



Instituut voor
Sportaccommodaties

ISA Sport
Project number: 25080204
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RESEARCH REPORT - LABORATORY

PROJECT	: Artificial turf "Type A" with seaming tape and PU glue 149
RESEARCH PURPOSE	: Determination of the peel strength of an artificial turf joined connection according to the standards NEN-EN12228 and EN13744
PRINCIPAL	: Kataskeves Dapedon LTD
EXECUTION	: ISA Sport Project Manager: Mr. J.W.R. Heusinkveld
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CONCLUSIONS

The artificial turf sample "Type A" with seaming tape and PU glue 149 is suitable as joint connection in artificial turf football constructions, according to the requirements of the International Artificial Turf Standard (EN 15330-1).

The resistance to ageing (immersion in hot water) of the glued connection is sufficient.

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RESEARCH DESCRIPTION

ISA Sport was provided with an artificial turf sample named "Type A" with a joint connection. The connection consists of seaming tape with PU glue 149.

The joint strength of the sample is determined according to the peel strength as described in the standard NEN-EN 12228 (October 2002). An increasing tensile force is applied on the turf and the seaming tape. The tape is peeled off near the glued connection. The peel strength is determined from the peak forces between 25% and 75% of the length of the joint.

Furthermore, the peel strength has been measured after immersion in hot water, according to standard EN 13744. The sample is immersed in hot water (70°C) for 336 hours. After a relaxation period of one to six days, the tests have been executed.

The standard describes to use a 100 mm wide sample. In the present research a 50 mm wide sample is used. The use of a 50 mm wide sample does not influence the measurement results.

The requirement on the peel strength of a glued joint connection according to the International Artificial Turf Standard (EN 15330-1) includes:

- ≥ 25 N/100 mm.

RESEARCH RESULTS

The test results for the direct tension strength and peel strength are listed in table 1.

Table 1: Test results for peel strength of artificial turf "Type A" with seaming tape and PU glue 149.

Measurement	Artificial turf "Type A"	
	Before ageing (N/100 mm)	After ageing (N/100 mm)
1	80	74
2	64	88
3	116	66
4	110	84
5	84	110
6	88	88
7	94	78
8	108	82
9	90	64
10	56	84
mean	89	82

Conclusion:

From the research results it is concluded that the artificial turf sample "Type A" with seaming tape and "PU glue 149" meet the requirements for peel strength ($\geq 25\text{N}/100\text{ mm}$) according to the "International Artificial Turf Standard" for artificial turf football constructions.