



DESCO INDUSTRIES INC

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QUALIFICATION REPORT – ANSI/ESD S20.20

SCS R3 DISSIPATIVE RUBBER MAT

ANSI/ESD S20.20	SCS Test Results	Test Methods
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Resistance (ohms) @ 12% RH, 23°C, 48-72 hours conditioning, N=3 specimens, 100V

Resistance-to-Groundable point	< 1.0 x 10 ⁹	See Table 1	ANSI/ESD STM4.1
Resistance Point-to-Point	< 1.0 x 10 ⁹	See Table 2	ANSI/ESD STM4.1

Resistance (ohms) @ 50% RH, 23°C, 48-72 hours conditioning, N=3 specimens, 100V

Resistance-to-Groundable point	< 1.0 x 10 ⁹	See Table 1	ANSI/ESD STM4.1
Resistance Point-to-Point	< 1.0 x 10 ⁹	See Table 2	ANSI/ESD STM4.1

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)

Test Data:

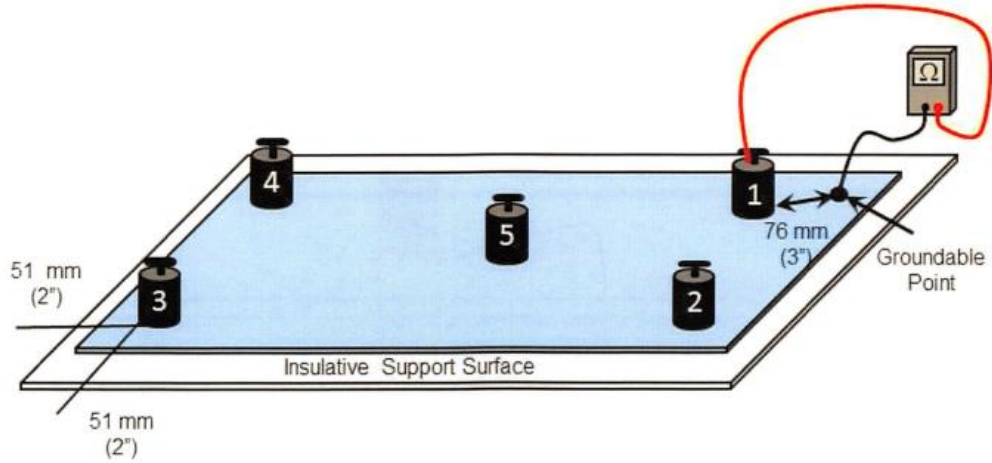
Table 1 - Resistance-to-Groundable point

ANSI/ESD STM4.1 Test Position	RTG (ohms), at 12%RH, 23°C			RTG (ohms), at 50%RH, 23°C		
	Sample #1	Sample #2	Sample #3	Sample #1	Sample #2	Sample #3
Figure 1 – Position 1	1.31 x 10 ⁷	1.18 x 10 ⁷	1.15 x 10 ⁷	2.59 x 10 ⁶	2.83 x 10 ⁶	2.68 x 10 ⁶
Figure 1 – Position 2	1.24 x 10 ⁷	1.25 x 10 ⁷	1.14 x 10 ⁷	2.52 x 10 ⁶	2.80 x 10 ⁶	2.85 x 10 ⁶
Figure 1 – Position 3	1.37 x 10 ⁷	1.42 x 10 ⁷	1.27z x 10 ⁷	2.91 x 10 ⁶	2.82 x 10 ⁶	2.83 x 10 ⁶
Figure 1 – Position 4	1.54 x 10 ⁷	1.50 x 10 ⁷	1.60 x 10 ⁷	3.39 x 10 ⁶	2.78 x 10 ⁶	3.04 x 10 ⁶
Figure 1 – Position 5	1.27 x 10 ⁷	1.36 x 10 ⁷	1.38 x 10 ⁷	3.14 x 10 ⁶	3.06 x 10 ⁶	3.08 x 10 ⁶
Min.=	1.24 x 10 ⁷	1.18 x 10 ⁷	1.14 x 10 ⁷	2.52 x 10 ⁶	2.78 x 10 ⁶	2.68 x 10 ⁶
Mean =	1.34 x 10 ⁷	1.34 x 10 ⁷	1.30 x 10 ⁷	2.89 x 10 ⁶	2.86 x 10 ⁶	2.89 x 10 ⁶
Max. =	1.54 x 10 ⁷	1.50 x 10 ⁷	1.60 x 10 ⁷	3.39 x 10 ⁶	3.06 x 10 ⁶	3.08 x 10 ⁶

