DESCO INDUSTRIES INC

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QUALIFICATION REPORT – ANSI/ESD S20.20

SCS DS 3000 Series

	ANSI/ESD S20.20	SCS Test Results	Test Methods
Surface Resistance (ohms) @ 12% RH, 23°C, 48-72 hours conditioning, N=10 specimens, 100V			
Interior (Sealing Surface)	≥ $1.0x10^4$ to < $1.0x10^{11}$	See Table 1	ANSI/ESD STM11.11
Exterior	≥ $1.0x10^4$ to < $1.0x10^{11}$	See Table 1	ANSI/ESD STM11.11
Surface Resistance (ohms) @ 50% RH, 23°C, 48-72 hours conditioning, N=6 specimens, 100V			
Interior (Sealing Surface)	≥ $1.0x10^4$ to < $1.0x10^{11}$	See Table 1	ANSI/ESD STM11.11
Exterior	≥ $1.0x10^4$ to < $1.0x10^{11}$	See Table 1	ANSI/ESD STM11.11
Discharge Shielding (nJ) @ 23°C, minimum 48 hours conditioning, N=6 specimens @ 6 individual readings per specimen			
@ 12% RH	< 20	See Table 1	ANSI/ESD STM11.31
@ 50% RH	< 20	See Table 1	ANSI/ESD STM11.31

Test Equipment (Calibration records and test results are located at SCS (Sanford, NC)):

For Test Method ANSI/ESD STM11.11:
- ETS Controlled Environment Chamber (Model 5532)
- SCS Surface Resistance Meter (Model 770761)
- SCS Concentric Ring Probe (Model 770007)

For Test Method ANSI/ESD STM11.31:
- ETS Controlled Environment Chamber (Model 5532)
- ETS Shielded Bag Test System (Model 4431T)

Table 1: Test Results:

	Surface Resistance (ohms) 48-72 hours conditioning				Discharge Shielding (nJ) min. 48 hours conditioning	
Specimen	**Interior @ 23°C, 12%RH**	**Exterior @ 23°C, 12%RH**	**Interior @ 23°C, 50%RH**	**Exterior @ 23°C, 50%RH**	**@ 23°C, 12%RH (avg 6 individual)**	**@ 23°C, 50%RH (avg 6 individual)**
1	3.42×10^{10}	8.78×10^{10}	1.48×10^{9}	5.03×10^{9}	0.60	0.61
2	4.14×10^{10}	5.52×10^{10}	1.49×10^{9}	4.99×10^{9}	0.57	0.62
3	3.89×10^{10}	5.95×10^{10}	1.71×10^{9}	3.72×10^{9}	0.53	0.59
4	3.37×10^{10}	6.68×10^{10}	1.33×10^{9}	4.26×10^{9}	0.61	0.55
5	2.88×10^{10}	6.46×10^{10}	1.56×10^{9}	4.29×10^{9}	0.55	0.60
6	3.40×10^{10}	5.52×10^{10}	1.56×10^{9}	4.29×10^{9}	0.56	0.57
7	2.94×10^{10}	6.91×10^{10}				
8	2.53×10^{10}	7.15×10^{10}				
9	3.59×10^{10}	7.61×10^{10}				
10	3.79×10^{10}	8.66×10^{10}				
Min Ind=	2.53×10^{10}	5.52×10^{10}	1.33×10^{9}	3.72×10^{9}	0.51	0.57
Max Ind=	4.14×10^{10}	8.78×10^{10}	1.71×10^{9}	5.03×10^{9}	0.63	0.66
Mean of Ind=	3.40×10^{10}	6.92×10^{10}	1.52×10^{9}	4.43×10^{9}	0.57	0.59
Std Dev Ind =	4.96×10^{9}	1.16×10^{10}	1.25×10^{8}	4.99×10^{8}	0.03	0.02