

QUALIFICATION REPORT – ANSI/ESD S20.20

PROTEKTIVE PAK CIRCUIT BOARD SHIPPER WITH BLACK CONVOLUTED FOAM

ANSI/ESD S20.20	PROTEKTIVE PAK Test Results	Test Methods
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Surface Resistance (ohms) @ 12% RH, 23°C, 48-72 hours conditioning, N=6 specimens, 100V

Interior	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11
Exterior	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11
Black convoluted foam	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11

Surface Resistance (ohms) @ 50% RH, 23°C, 48-72 hours conditioning, N=6 specimens, 100V

Interior	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11
Exterior	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11
Black convoluted foam	≥ 1.0 x 10 ⁴ to < 1.0 x 10 ¹¹	See Table 1	ANSI/ESD STM11.11

Test Equipment (Calibration records and test results are located at the corporate lab (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)

Table 1: Test Results:

Test Date 2024-11-01

Surface Resistance (ohms), 48-72 hours of conditioning

Specimen	Testing at 12% RH, 23°C			Testing at 50% RH, 23°C		
	Interior	Exterior	Black Foam	Interior	Exterior	Black Foam
1	8.34 x 10 ⁵	8.60 x 10 ⁵	5.13 x 10 ³	2.52 x 10 ⁷	6.36 x 10 ⁵	5.00 x 10 ³
2	1.14 x 10 ⁶	8.48 x 10 ⁵	4.81 x 10 ³	1.26 x 10 ⁶	1.30 x 10 ⁶	4.77 x 10 ³
3	1.86 x 10 ⁶	4.55 x 10 ⁵	5.16 x 10 ³	1.60 x 10 ⁶	1.70 x 10 ⁶	5.35 x 10 ³
4	1.01 x 10 ⁶	1.00 x 10 ⁶	5.31 x 10 ³	1.46 x 10 ⁶	1.55 x 10 ⁶	4.70 x 10 ³
5	7.81 x 10 ⁵	7.55 x 10 ⁵	5.57 x 10 ³	1.27 x 10 ⁶	1.25 x 10 ⁶	5.23 x 10 ³
6	8.43 x 10 ⁵	8.72 x 10 ⁵	4.89 x 10 ³	1.48 x 10 ⁶	2.01 x 10 ⁶	5.49 x 10 ³
Min Ind=	7.81 x 10 ⁵	4.55 x 10 ⁵	4.81 x 10 ³	1.26 x 10 ⁶	6.36 x 10 ⁵	4.70 x 10 ³
Max Ind=	1.86 x 10 ⁶	1.00 x 10 ⁶	5.57 x 10 ³	2.52 x 10 ⁷	2.01 x 10 ⁶	5.49 x 10 ³
Mean of Ind=	1.08 x 10 ⁶	7.98 x 10 ⁵	5.15 x 10 ³	5.38 x 10 ⁶	1.41 x 10 ⁶	5.09 x 10 ³
Std Dev Ind =	4.06 x 10 ⁵	1.86 x 10 ⁵	0.28 x 10 ³	9.71 x 10 ⁶	4.69 x 10 ⁵	0.32 x 10 ³

PROTEKTIVE PAK

DESCO INDUSTRIES INC

13520 MONTE VISTA AVENUE, CHINO, CA 91710 • PHONE (909) 902-9370 • ProtektivePak.com

Protektive Pak Circuit Board Shippers with Black Convuluted Foam are available in the below sizes:

Item	Size I.D. - L x W x D (IN)
37033	7" x 5" x 1-1/2"
37034	7" x 5" x 2-1/2"
37035	10-1/2" x 8-1/2" x 1-1/2"
37036	10-1/2" x 8-1/2" x 2-1/2"
37037	12-1/2" x 10-1/2" x 2-1/2"