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
Guido Michalek
Type Approval

Annex

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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 886 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/mm²]

Yield strain acc. to ISO 527-2 8,2 [%]

Yield stress acc. to ISO 527-2[1] 26,21 [N/mm²]

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