

**CN33-145
AlN Ag Conductor**

Description:

The CN33-145 is a mixed bonded, silver conductor paste especially designed to be used on aluminum nitride (ALN) substrates for the production of high adhesion, high conductivity interconnects in the production of power hybrid circuitry. CN33-145 is also used as a terminating conductor for LED lighting or for other high power hybrid termination.

CN33-145 conductor is also solderable with good leach resistance. The material also features good reflow stability.

Fired Film Properties	
Film thickness	14 ± 2 μm
Resistivity¹	≤ 1.7 mΩ/sq at 25.4 μm
Line Definition	125μ
Solderability²	3–5
Adhesion³ (lb):	≥ 5
Leach Resistance⁴	<10% leach at 230 °C (1 min) reflow furnace using Ag62 solder paste

Formulation Properties:

Line resolution: 10 mil lines and spaces (250 μm) at printing speeds of up to 14 cm/second.

Viscosity: 250 ± 40 Kcps at 25°C when measured using a Brookfield HBT viscometer #14 spindle at 10 rpm.

Adhesion: Initial adhesion ≥ 5 lbs
Aged adhesion (after 48hrs) ≥ 3 lbs

Solids Content: 86.0 ± 2.0%.

Coverage: ≈ 80 cm²/gm when printed with 280-mesh stainless steel screen.

Shelf Life: 12 months at 25°C.

Notes:

1. Measured on a 200sq pattern.
2. Seconds to reach .95% coverage on 80 mils X 80 mils pads, using Ag 62
3. 90° wire peel test, 80mil X 80 mil pad.
4. Seconds to reach .95% coverage on 80 mils X 80 mils pads, using Ag 62

This data represents typical properties and is not intended to be used as specification limits

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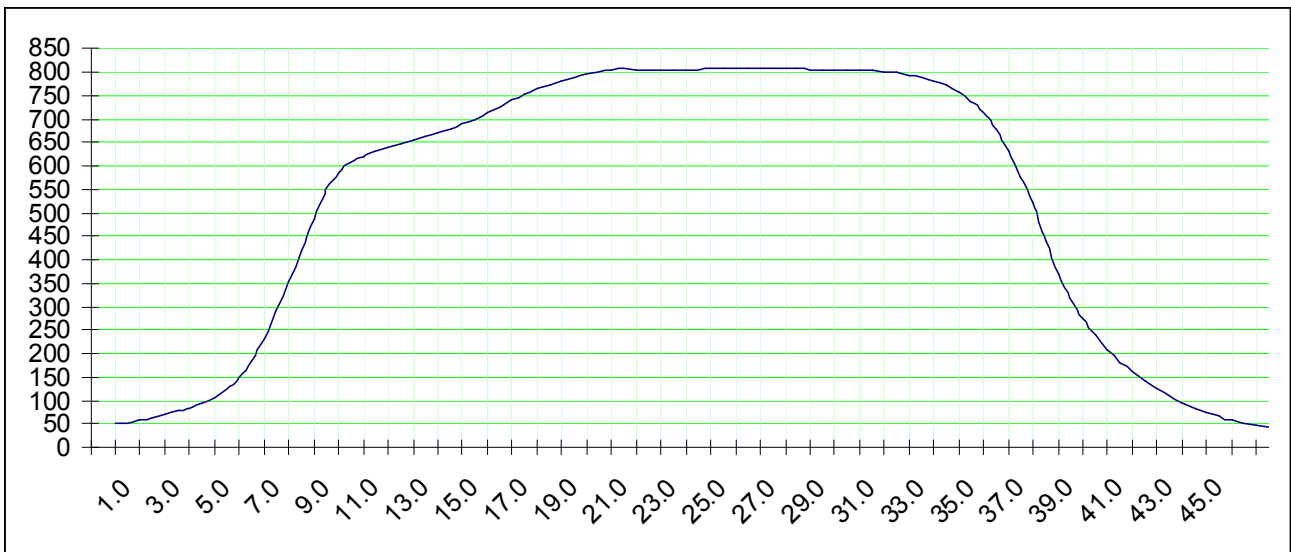
Processing Recommendations

Printing: A 325- mesh stainless steel screen with 25.4 μm thick emulsion typically yields a dry thickness of 25 ± 3 μm. Other screen mesh sizes, 200-280, with appropriate emulsion thicknesses may also be used.

Firing: Optimum results are obtained by air firing at a peak temperature of 850 ± 5 °C for 8 – 12 minutes. Total cycle of 60 minutes.

Thinning: Please contact your local Ferro Representative for appropriate solvent details if thinning becomes necessary to replace solvent lost through evaporation. Sometimes solvent loss may be made up with texanol addition.

Figure 1: Recommended firing profile for ALN conductor CN33-145



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