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· TEST REPORT ·

PN 110028 Rev 1

ARDL Engineering

ASTM F1292-09 Head Impact Testing

Prepared For:

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A Testing Lab
*Certificate Numbers 255.01 & 255.02

An A2LA ISO 17025 Accredited Testing Laboratory — Certificate Numbers 255.01 & 255.02
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SUBJECT: Head Impact testing on two tile types to ASTM F1292-09.

RECEIVED: Three grey tiles identified as SLOP (Stay Lock Orange Peel) and three grey tiles identified as SLP (Stay Lock Perforated).

Head Impact System:

Test Parameters:

Specimen:	12" x 12" x 0.575"
Drop Height:	20 Inches
Equipment:	ARDL Head-form Drop Test Apparatus, ASTM F1292-04 Aluminum Impact Missile, PCB Electronics 1000g Accelerometer, Model 353B14, S/N 163355.
Temperature:	Room Temperature (73°F), 25°F, and 120°F

Procedure:

Performance Parameters: The performance of an individual sample at each reference temperature and reference height shall be determined by performing three impact tests on the same sample test point at the same drop height using the procedure outlined below. The interval between tests shall be 1.5 ± 0.5 min. The average g-max and HIC scores are calculated by averaging the results from the second and third impacts.

Temperature Conditioning: The samples were conditioned at the reference temperature for a minimum of 4 hours. Testing of the sample began within 1 min and all tests were completed within 7 min of the samples removal from the conditioning environment.

Impact Test Procedure: The missile was first elevated to the reference drop height. The drop height was then recorded. The missile was released via air actuation. The outputs of the acceleration measuring system and the drop velocity measuring system were recorded at a data rate of 40K scans per second.

RESULTS:
Results can be found on the following pages.

Performance Criterion:
The performance criterion used to determine conformance with the requirements of this specification should be: a g-max score not exceeding 200g and a HIC score not exceeding 1000.

Specimen ID	Specimen Thickness (in)	Temperature (°F)	HIC	Maximum g level	Drop Height (In)
SLOP Stay Lock Orange Peel	0.575	72	314.34	133.84	20
SLOP Stay Lock Orange Peel	0.575	120	286.05	130.43	20
SLOP Stay Lock Orange Peel	0.575	25	476.72	169.96	20
SLP Stay Lock Perforated	0.575	72	317.71	135.08	20
SLP Stay Lock Perforated	0.575	120	275.45	127.61	20
SLP Stay Lock Perforated	0.575	25	441.91	167.35	20
Values for HIC and Maximum g Level are averages from last two drops.					

Product Summary:

Based on ASTM F1292-04, Section 4, Paragraph 4.2, the supplied samples, have met the requirements to be considered adequate playground surfaces to prevent head injury. The above table can be used as a reference for the materials performance and failure points at various drop heights and depths. It is not recommended to use these materials at height-depth combinations where the maximum HIC or g-load is exceeded or not evaluated.

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