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Advisory Opinion No. GS 2.1/13-038-2-1

05 September 2013
No. Copy 1

Object of interest:

Advisory opinion for evaluation of risk of fallen debris for a noise reducing element consisting of a pane made of polymethyl methacrylate (PMMA) and a circumferential frame of hollow aluminium sections in conformity with Appendix B of DIN EN 1794-2:2011

Designation: **Plexiglas® Soundstop XT**

Client:

Evonik Para-Chemie GmbH
Hauptstrasse 53
2440 Gramatneusiedl

Austria

Editor:

Dipl.-Ing. (FH) Volker Ahnert

This document consists of 3 pages and 1 annex.

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Test laboratory accredited by DAKKS GmbH according to DIN EN ISO/IEC 17025. The accreditation only applies to the test methods listed in the certificate (in this document marked with *) which can be seen on www.mfpa-leipzig.de

Notified testing laboratories, inspection bodies and certification bodies recognized according to the Construction Products Law (NB 800) and the State Building Code (SAC 02).

Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen Leipzig mbH (MFPA Leipzig GmbH)

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MFPA Leipzig has been instructed by Evonik Para-Chemie GmbH to compose an advisory opinion in regard to risk of fallen debris of a noise reducing element designated **Plexiglas® Soundstop XT** in conformity with Appendix B of DIN EN 1794-2:2011. This advisory opinion is valid for all thicknesses and dimensions listed in table 1.

Table 1: Validity for the noise barrier element Plexiglas® Soundstop XT

Plexiglas® Soundstop XT			
Thickness (t) / dimension (L x B)	2 m x 2 m	2 m x 3 m	2 m x 4 m
t = 12 mm	Class 2	Class 2	Class 2
t = 15 mm	Class 2	Class 2	Class 2
t = 20 mm	Class 2	Class 2	Class 2
t = 25 mm	Class 2	Class 2	Class 2

The basis of this advisory opinion are the following tests that have been executed in conformity with Annex B of DIN EN 1794-2:2011.

Table 2: List of documents for the purpose of determining performance characteristics.

Property	Validating body	Document
Risk of fallen debris t = 12mm	MFPA Leipzig GmbH	Prüfbericht PB 2.1/13-038-2-1
Risk of fallen debris t = 12mm	MFPA Leipzig GmbH	Prüfbericht PB 2.1/13-038-2-3
Comparability of mechanical characteristic values between Plexiglas® Soundstop GS and Plexiglas® Soundstop XT	MPA Braunschweig	Gutachterliche Stellungnahme 6078/9420

The noise barrier wall consists of the following components:

- glazing consisting of Polymethylmethacrylat (PMMA)
- thickness of the hollow aluminium section in the area of the upper and lower belt: 1,5 mm
- thickness of the hollow aluminium section in the area of the upper and lower belt: 3,3 mm
- aluminium alloy: ENAW-6063 T66

Further statements regarding the ingredients of the specimen have not been indicated by the client.

In this context Figure A1 shows a technical drawing of element Plexiglas® Soundstop XT.

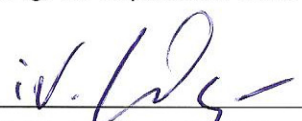

The test reports PB 2.1/13-038-2-1 and PB 2.1/13-038-2-3 indicate that no fallen debris will result when an impact with an energy of 500 J is being applied to the element Plexiglas® Soundstop GS CC. Based on the advisory opinion 6078/9420 the manufacturing process of the noise reducing element Plexiglas® Soundstop XT that varies from the noise reducing element Plexiglas® Soundstop GS does not have a negative effect on the mechanical characteristics. Furthermore the abovementioned test reports point out that the tests have been executed for the element dimensions 2 m x 2 m and 2 m x 4 m. By doing this it was possible to transfer the result to the element dimension 2 m x 3 m. Empirically damages at the same elements with increased thicknesses of the glazing can be excluded.

All in all the noise reducing element Plexiglas® Soundstop XT with the in table 1 listed variations and abovementioned element structure can be assigned to class 2 according to DIN EN 1794-2:2011 - Appendix B.

Within the scope of validity of ZTV Lsw 06 this advisory opinion is valid up to a maximum of 5 years from the date of issue.

