Protech R D Lab
22720 Stelfast Pkwy
Strongsville, OH 44149
440-238-5285

LABORATORY TEST REPORT

www.protechpowder.com

Customer:	***Fort Mill Ornamental***
Date:	*2/22/2019*
Project:	*100276 / CLE02218*
Product:	*ZS311N107, Z series, Super Durable*
Material Standard:	*AAMA 2604-05*

Evaluation:	***7.8.2 Salt Spray Resistance***
Test Methods:	*ASTM B117, Salt Spray Cabinet Conditions* *ASTM D1654, Scribe & blister rating*
Specimens:	*4 Parts (aluminum fencing pieces)* *Parts were cleaned and pretreated with Calvary Chemical's Zirconium.*
Exposure:	*3000 Hrs. - Remove & wipe sample dry and Immediately apply tape (Permacel 99 or equivalent).*
Test Chamber:	*Singleton 22*
Scribed Lines:	*One Straight Line*
Scribing Tool:	*Straight Shank, Tungsten Carbide Tip*
Examinations:	*Measure and rate creepage from scribe plus rate appearance of unscribed area*
Requirements:	*Minimum rating of 7 on scribe or cut edges, and a minimum blister rating of 8 within the test specimen field, accordance with Table 1 and 2 (Reference ASTM D1654).*

Representative Mean Creepage From Scribe		
Millimeters	Inches (Approx.)	Rating Number
Zero	0	10
Over 0 to 0.5	0 to 1/64	9
Over 0.5 to 1.0	1/64 to 1/32	8
Over 1.0 to 2.0	1/32 to 1/16	7
Over 2.0 to 3.0	1/16 to 1/8	6
Over 3.0 to 5.0	1/8 to 3/16	5
Over 5.0 to 7.0	3/16 to 1/4	4
Over 7.0 to 10.0	1/4 to 3/8	3
Over 10.0 to 13.0	3/8 to 1/2	2
Over 13.0 to 16.0	1/2 to 5/8	1
Over 16.0	Over 5/8	0

TABLE 1: Rating of Failure at Scribe (Procedure A)

Area Failed, %	Rating Number
No Failure	10
0 to 1	9
2 to 3	8
4 to 6	7
7 to 10	6
11 to 20	5
21 to 30	4
31 to 40	3
41 to 55	2
56 to 75	1
Over 75	0

TABLE 2: Rating of Unscribed Areas (Procedure B)

Results:

Panel ID	*Creepage Form Scribe in mm*		*Blistering*	
	Mean	Rating No.	Area Failed, %	Rating No.
1	*0*	*10*	*No Failure*	*10*
2	*<0.5*	*9*	*>3%?*	*8*
3	*0*	*10*	*<3%*	*8*
4	*<0.5*	*9*	*<1%*	*9*

Conclusions: *Parts 1 and 4 both passed for scribe creepage and blistering in the test specimen field. Parts 2 and 3 both passed for scribe creepage and blistering in the test specimen field. The bottom area of Parts 2 and 3 produced a very blistered appearance. This contamination is most probably due to the observed handling of the parts prior to coating and is not representative of the pretreatment or substrate.*

