



DESCO INDUSTRIES INC

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QUALIFICATION REPORT – ANSI/ESD S20.20 SCS 1964 SERIES CONDUCTIVE VINYL FLOORING

ANSI/ESD S20.20	SCS Test Results	Test Methods
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Resistance (ohms) @ 12% RH, 23°C, 72 hours conditioning, N=5 specimens, 10V-100V

Resistance-to-Groundable point	< 1.0 x 10 ⁹	See Table 1	ANSI/ESD STM7.1
Resistance Point-to-Point	< 1.0 x 10 ⁹	See Table 2	ANSI/ESD STM7.1

Resistance (ohms) @ 50% RH, 23°C, 72 hours conditioning, N=5 specimens, 10V-100V

Resistance-to-Groundable point	< 1.0 x 10 ⁹	See Table 1	ANSI/ESD STM7.1
Resistance Point-to-Point	< 1.0 x 10 ⁹	See Table 2	ANSI/ESD STM7.1

Testing Equipment (Calibration records and test results are located at our corporate lab (Canton, MA)):

- Environment Chamber with ETS Automatic Humidity Controller (Model 514)
- Desco Electrodes for Surface Resistance (Model 50003)
- Desco Surface Resistance Meter (Model 19291)
- Specimen substrate (if applicable): N/A

Test Data:

Table 1 - Resistance-to-Groundable point, at 12%RH, 23°C

ANSI/ESD STM7.1 Figure 1	Sample #1	Sample #2	Sample #3	Sample #4	Sample #5
Position A-1	< 1.0 x 10 ³	3.47 x 10 ³	1.29 x 10 ³	2.25 x 10 ³	4.57 x 10 ³
Position A-2	1.19 x 10 ³	2.25 x 10 ³	1.29 x 10 ³	1.89 x 10 ³	7.73 x 10 ³
Position A-3	< 1.0 x 10 ³	1.82 x 10 ³	1.15 x 10 ³	1.94 x 10 ³	6.42 x 10 ³
Position A-4	< 1.0 x 10 ³	1.86 x 10 ³	1.13 x 10 ³	2.04 x 10 ³	6.38 x 10 ³
Position A-5	< 1.0 x 10 ³	2.11 x 10 ³	1.01 x 10 ³	1.89 x 10 ³	6.27 x 10 ³
Position A-6	< 1.0 x 10 ³	1.46 x 10 ³	1.00 x 10 ³	1.78 x 10 ³	6.72 x 10 ³
Position B-1	2.13 x 10 ³	< 1.0 x 10 ³	1.74 x 10 ³	2.88 x 10 ³	1.90 x 10 ³
Position B-2	1.98 x 10 ³	< 1.0 x 10 ³	1.45 x 10 ³	3.00 x 10 ³	2.24 x 10 ³
Position B-3	1.02 x 10 ³	< 1.0 x 10 ³	1.12 x 10 ³	3.02 x 10 ³	1.72 x 10 ³
Position B-4	< 1.0 x 10 ³	< 1.0 x 10 ³	1.31 x 10 ³	3.37 x 10 ³	1.35 x 10 ³
Position B-5	< 1.0 x 10 ³	< 1.0 x 10 ³	1.13 x 10 ³	3.14 x 10 ³	1.34 x 10 ³
Position B-6	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	3.02 x 10 ³	1.64 x 10 ³
Min.=	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.78 x 10 ³	1.34 x 10 ³
Max. =	2.13 x 10 ³	3.47 x 10 ³	1.74 x 10 ³	3.37 x 10 ³	7.73 x 10 ³

Table 2 - Resistance-to-Groundable point, at 50%RH, 23°C

ANSI/ESD STM7.1 Figure 1	Sample #1	Sample #2	Sample #3	Sample #4	Sample #5
Position A-1	< 1.0 x 10 ³	1.18 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.79 x 10 ³
Position A-2	1.15 x 10 ³	1.54 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	2.16 x 10 ³
Position A-3	< 1.0 x 10 ³	1.57 x 10 ³	1.05 x 10 ³	< 1.0 x 10 ³	2.00 x 10 ³
Position A-4	1.07 x 10 ³	1.45 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.79 x 10 ³
Position A-5	< 1.0 x 10 ³	1.59 x 10 ³	< 1.0 x 10 ³	1.04 x 10 ³	1.76 x 10 ³
Position A-6	< 1.0 x 10 ³	1.52 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	2.03 x 10 ³
Position B-1	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.01 x 10 ³	1.09 x 10 ³
Position B-2	1.29 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.18 x 10 ³	1.29 x 10 ³
Position B-3	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.05 x 10 ³	1.02 x 10 ³
Position B-4	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.03 x 10 ³
Position B-5	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³
Position B-6	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.04 x 10 ³
Min.=	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³
Max. =	1.29 x 10 ³	1.59 x 10 ³	1.05 x 10 ³	1.18 x 10 ³	2.16 x 10 ³

