

Type Approval



Approval No: KBZ 1192 HH

This is to approve, that the material described below is suitable for the intended application.

Company **Betech Kunststoffen b.v.**
Postbus 5215
9700 GE Groningen
Netherlands

Type designation **Art-Ice**

Field of application **Synthetic Ice for Skating**

Normative Reference **Rules for Classification and Construction**
VI Additional Rules and Guidelines
Part 7 – Guidelines for the Performance of Type Approvals

Remarks **Detailed test results are listed in the annex.**

The approval consists of this document and a one-page annex.

This Shop Approval is valid until 2015-05-31.

Hamburg, 2012-05-29

Germanischer Lloyd


Stefan Röhr


i.A. Guido Michalek

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Reference Documents

- Technical Data Sheet
- Test Results determined in the presence of Germanischer Lloyd
- Test Instruction TAQM011-R000-D

Testing

Following test results have been verified by testing:

Shore D hardness acc. to ISO 868	63	[-]
Colour deviation acc. to DIN 6174 after artificial weathering ^[1]	0,94	[ΔE]
Water absorption acc. to ISO 62	< 0,1	[%]
Flammability test acc. to UL 94	HB	[-]
Coefficient of thermal expansion acc. to DIN 53752	1,2*10 ⁻⁴	[K ⁻¹]
Yield stress acc. to ISO 527-2	25,97	[N/mm ²]
Yield strain acc. to ISO 527-2	8,2	[%]
Yield stress acc. to ISO 527-2 ^[1]	26,21	[N/mm ²]
Yield strain acc. to ISO 527-2 ^[1]	9,1	[%]

[1] Artificial weathering according to ISO 4892-1 with UV-A for 4000h

Furthermore, a comparative sliding test with "PE-HMW/PE-500" has been carried out. The method is described in the test instruction TAQM011-R000-D. In this method a slide will be speeded up with a defined force and the distance to the starting point is the test result.

Art-Ice has reached a significant better value than "PE-HMW/PE-500".

Measured value 1288 [mm]

Limitations

Any significant changes in design and/or quality of the material will render the approval invalid.

End of Annex

Germanischer Lloyd