated.

This technical brochure provides the comprehensive data of high performance copper alloy NKC286S and should help understand the alloy's features.

This data included are nominal numbers.

- (1) High strength and high conductivity.
- (2) Excellent bend formability.
- (3) Low Young's modulus.
- (4) High stress relaxation resistance.

Chemical composition is the same as NKC286.



	Good Way	Bad Way
Surface appearance		
Cross section		

Figure 1 Surface appearances and cross sections of W-shaped bending test specimens.  
 Temper = 1/2H, Thickness = 0.18mm, R/t = 0, Width = 10mm

U-shaped bending test

Stress relaxation resistance is highly important for maintaining the contact force for long period of time or at elevated temperatures. Figure3 exhibits the stress relaxation resistance of NKC286S. It is noted that NKC286 maintains about 85% of the initial applied stress after 1000h at 150 .

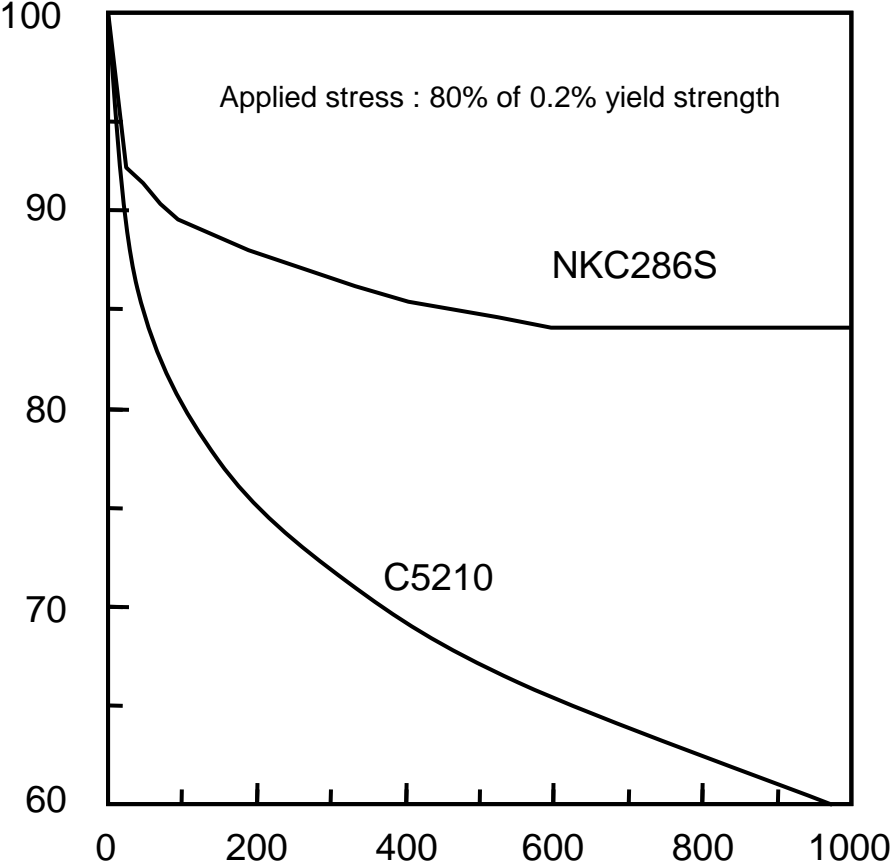


Figure 3 Stress relaxation of connector alloys at 150 .

Figure 4 and 5 show the Stress-Strain curves for NKC286S. Figure 6 and 7 show comparison of NKC286S and NKC286.

a

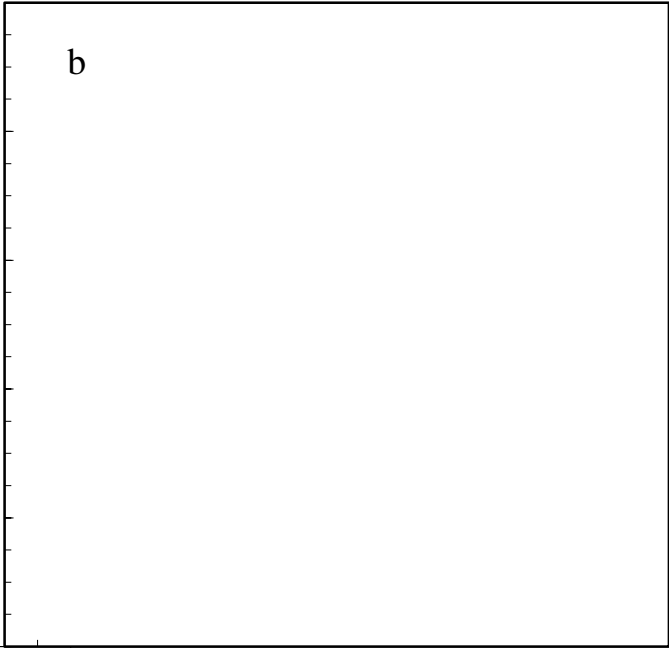


Figure 4 Stress-Strain curves for NKC286S-1/2H in the (a)longitudinal and (b)transverse directions.

a

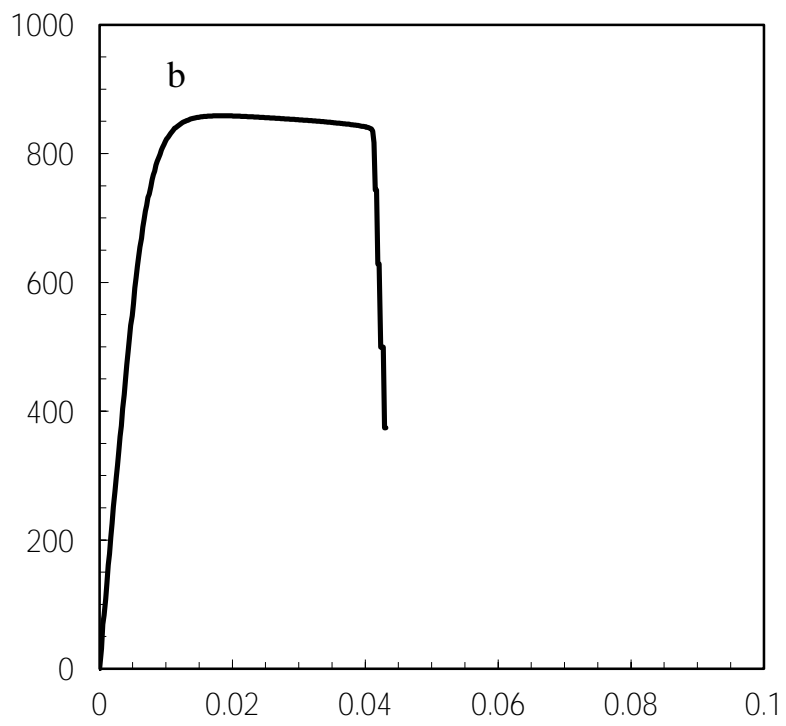


Figure 5 Stress-Strain curves for NKC286S-H in the (a)longitudinal and (b)transverse directions.

Figure 6 Stress-Strain curves for NKC286S





