

Technical Data Sheet

BONDING WIRE

Product Type: Aluminum Bonding Ribbon
Product Name: AluBond Prime
Product ID: Al-Prime RB

Technical Parameters (*)

Dimension	mm	0.1 x 1.0	0.2 x 1.0	0.3 x 1.0	0.1 x 1.5	0.2 x 1.5	0.3 x 1.5	0.2 x 2.0	0.3 x 2.0
	mils	4 x 40	8 x 40	12 x 40	4 x 60	8 x 60	12 x 60	8 x 80	12 x 80
Tolerances width	µm	± 70	± 70	± 70	± 70	± 70	± 70	± 70	± 70
Tolerances thickness	µm	± 6	± 6	± 6	± 6	± 6	± 6	± 6	± 6
Medium									
Elongation	%	> 10	> 10	> 10	> 10	> 10	> 10	> 10	> 10
Breaking Load	cN	620-950	1240-1890	1860-2850	930-1450	1860-2850	2790-4250	2480-3800	3720-5700
Soft									
Elongation	%	> 10	> 10	> 10	> 10	> 10	> 10	> 10	> 10
Breaking Load	cN	400-650	850-1300	1100-1800	650-1000	1250-1850	2000-2800	1400-2400	2500-3700

1mil ≈ 25µm
 100cN ≈ 100g

Breaking load and elongation : Testing velocity 10mm / min. Test length of sample : 100 mm

(*) Technical parameters: The above parameters are standard values. Customized specification and intermediate dimension possible after clarification with Heraeus technical experts.

Material Characteristics

Physical Properties

Density	2.7 g/cm ³
Melting point	660 °C
Modulus of rigidity	27 kN/mm ²
Linear expansion coefficient (20 – 30 °C)	25.3 (10 ⁻⁶ *K ⁻¹)
Thermal conductivity at 20 °C	230 W/m*K
Electrical resistivity at 20 °C	2.8 µΩ*cm
Relative electrical conductivity (IACS) at 20 °C annealed	64.0%
Meter resistance at dimension 0.2 x 2.0 mm (20 °C)	0.07Ω/m
Temperature coefficient of electrical resistance (0 – 100 °C)	4.14 10 ⁻³ *K ⁻¹

Chemical Specifications

Al purity	> 99.99%
Non-Al element total	100 wt.-ppm
Standard element limits wt.-ppm	Ni 40-60

Mode of Delivery

Ribbon regularly spooled on polymer spools of type 3.5" PS-DF. Per spool only one single ribbon length. Start and end of wire get marked by adhesive tapes of different colours: start-green, end-red or per separately to be fixed agreement. Regular length per spool: see table or per separately to be fixed agreement. Mode of spooling: multiple layers. Alternative spool types by discussion with HERAEUS technical representative.

Surface

The ribbon surface is free from pollution, fingerprints and foreign substances. Inclusions, notches, big grooves and bends are not allowed. Slight rolling marks are permissible.

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Spool Dimensions

Spool description – 3.5"-PS-DF	Spool description – 4"-PS-DF	Spool description - ConBig
Core diameter: 48 mm	Internal diameter: 10.2±0.2mm	Core diameter: 48 mm
Flange diameter: 82.5 mm	Outer diameter: 104.0 mm	Flange diameter: 120 mm
Internal diameter: 10.2 mm	Overall width: 20.0 mm	Internal diameter: 10.3 mm
With over windings: 25.0 mm	Material: Polystyrene	Overall width: 40 mm
Overall width: 30.7 mm		Material: Polystyrene
Material: Polystyrene		

Alternative spool types and length/spool by discussion with HERAEUS technical representative.

Markings

Each single packed unit gets marked with a label carrying the following information:

- | | |
|----------------------------|--|
| a) Ribbon type | f) Lot no. |
| b) Specified diameter | g) Exp. date (as defined on the product label) |
| c) Length per spool | h) Supplier name |
| d) Specified elongation | i) Description of ribbon start (tape colour) |
| e) Specified breaking load | j) Barcode (code 39) for adequate parameters |

Packing

Spools are single packed and arrested in a suitable, dust-safe polymer box, preventing ribbon and spool from damages and pollution.

Expiry Date and Recommendation Storage

AluBond Prime can be stored for min. 12 month or as defined on the product label, when it is original sealed, packed and atmospheric conditions can be kept.

Environmental temperature: 10 – 40 °C
Relative humidity: < 70 %

In case that the atmospheric conditions cannot be held stable, we recommend storing the wires in a nitrogen flooded chamber. Storage of the wires must be done in original supplied plastic boxes in upright position. Storing surrounding must keep the wire spools safe from mechanical impact of any case, such as shocks, vibration, etc., and away from direct sunlight or rain. 6-month period is depending on the manufacturing date, which can be find on the accompanying certificate which is supplied with every shipment and on each spool package label. After opening the sealed box, we recommend consuming the wire within 7 days.

Certificate of Quality

A Certificate of Quality gets supplied enclosed to each lot, providing the following information at minimum:

- Product identification (name, material, lot no., order no., customer name, mfg. & exp. date)
- Specification / tolerances / spool data
- Quality inspection test data / results

Additional Specification Details

Customer specifications can become valid in addition to this technical data sheet in case they have been set in place by mutual agreement.

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