

# CFB-1

## Standard Bare Cu Wire 高純度Cuボンディングワイヤ



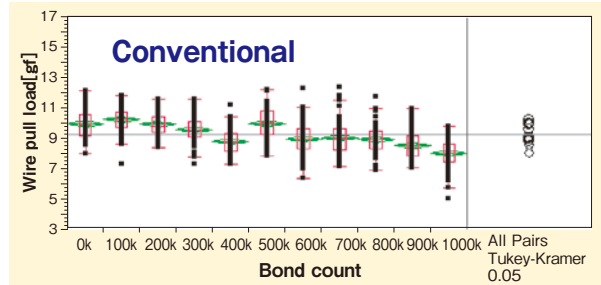
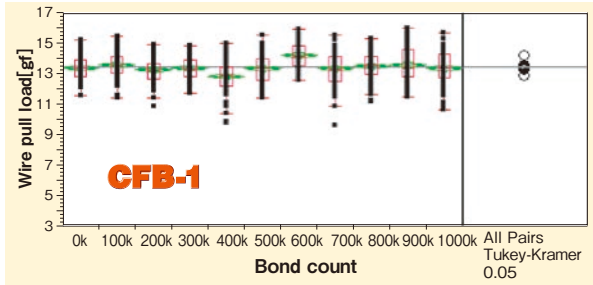
### Characteristics

- Excellent stitch bond-ability and wide bonding parameter window
- Stable continuous bond-ability

### 特 徴

- ステッチ接合性に優れ、パラメータ設定が容易
- 安定した連続ボンディング性

### Continuous Bonding 2nd Pull Test



# CA-1

## High Reliability Cu Alloy Bonding Wire 高信頼性対応Cu合金ボンディングワイヤ



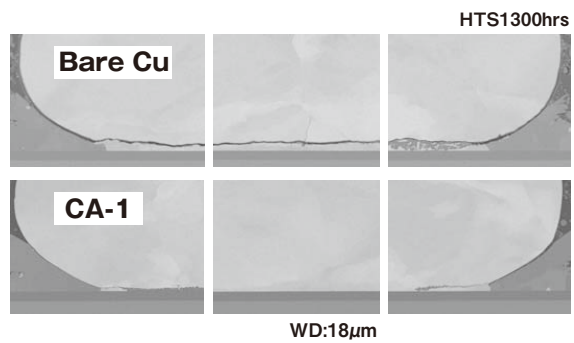
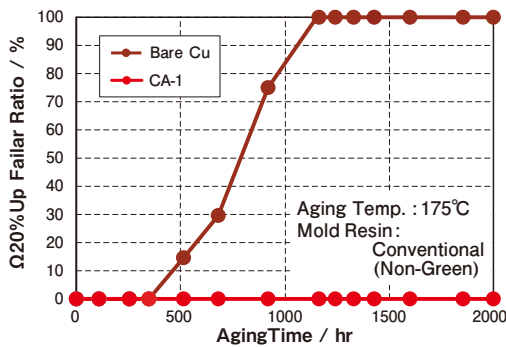
### Characteristics

- Higher bond reliability
- Wider bonding window
- Lower resistivity

### 特 徴

- 高い接合信頼性
- 広いボンディングウインドウ
- 低い電気抵抗

### Bond Reliability



### 2nd Bond Process Window

#### Bare Cu

		US (mA)													
		0	20	40	60	80	100	120	140	160	180	200			
Force (gf)	20	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	40	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	60	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	80	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	100	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	120	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	140	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	160	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	180	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	200	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail

K&S iConn WD:18μm

#### CA-1

		US (mA)												
		0	20	40	60	80	100	120	140	160	180	200		
Force (gf)	20	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	40	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	60	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	80	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	100	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	120	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	140	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	160	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	180	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail
	200	NSOL	NSOL	NSOL	NSOL	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail	Short Tail

NSOL Short Tail

**CFB-1 Data Sheet**  
**General Properties**

Wire Diameter (um)	18	20	23	25	28	30	32	35	38	ASTM F205-94
Tolerance (um)	+/- 1.0									
Weight (mg/200mm)	0.405-0.506	0.506-0.618	0.678-0.807	0.807-0.947	1.021-1.178	1.178-1.347	1.347-1.526	1.620-1.816	1.918-2.131	
Breaking Load (gf)	Tensile Tester Jaw Length = 100mm Production Guide 2012-3 10H									
Elongation (%)										

**Physical Property**

Hardness (HV)	Free Air Ball	55 - 75									Vickers tester
	HAZ	65 - 80									
	Wire	70 - 90									
Density (g/cm <sup>3</sup> )	8.92									Chemical Book	
Resistivity (uΩcm) @ 20°C	1.9									4 terminal method	
Fusing Current (A, Length=3mm,10sec)	0.6	0.7	0.9	1.1	1.4	1.6	1.9	2.3	2.7	Theoretical Value	
Electrical resistance (Ω, Length 10mm, Room Temp.)	0.67 - 0.84	0.55 - 0.67	0.42 - 0.50	0.36 - 0.42	0.29 - 0.33	0.25 - 0.29	0.22 - 0.25	0.19 - 0.21	0.16 - 0.18	Calculated Value	
Thermal Conductivity @ 20°C (W/m/K)	385									Theoretical Value	
Linear Expansion Coefficient (0-100°C) (ppm/K)	17.0									Metals Data Book	
Elastic Modulus (GPa)	60 - 90									Tensile Tester	
Melting Point (°C)	1,083									Chemical Book	

TDS CFB-1 rev.1 20201120

**CA-1 Data Sheet**  
**General Properties**

Wire Diameter (um)	18	20	23	25	28	30	32	35	38	ASTM F205-94
Tolerance (um)	+/- 1.0									
Weight (mg/200mm)	0.406-0.508	0.508-0.620	0.680-0.810	0.810-0.950	1.025-1.182	1.182-1.351	1.351-1.531	1.625-1.822	1.925-2.138	
Breaking Load (gf)	Tensile Tester Jaw Length = 100mm Production Guide 2012-3 10H									
Elongation (%)										

**Physical Property**

Hardness (HV)	Free Air Ball	60 - 80									Vickers tester
	HAZ	70 - 85									
	Wire	75 - 95									
Density (g/cm <sup>3</sup> )	8.95									Calculated Value	
Resistivity (uΩcm) @ 20°C	2.2									4 terminal method	
Fusing Current (A, Length=3mm,10sec)	0.5	0.6	0.8	1.0	1.2	1.4	1.6	2.0	2.3	Theoretical Value	
Electrical resistance (Ω, Length 10mm, Room Temp.)	0.78 - 0.97	0.64 - 0.78	0.49 - 0.58	0.41 - 0.49	0.33 - 0.38	0.29 - 0.33	0.26 - 0.29	0.22 - 0.24	0.18 - 0.20	Calculated Value	
Thermal Conductivity @ 20°C (W/m/K)	333									Theoretical Value	
Linear Expansion Coefficient (0-100°C) (ppm/K)	17.0									Metals Data Book	
Elastic Modulus (GPa)	55 - 95									Tensile Tester	
Melting Point (°C)	1,086									Phase Diagram	

TDS CA-1 rev.1 20201120