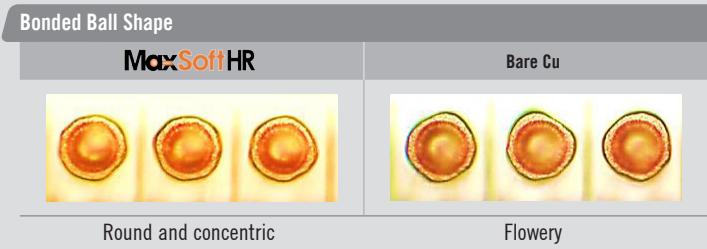


MaxSoft HR

Copper Wire for High Reliability and Robust Bondability

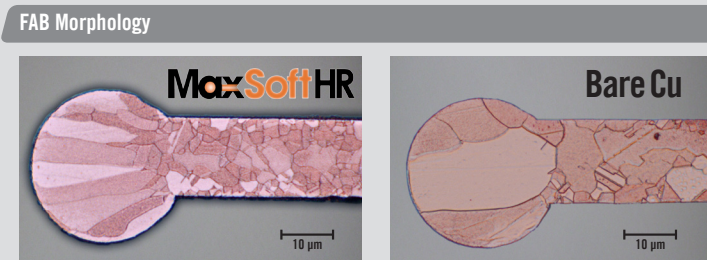


- MaxSoft HR Benefits & Features**
- Excellent reliability performance
 - Ultra-fine pitch wire bonding capability enabled with improved bonded ball shape
 - Improved and enhanced 2nd bond performance over bare Cu wire
 - Very good and consistent looping performance
 - Longer floor life 10 days compared to bare Cu wire



Reliability Test – molded Package (0.7mil)

Test	Package	Conditions	Test Periods
			Passed
TCT	BGA	-65~150°C	>2,000 cycles
	Lead Frame		>2,000 cycles
HTST	BGA	150°C	>2,000 hours
	Lead Frame		>2,000 hours
uHAST	BGA	130°C/85%RH/ 33.5 Psia	>768 hours
	Lead Frame		>768 hours



Recommended Technical Data of MaxSoft HR

Diameter	Microns	15	18	20	23	25	33	38	50
	Mils	0.6	0.7	0.8	0.9	1.0	1.3	1.5	2.0
Elongation	%	5-15	6-16	7-17	7-18	9-21	11-21	11-21	13-25
Breaking Load	g	3-6	5-8	7-10	9-13	10-16	18-26	26-34	52-60

For other diameters, please contact Heraeus sales representative.

MaxSoftHR Characteristics for 0.7mil diameter

Physical Properties

Density	8.93 g/cm ³
Melting Point	1054°C
Specific Heat Capacity @ 25°C	0.71 J/g · °C
Coeff. of Thermal Expansion (0 - 100 °C)	14.95 µm/m · °C
Electrical Resistivity	1.74 µΩ · cm
FAB Hardness	90–100 HV (0.01 N/5 s)
Wire Hardness	95–105 HV (0.01 N/5 s)
Elastic Modulus	90–100 GPa

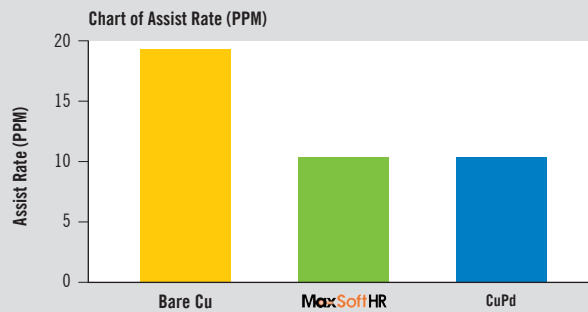
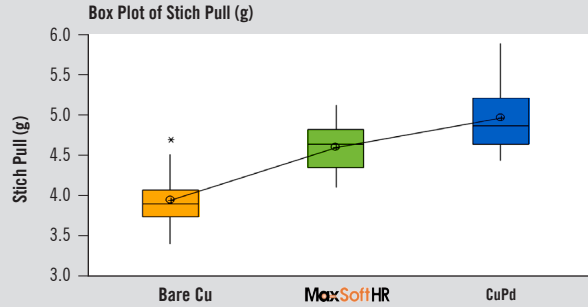
Chemical Composition

Cu Purity	99 % min. (2N Cu)
Non-Cu elements	< 1 %

Other Guidelines

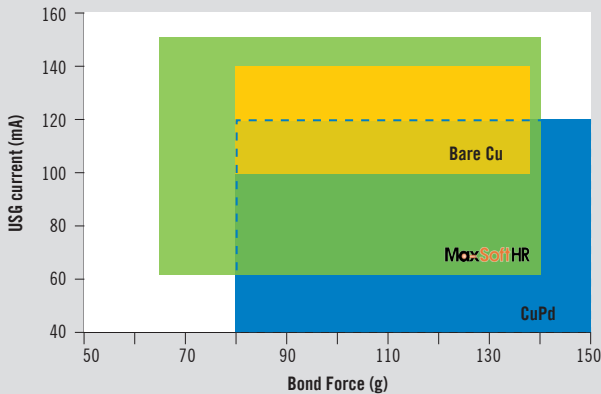
Floor Life	10 days
Shelf Life Time	6 months
Shielding Gas	Forming Gas (95N ₂ :5H ₂)

2nd Bond Stitch Pull & Assist Rate



Wire Diameter: 0.7mil, Package Type: BGA

2nd Bond Process Window



Wire Diameter: 0.7mil, Package Type: BGA

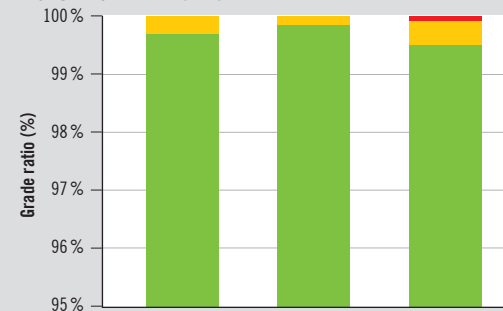
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Looping Performance

Looping comparison (loop height 10 mil) S.S: 6734 wires



	Pd/Au_Cu	MaxSoftHR	Bare Cu
Grade C (wire touch)	0,00%	0,00%	0,06%
Grade B (slight variance)	0,30%	0,15%	0,58%
Grade A (good leaner)	99,70%	99,85%	99,36%

Wire Diameter: 0.7mil, Package Type: BGA

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