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Business Unit: ERA Technology Limited

Report Title: **Proof and Voltage Breakdown Test to IEC 61111 on Floor Mat**

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**Client:** LS Cable Ltd

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**Client:** LS Cable Ltd

**Test Method:** Proof and voltage breakdown tests to IEC 61111 clauses 5.6.4.2 and 5.5.4.3

**Equipment Used:** ERA 100 kV test rig no.76-023, calibration due 06/06/11

**Preconditioning:** 24 Hours at 90 ± 2 °C and RH 40 ± 5%

**Surrounding medium:** Clean Diala B oil

**Material:** LS Rubber Floorcovering (Safe-Marine)

**Date of test:** 2nd March 2011

## Results:

| Sample | Proof test 1 | Proof test 2 | Proof test 3 | Proof test 4 | Proof test 5 | Breakdown Voltage |
|---|---|---|---|---|---|---|
| 1 | 5 kV 3 min | 10 kV 3 min | 20 kV 3 min | 30 kV 3 min | 40 kV 3 min | 63 kV |
| 2 | 5 kV 3 min | 10 kV 3 min | 20 kV 3 min | 30 kV 3 min | 40 kV 3 min | 58 kV |
| 3 | 5 kV 3 min | 10 kV 3 min | 20 kV 3 min | 30 kV 3 min | 40 kV 3 min | 62 kV |
| 4 | 5 kV 3 min | 10 kV 3 min | 20 kV 3 min | 30 kV 3 min | 40 kV 3 min | 61 kV |
| 5 | 5 kV 3 min | 10 kV 3 min | 20 kV 3 min | 30 kV 3 min | 40 kV 3 min | 59 kV |

## Conclusion:

IEC 61111 Table 4 details the proof voltage and breakdown voltages required for various classes of electrical matting from 0 through to 4.

Class 1 requires a 3 minute proof test at 10 kV and a breakdown voltage of ≥ 20kV. Class 2 requires a 3 minute proof test at 20kV and breakdown voltage of ≥ 30kV. Class 3 requires a 3 minute proof test at 30 kV and a breakdown voltage of ≥ 40kV. Class 4 requires a 3 minute proof test at 40 kV and a breakdown voltage of ≥ 50kV. The samples of LS Rubber Floorcovering (Safe-Marine) tested therefore meet class 4 of IEC 61111.