DESCO INDUSTRIES INCORPORATED

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QUALIFICATION REPORT – ANSI/ESD S20.20

DESCO STATFREE® B2 PLUS DISSIPATIVE VINYL MAT

	ANSI/ESD S20.20	DESCO Test Results	Test Methods
Resistance (ohms) @ 12% RH, 23°C, 48-72 hours conditioning, N=3 specimens, 100V			
Resistance-to-Groundable point	< 1.0×10^9	See Table 1	ANSI/ESD STM4.1
Resistance Point-to-Point	< 1.0×10^9	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	< 1.0×10^9	See Table 1	ANSI/ESD STM4.1
Resistance Point-to-Point	< 1.0×10^9	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

	RTG (ohms), at 12%RH, 23°C			RTG (ohms), at 50%RH, 23°C		
ANSI/ESD STM4.1 Test Position	**Sample #1**	**Sample #2**	**Sample #3**	**Sample #1**	**Sample #2**	**Sample #3**
Figure 1 – Position 1	8.25×10^6	1.33×10^7	1.16×10^7	7.35×10^6	6.81×10^6	6.59×10^6
Figure 1 – Position 2	8.66×10^6	1.35×10^7	1.42×10^7	7.76×10^6	6.49×10^6	7.00×10^6
Figure 1 – Position 3	1.47×10^7	1.59×10^7	1.68×10^7	7.55×10^6	8.90×10^6	8.90×10^6
Figure 1 – Position 4	1.01×10^7	1.44×10^7	1.05×10^7	1.04×10^7	7.76×10^6	9.09×10^6
Figure 1 – Position 5	9.09×10^6	1.14×10^7	1.13×10^7	7.10×10^6	7.05×10^6	6.45×10^6
Min.=	**8.25×10^6**	**1.14×10^7**	1.05×10^7	**7.10×10^6**	**6.49×10^6**	**6.45×10^6**
Mean =	**9.93×10^6**	**1.37×10^7**	1.30×10^7	**8.11×10^6**	**7.50×10^6**	**7.77×10^6**
Max. =	**1.47×10^7**	**1.59×10^7**	1.68×10^7	**1.04×10^7**	**8.90×10^6**	**9.09×10^6**

Table 2 - Resistance Point-to-Point

	RTT (ohms), at 12%RH, 23°C			RTT (ohms), at 50%RH, 23°C		
ANSI/ESD STM4.1 Test Position	**Sample #1**	**Sample #2**	**Sample #3**	**Sample #1**	**Sample #2**	**Sample #3**
Figure 2 – Set up A	2.60×10^7	2.83×10^7	2.88×10^7	8.20×10^6	1.89×10^7	1.41×10^7
Figure 2 – Set up B	2.33×10^7	2.73×10^7	3.40×10^7	1.65×10^7	1.65×10^7	1.31×10^7
Figure 2 – Set up C	3.15×10^7	3.54×10^7	3.35×10^7	1.54×10^7	5.16×10^7	1.43×10^7
Figure 2 – Set up D	2.92×10^7	3.56×10^7	3.28×10^7	1.72×10^7	2.06×10^7	1.66×10^7
Min.=	**2.33×10^7**	**2.73×10^7**	**2.88×10^7**	**8.20×10^7**	**1.65×10^7**	**1.31×10^7**
Mean =	**2.75×10^7**	**3.17×10^7**	**3.23×10^7**	**1.43×10^7**	**2.69×10^7**	**1.45×10^7**
Max. =	**3.15×10^7**	**3.56×10^7**	**3.40×10^7**	**1.72×10^7**	**5.16×10^7**	**1.66×10^7**

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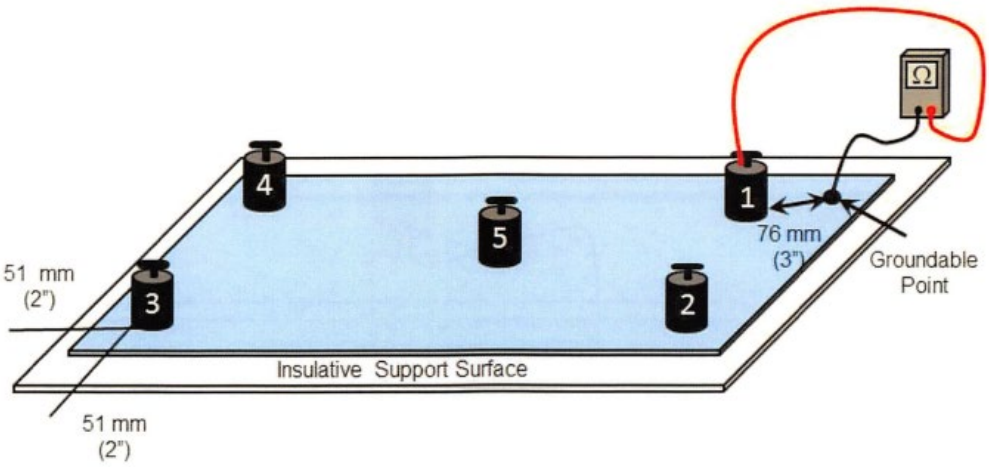
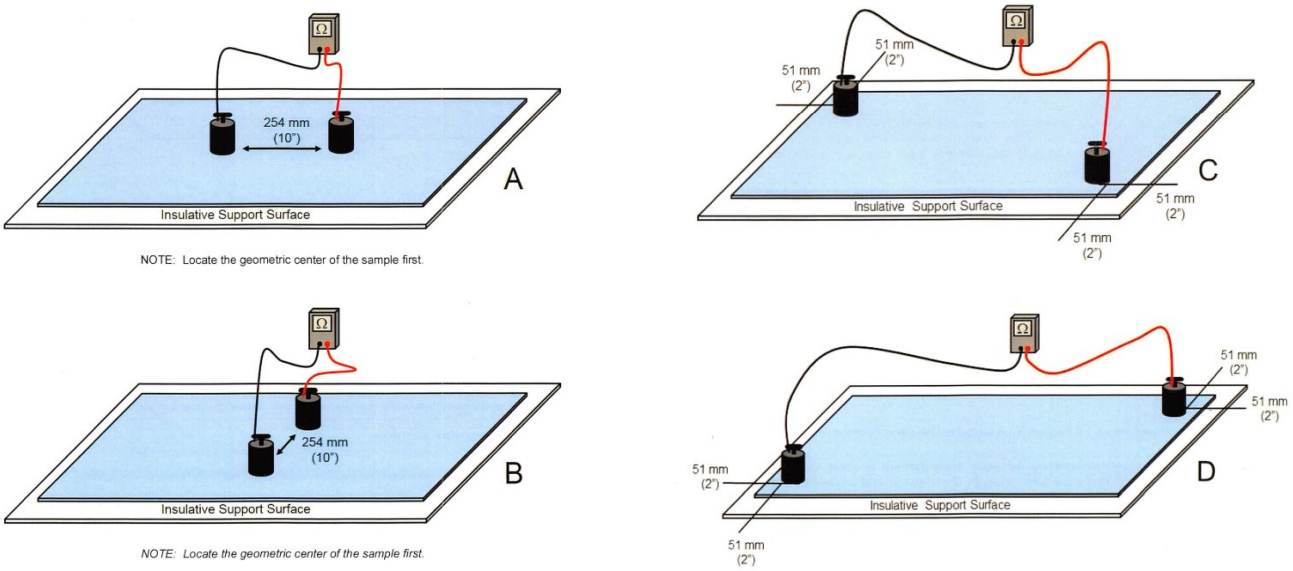
References:



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



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