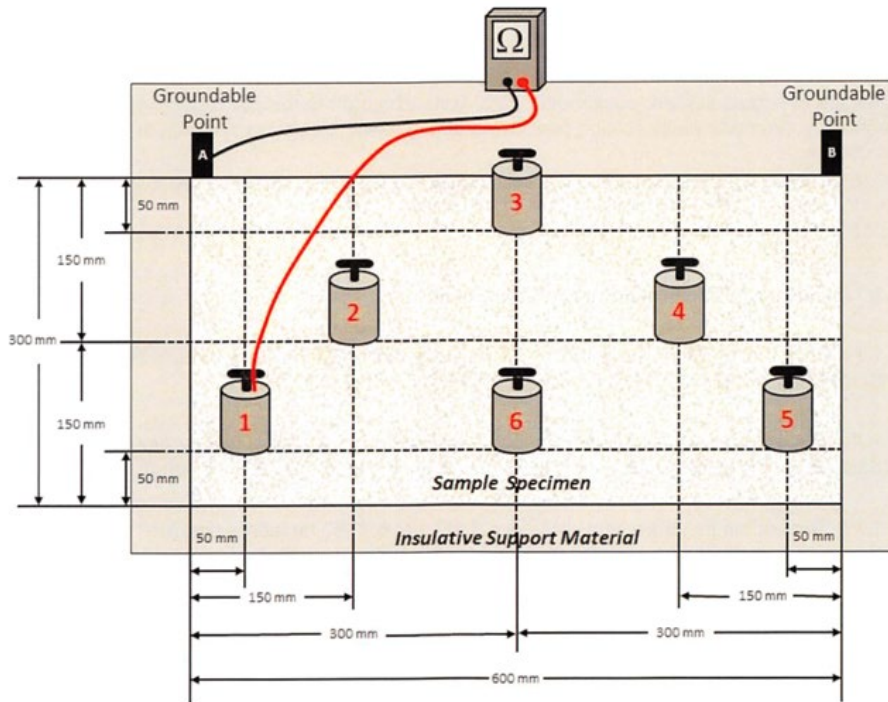
Table 3 - Resistance Point-to-Point at 12%RH, 23°C

ANSI/ESD STM7.1 Figure 2	Sample #1	Sample #2	Sample #3	Sample #4	Sample #5
Position A-1	2.90 x 10 ³	3.04 x 10 ³	2.72 x 10 ³	1.80 x 10 ³	2.04 x 10 ³
Position A-2	3.73 x 10 ³	2.95 x 10 ³	1.82 x 10 ³	1.94 x 10 ³	2.45 x 10 ³
Position A-3	2.27 x 10 ³	2.70 x 10 ³	1.55 x 10 ³	1.75 x 10 ³	1.77 x 10 ³
Position A-4	2.31 x 10 ³	3.18 x 10 ³	1.61 x 10 ³	1.85 x 10 ³	1.75 x 10 ³
Position A-5	3.13 x 10 ³	3.11 x 10 ³	1.60 x 10 ³	1.69 x 10 ³	1.78 x 10 ³
Position A-6	2.69 x 10 ³	2.70 x 10 ³	1.61 x 10 ³	2.02 x 10 ³	2.16 x 10 ³
Position B-1	2.70 x 10 ³	2.80 x 10 ³	1.49 x 10 ³	1.80 x 10 ³	2.25 x 10 ³
Position B-2	3.16 x 10 ³	3.43 x 10 ³	1.73 x 10 ³	2.08 x 10 ³	2.11 x 10 ³
Position B-3	1.89 x 10 ³	3.07 x 10 ³	1.40 x 10 ³	2.10 x 10 ³	1.48 x 10 ³
Position B-4	1.65 x 10 ³	2.31 x 10 ³	1.49 x 10 ³	1.97 x 10 ³	1.94 x 10 ³
Position B-5	2.11 x 10 ³	2.00 x 10 ³	1.46 x 10 ³	1.56 x 10 ³	1.71 x 10 ³
Position B-6	2.32 x 10 ³	2.78 x 10 ³	1.34 x 10 ³	1.43 x 10 ³	1.97 x 10 ³
Min.=	1.65 x 10 ³	2.00 x 10 ³	1.34 x 10 ³	1.43 x 10 ³	1.48 x 10 ³
Max. =	3.73 x 10 ³	3.43 x 10 ³	2.72 x 10 ³	2.10 x 10 ³	2.45 x 10 ³

