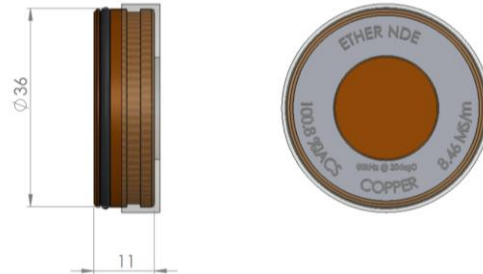


## ETHer NDE Application Note: AP020

**Conductivity Reference Blocks - NPL**

Used as a reference in the application of electrical conductivity measurement of non-ferrous metals, ideal for both laboratory and field use. Blocks are supplied with calibration certificates.

**Product Code:**

| ETHer NDE Part No.          | Material                  | % IACS<br>(Value Range) | MS/m MegaSiemens per meter<br>(Value Range) |
|-----------------------------|---------------------------|-------------------------|---|
| <b>ATBC-COPPER-NPL</b>      | Copper                    | (99.9-104.5)            | (57.58 – 60.61)                             |
| <b>ATBC-ALU1200-NPL</b>     | Aluminium Alloy, 1200-H4, | (57.2-63.0)             | (33.18 – 36.54)                             |
| <b>ATBC-ALU6082-NPL</b>     | Aluminium Alloy, 6082-T6  | (45.1-50.0)             | (26.16 – 29.00)                             |
| <b>ATBC-ALU6061-NPL</b>     | Aluminium Alloy, 6061-T6  | (40.8-45.5)             | (23.66 – 26.39)                             |
| <b>ATBC-ALU2014A-T6-NPL</b> | Aluminium Alloy, 2014A-T6 | (34.7-40.7)             | (20.13 – 23.61)                             |
| <b>ATBC-ALU7075-NPL</b>     | Aluminium Alloy, 7075-T6  | (30.3-34.6)             | (17.57 – 20.07)                             |
| <b>ATBC-ALU5083-NPL</b>     | Aluminium Alloy, 5083     | (26.6-30.2)             | (15.43 – 17.52)                             |
| <b>ATBC-BRASS-NPL</b>       | Brass, CZ 121             | (23.3-26.5)             | (13.51 – 15.37)                             |
| <b>ATBC-PBRONZE-NPL</b>     | Phosphor Bronze           | (12.9-18.0)             | (7.48 – 10.44)                              |
| <b>ATBC-NICSILVER-NPL</b>   | Nickel Silver, LC1291     | (8.9-10.0)              | (5.16 – 5.80)                               |
| <b>ATBC-STST303S-NPL</b>    | Stainless Steel, 303 S    | (2.0-2.5)               | (1.16 – 1.45)                               |
| <b>ATBC-TITANIUM-NPL</b>    | Titanium, 6AL-4V          | (0.9-1.0)               | (0.52 – 0.58)                               |

**Specification:**

Blocks are calibrated at 20degC, at a frequency of 60kHz

The limits of permissible errors are  $\pm 1\%$ IACS of value for values of 35%IACS and lower,  $\pm 0.35\%$ IACS for measured values between 35%IACS and 62%IACS and  $\pm 1\%$ IACS for measured values 62%IACS and above.

Surface finish of 8Ra = 0.2 $\mu$ m

The conductivity of each reference standard is determined for the central area of diameter 15mm of front face by comparison with similar material, the conductivity of which has been determined in terms of traceable electrical standards.

All supplied blocks are calibrated and that the certification of the equipment used for this purpose is traceable to the National Physics Laboratory (NPL) and calibrated in accordance to ASTM B193 including MIL-STD-1537 and Boeing Process Spec. BAC5651.

**Note:**

Conductivity bar stock values vary, for current stock values please contact sales@ethernde.com.