Protech R D Lab
22720 Stelfast Pkwy
Strongsville, OH 44149
440-238-5285

LABORATORY TEST REPORT

www.protechpowder.com

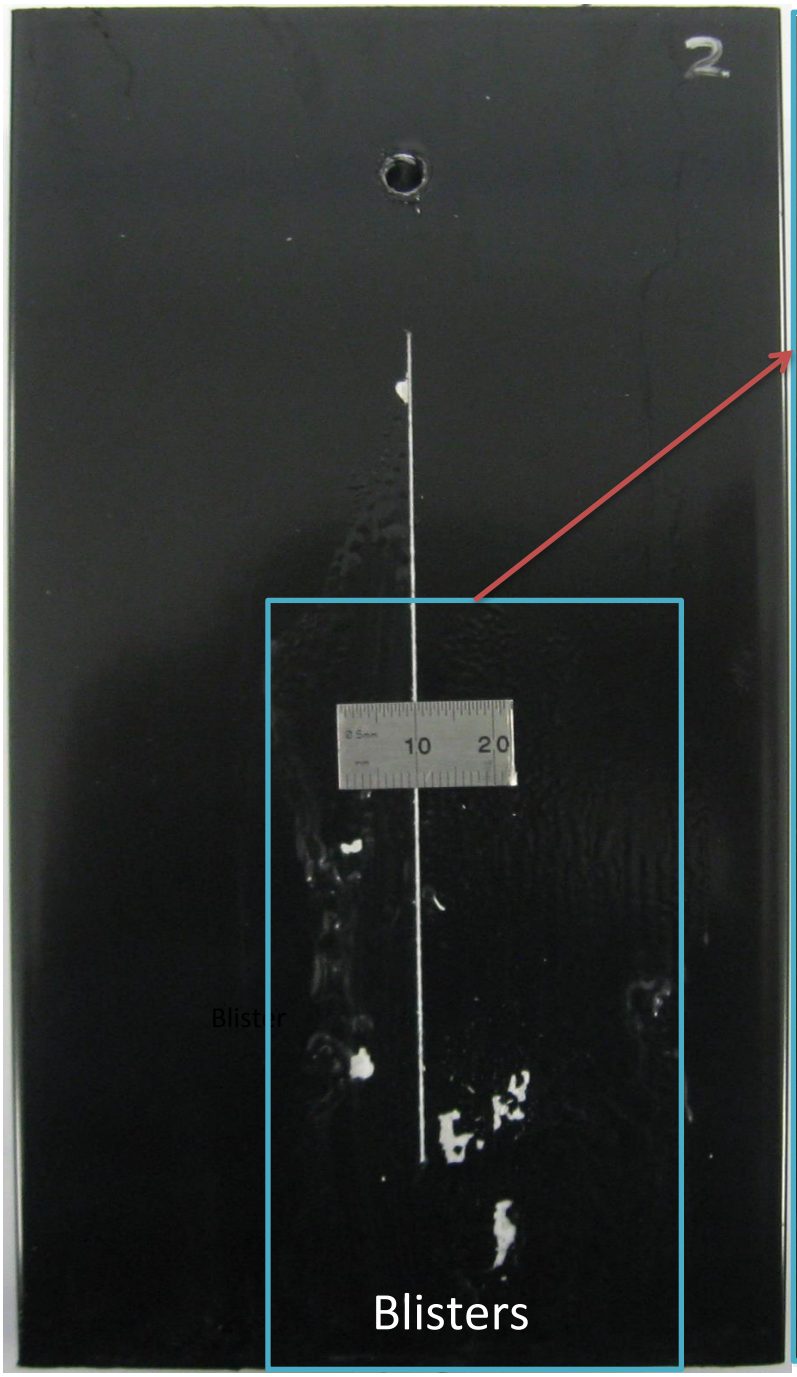
Panel ID # 1

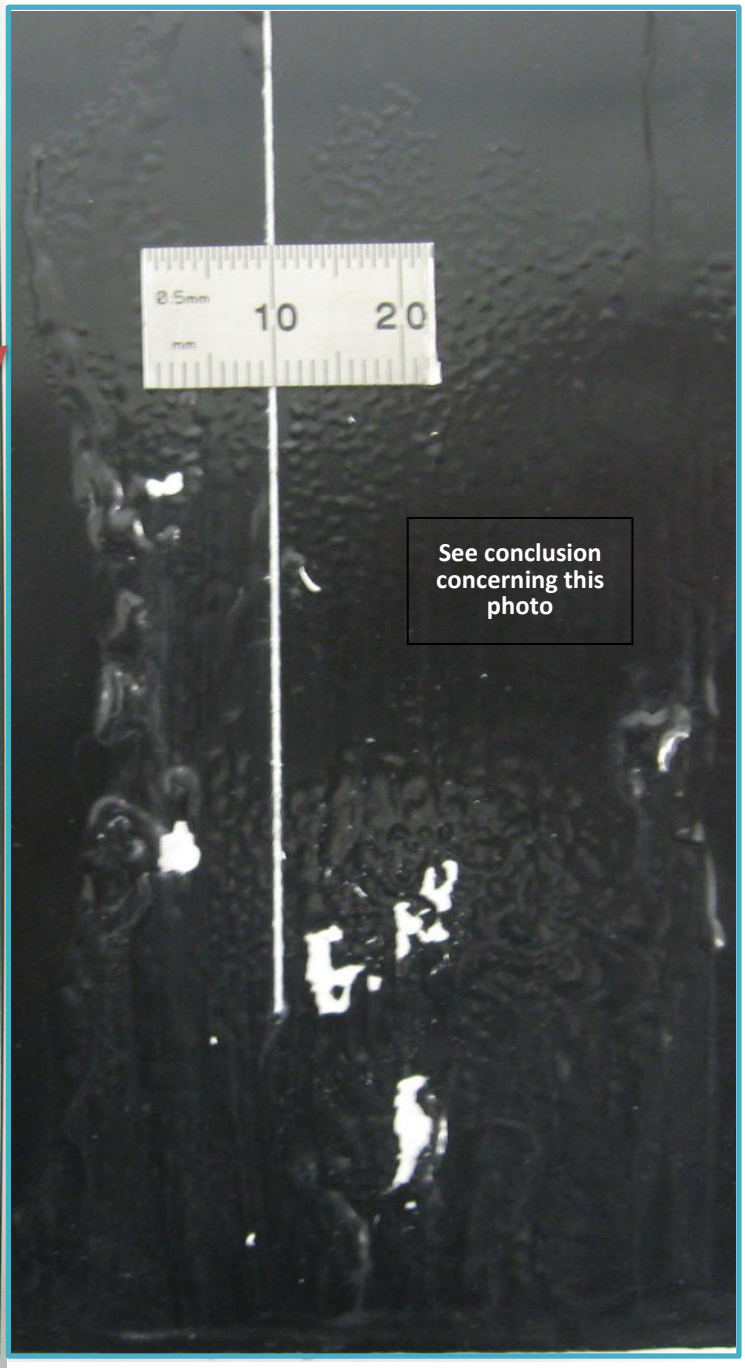
Protech R D Lab
22720 Stelfast Pkwy
Strongsville, OH 44149
440-238-5285

