



Stencil

The material for the stencil was chosen because of its ability to be laser machined and its availability in wide variety of thicknesses. It also has an excellent balance of physical, chemical and electrical properties over a very wide temperature span. Finally its dimensional stability over a wide span of reflow temperatures made the material an ideal choice.

Tensile Strength:	>31,800PSI @23°C, > 33,300 PSI @200°C
Elongation:	<57% @23°C, <85% @200°C
Modulus:	> 274 KPSI @23°C, > 239 KPSI @200°C
CTE:	20 ppm
Tg:	351°C
Dimensional Stability @400°C:	less than 0.40 %
Moisture Absorption:	4% maximum
Thermal Conductivity:	0.17 W/ m K
UL Rating:	UL 94V0

Adhesive:

The adhesive has good solvent resistance properties. It is used for general-purpose high temperature holding or insulating applications up to 155° C temperatures. It also has excellent edge tear resistance properties.

Insulation class:	155° C
Backing material:	Glass cloth
Adhesive:	Acrylic, thermosetting, solvent resistant
Color:	White
Total thickness:	7 mils (0.178 mm)
Adhesion to steel:	45 oz per in./502 gm per cm
Tensile strength:	180 lbs per inch/32.2kg per cm
Dielectric strength:	3,000 volts
Elongation:	7%
UL component recognition:	Guide OANZ2, File E20392
Meets:	MIL-T-4053B

Solder Balls

The solder spheres used in the EZReball™ package are manufactured from virgin materials to meet or exceed the requirements of building or repairing semiconductor packages. They exceed both the IPC and MIL standards for purity levels and size tolerances. The solder spheres used feature high sphericity and accurate dimensions.

Standard Alloys

Sn63Pb37 - Melting temperature 183° C (361° F)
Sn96.5Ag3Cu0.5 - Melting temperature 217-220° C (423-428° F)

- Special alloys may be ordered or provided by BEST Inc.

Available Diameters

Diameter (mils)	Tolerance (mils)
35.0	+/- 1.0
30.0	+/- 1.0
25.0	+/- 1.0
20.0	+/- 1.0
18.0	+/- 0.8
16.0	+/- 0.8
14.0	+/- 0.8
12.0	+/- 0.8



Alloy Composition

Metal is alloyed to ensure the alloy composition exceeds J-STD-006 standards

Element	Max	Element	Max	Element	Max
Ag	0.002	Bi	0.015	In	0.010
Al	0.002	Cd	0.001	Ni	0.002
As	0.020	Cu	0.005	Sb	0.020
Au	0.002	Fe	0.003	Zn	0.002

Storage and shelf life

This product has a shelf life of 1 year when kept opened at room temperature. It is not recommended that these stencils be refrigerated, as this does NOT extend the shelf life. Normal fluctuations in industrial setting temperatures and humidity will not impact the shelf life. Avoid contamination of the stencils coming into contact with foreign object such as oils from unprotected fingers or other chemicals.

A dry box may extend solderability but may decrease adhesive strength.