



## TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING

### IEC 60939-2:2005-02, Edition 2.0

#### Passive filter units for electromagnetic interference suppression – Part 2: Sectional specification for which safety tests are appropriate – Test methods and general requirements

#### *PROVISIONAL*

R=Required by Lab

S=May be subcontracted

3PPS=Three Phase Power Supply required

| Clause | Measurement/testing                                       | Testing / measuring equipment / material needed   | Subcontracting |
|--------|---|---|----------------|
| 4.3    | Visual examination and check of dimensions                | Sliding gauge   | R              |
| 4.4    | Voltage proof   | AC power supply, 50 Hz, max. 5 kV<br>DC power supply, max. 7,5 kV<br>Voltage measurement instrument                   | R              |
| 4.5    | Insulation resistance                                     | Insulation resistance meter, max. DC 500 V  | R              |
| 4.6    | DC line resistance<br>or<br>Voltage drop at rated current | Microohmmeter<br><br>AC / DC power supply<br>Voltmeter and amperemeter  | R              |
| 4.7    | Insertion loss  | Spectrum analyzer, 150 kHz to 30 MHz  | R              |
| 4.8    | Discharge resistance                                      | Resistance meter<br>AC power supply, 50 Hz, max. 4 kV<br>DC power supply, max. 6 kV<br>Voltage measurement instrument | R              |
| 4.9    | Robustness of terminations                                | Mechanical testing facilities   | R              |



| Clause | Measurement/testing          | Testing / measuring equipment / material needed  | Subcontracting |
|--------|------------------------------|--|----------------|
| 4.10   | Resistance to soldering heat | Soldering bath (260 °C)  | S              |
| 4.18   | Damp heat, steady state      | Climatic chamber (40 °C; 93 % RH)<br>AC power supply   | R              |
| 4.19   | Temperature rise             | Oven ( $\geq 40$ °C)<br>Temperature recorder<br>Microohmmeter<br><br>AC power supply (1-phase or 3-phase)<br>or<br>DC power supply (low voltage, high current) | R              |
| 4.20   | Impulse voltage              | Impulse voltage generator, max. 8 kV<br>Oscilloscope   | R              |
| 4.21   | Endurance                    | Oven (max. 150 °C)<br>AC power supply (max. 1000 V~; Impulse 1000 V~ / 0,1 s)  | R              |
| 4.23   | Passive flammability         | Needle flame test equipment according to IEC 60695-2-2   | R              |
| 4.27   | Active flammability          | Pulse loading circuit according to IEC 60384-14, clause 4.18   | R              |

Note: The presence of equipment alone does not indicate a satisfactory situation. Assessors must evaluate the equipment design, calibration, uncertainty and documentation to ensure compliance with the directions of the standard. The requirements of ISO Guide 25 regarding validation are applicable, as the tests of this standard are not standardised tests.