Electrical tests – Standard and Options

The following **feedthroughs** are 100% tested during the production process:

- All Sub-D Feedthroughs (9 / 15 / 25 / 37 / 50 Pin versions)
- All High Density Sub-D Feedthroughs (26 / 78 Pin versions)
- All Compact Circular Feedthroughs (CM6 / CM12 /CM19 versions)
- High Frequency SMA 18G Feedthroughs
- SMB Feedthroughs

The standard these feedthroughs are tested to is:
Voltage test **500VDC** pin to ground (CM versions also pin to pin)
combined with a resistivity test of min **1 GOhm** pin to ground.
On Sub-D feedthroughs all pins together are tested for a resistivity of > 1 GOhm against ground.
(By this, the single pin to ground resistivity is significantly higher than 1 GOhm)

All **coaxial vacuum cables** from Allectra are 100% tested during the production process.

- SMA / SMB / BNC / MHV / SHV / N / MICRODOT

Voltage test **500V DC** conductor to shield
combined with a resistivity test of min **1 GOhm** pin to ground.

MHV, SHV and N cables are in addition tested with **5KV DC** conductor to shield against arcing.

If required, Allectra can test to higher levels:

1) Resistivity test: Limit **1x 10^{15} Ohm** (1.000 Tera-Ohm or 1 Petra-Ohm) with a test voltage of 500V DC max.
2) High voltage test up to **12KV DC**
3) High voltage test up to **40KV DC**

As example: Sub-D feedthroughs can be delivered with a test voltage of 900V DC on request. Cables can be tested to higher voltage ratings.

Test and working voltages for air side connectors:

Type	Working Voltage	Voltage proof
BNC	<500V eff /50Hz	1.5KV eff /50Hz
SMA	<335V eff /50Hz	1KV eff /50Hz
SMB	200V eff /50Hz	750V eff /50Hz
SMC	250V eff /50Hz	750V eff /50Hz
MHV	<1.6KV eff /50Hz	5KV eff /50Hz
SHV	<3.5KV eff /50Hz	5KV eff /50Hz
N	<1KV eff /50Hz	2.5KV eff /50Hz
MICRODOT		1KV eff /50Hz

(values given by high quality manufacturers, might be lower for budget quality connectors)

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