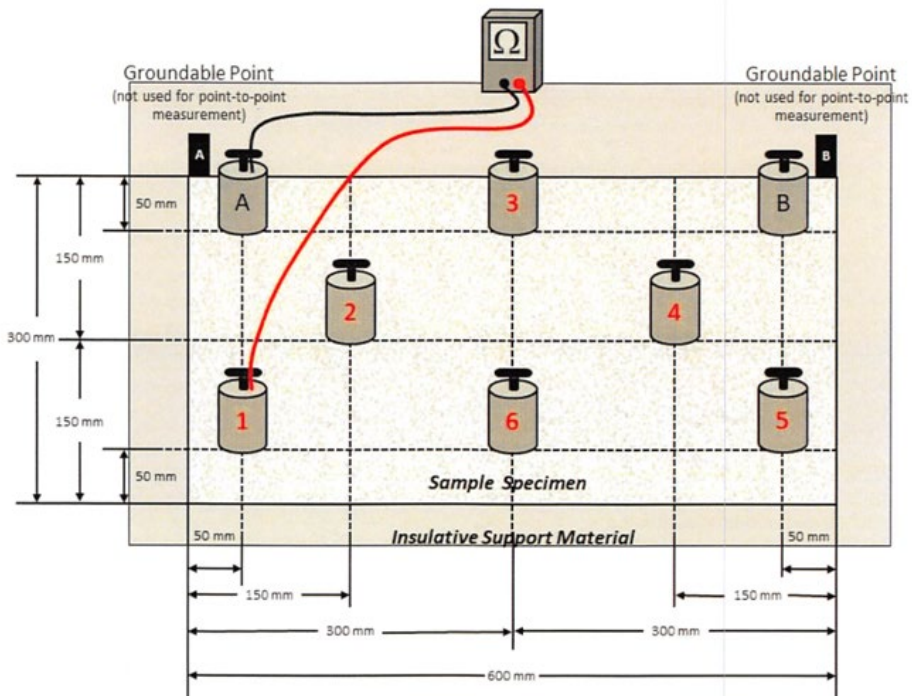
Table 4 - Resistance Point-to-Point at 50%RH, 23°C

ANSI/ESD STM7.1 Figure 2	Sample #1	Sample #2	Sample #3	Sample #4	Sample #5
Position A-1	1.63 x 10 ³	1.95 x 10 ³	1.39 x 10 ³	1.13 x 10 ³	1.40 x 10 ³
Position A-2	2.28 x 10 ³	1.80 x 10 ³	1.05 x 10 ³	1.45 x 10 ³	1.26 x 10 ³
Position A-3	1.33 x 10 ³	1.85 x 10 ³	1.22 x 10 ³	1.21 x 10 ³	1.14 x 10 ³
Position A-4	1.60 x 10 ³	1.65 x 10 ³	1.13 x 10 ³	1.49 x 10 ³	<1 x 10 ³
Position A-5	1.80 x 10 ³	1.52 x 10 ³	< 1.0 x 10 ³	1.20 x 10 ³	1.09 x 10 ³
Position A-6	1.54 x 10 ³	1.77 x 10 ³	<1 x 10 ³	1.09 x 10 ³	1.18 x 10 ³
Position B-1	1.90 x 10 ³	1.67 x 10 ³	1.19 x 10 ³	1.07 x 10 ³	1.23 x 10 ³
Position B-2	1.92 x 10 ³	1.90 x 10 ³	1.26 x 10 ³	1.16 x 10 ³	1.29 x 10 ³
Position B-3	1.26 x 10 ³	1.75 x 10 ³	1.00 x 10 ³	1.09 x 10 ³	1.01 x 10 ³
Position B-4	1.27 x 10 ³	1.47 x 10 ³	1.23 x 10 ³	< 1.0 x 10 ³	1.48 x 10 ³
Position B-5	1.44 x 10 ³	1.79 x 10 ³	< 1.0 x 10 ³	1.11 x 10 ³	1.04 x 10 ³
Position B-6	1.43 x 10 ³	1.69 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	1.61 x 10 ³
Min.=	1.26 x 10 ³	1.47 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³	< 1.0 x 10 ³
Max. =	2.28 x 10 ³	1.95 x 10 ³	1.39 x 10 ³	1.49 x 10 ³	1.61 x 10 ³

References:



ANSI/ESD STM7.1– Figure 1: Resistance-to-Groundable Point Measurement



ANSI/ESD STM7.1 – Figure 2: Work-surface – Resistance Point-to-Point