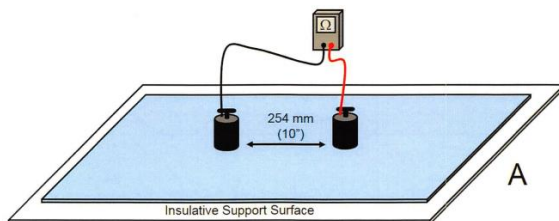
Table 2 - Resistance Point-to-Point

ANSI/ESD STM4.1 Test Position	RTT (ohms), at 12%RH, 23°C			RTT (ohms), at 50%RH, 23°C		
	Sample #1	Sample #2	Sample #3	Sample #1	Sample #2	Sample #3
Figure 2 – Set up A	8.97 x 10 ⁷	6.46 x 10 ⁷	4.72 x 10 ⁷	7.60 x 10 ⁶	7.25 x 10 ⁶	8.14 x 10 ⁶
Figure 2 – Set up B	7.98 x 10 ⁷	6.24 x 10 ⁷	5.99 x 10 ⁷	6.77 x 10 ⁶	6.95 x 10 ⁶	7.15 x 10 ⁶
Figure 2 – Set up C	7.77 x 10 ⁷	6.46 x 10 ⁷	5.33 x 10 ⁷	6.81 x 10 ⁶	7.05 x 10 ⁶	7.40 x 10 ⁶
Figure 2 – Set up D	6.91 x 10 ⁷	5.71 x 10 ⁷	4.59 x 10 ⁷	7.55 x 10 ⁶	6.36 x 10 ⁶	6.91 x 10 ⁶
Min.=	6.91 x 10 ⁷	5.71 x 10 ⁷	4.59 x 10 ⁷	6.77 x 10 ⁶	6.36 x 10 ⁶	6.91 x 10 ⁶
Mean =	7.87 x 10 ⁷	6.21 x 10 ⁷	5.13 x 10 ⁷	7.17 x 10 ⁶	6.89 x 10 ⁶	7.39 x 10 ⁶
Max. =	8.97 x 10 ⁷	6.46 x 10 ⁷	5.99 x 10 ⁷	7.60 x 10 ⁶	7.25 x 10 ⁶	8.14 x 10 ⁶

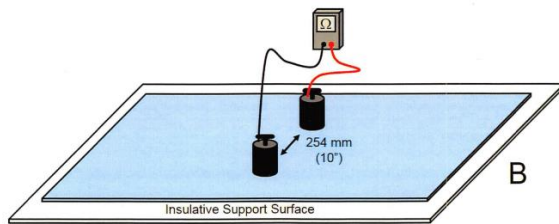
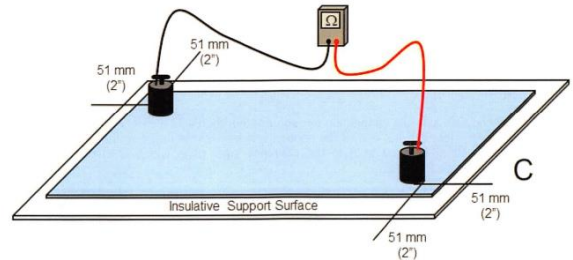
References:



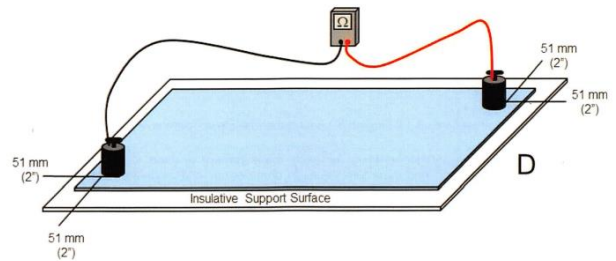
ANSI/ESD STM4.1 – Figure 1: Work-surface – Resistance-to-Groundable Point



NOTE: Locate the geometric center of the sample first.



NOTE: Locate the geometric center of the sample first.



ANSI/ESD STM4.1– Figure 2: Work-surface – Resistance Point-to-Point