LABORATORY TEST REPORT

www.protechpowder.com

Panel ID # 2

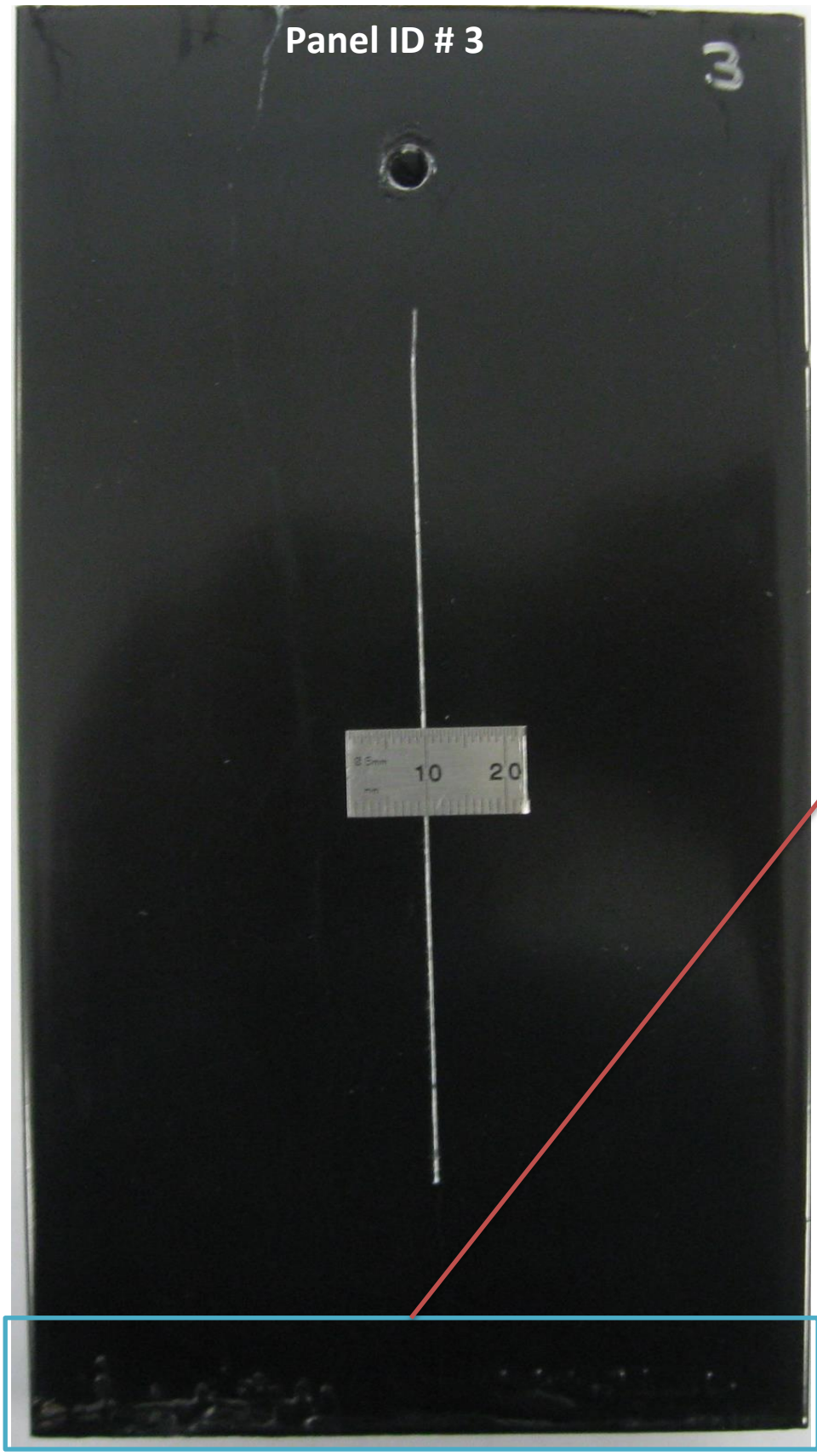




Protech R D Lab
22720 Stelfast Pkwy
Strongsville, OH 44149
440-238-5285

LABORATORY TEST REPORT

www.protechpowder.com



Protech R D Lab
22720 Stelfast Pkwy
Strongsville, OH 44149
440-238-5285

LABORATORY TEST REPORT

www.protechpowder.com