The results of the tests exclusively refer to the described test objects but not to the main unit. This document does not replace a certificate of conformity or suitability according to national and European building codes.

Leipzig, 05 September 2013


Prof. Dr.-Ing. E. Reuschel
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Dipl.-Ing. (FH) V. Ahnert
Testing Engineer

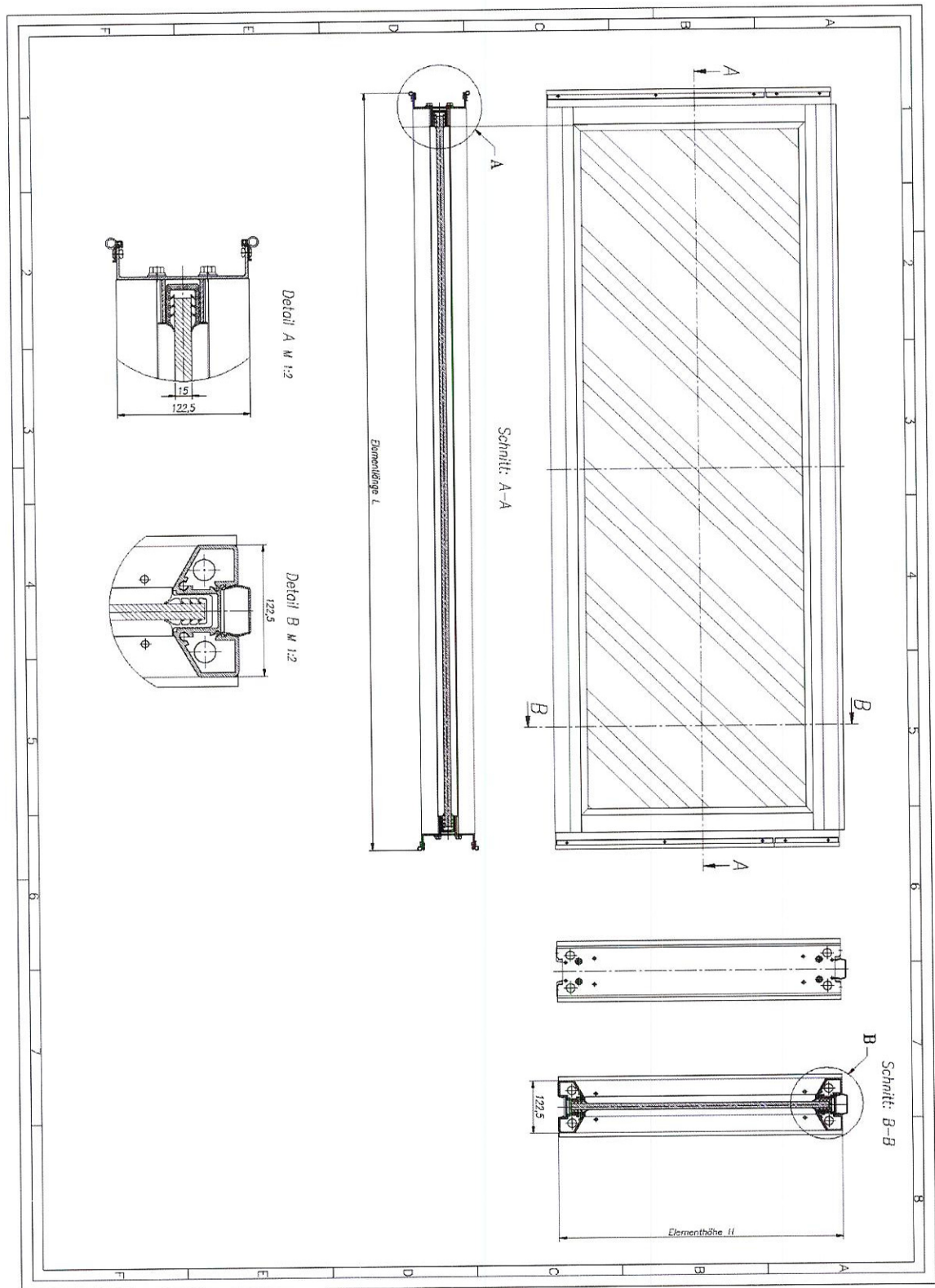


Figure A1: Technical drawing provided by the client