Test Report No. 414 720 Date **2 Feb. 2015**

Tests on surfaces for white boards AM 1800 TopX Type 9399 and HPL Type 9399

Client	Senco Research and Development GmbH & Co KG c/o Mr. Manfred Oberkofler Willhelm-Klepsch-Strasse 1 A–5721 Piesendorf
Test items	AM 1800 TopX Type 9399 and HPL Type 9399
Test specifications	Tests on surfaces for white boards
Contract	Order of 27 Nov. 2014
Date of sampling	—
Location of sampling	Samples provided by OFI's client.
Receipt of samples	Week 49 (starting on 2 Dec. 2014)
Ref.	Dr. Gril / Feld

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1 TASK DESCRIPTION

In accordance with the contract, the boards submitted were tested with regard to ability to write and erase, as well as resistance to staining, in accordance with EN 14434.

2 SCOPE OF APPLICATION

The results given in this Test Report have been obtained under the specific conditions of the individual tests. As a rule, they are not the only criteria for assessing the product in question and its suitability for a specific purpose of application.

The original of this Test Report has been drawn up in German. The German version shall be the authentic one and prevail over the English one in all matters of interpretation and construction. The English version shall be deemed to be only a translation for information purposes.

3 SAMPLE MATERIAL

OFI's client provided the following samples for the purpose of testing:

3.1 boards with white surface: 3 specimens sized approx. (100 x 100 x 20) mm, 1 specimen sized (210 x 300 x 20) mm, back marked "Senosan **AM 1800 TopX Marke 9399**";

3.2 boards with white surface: 3 specimens sized approx. (100 x 100 x 20) mm, 1 specimen sized (210 x 300 x 20) mm, back marked "Senosan **HPL Marke 9399**".

The photographs below document the samples as delivered.

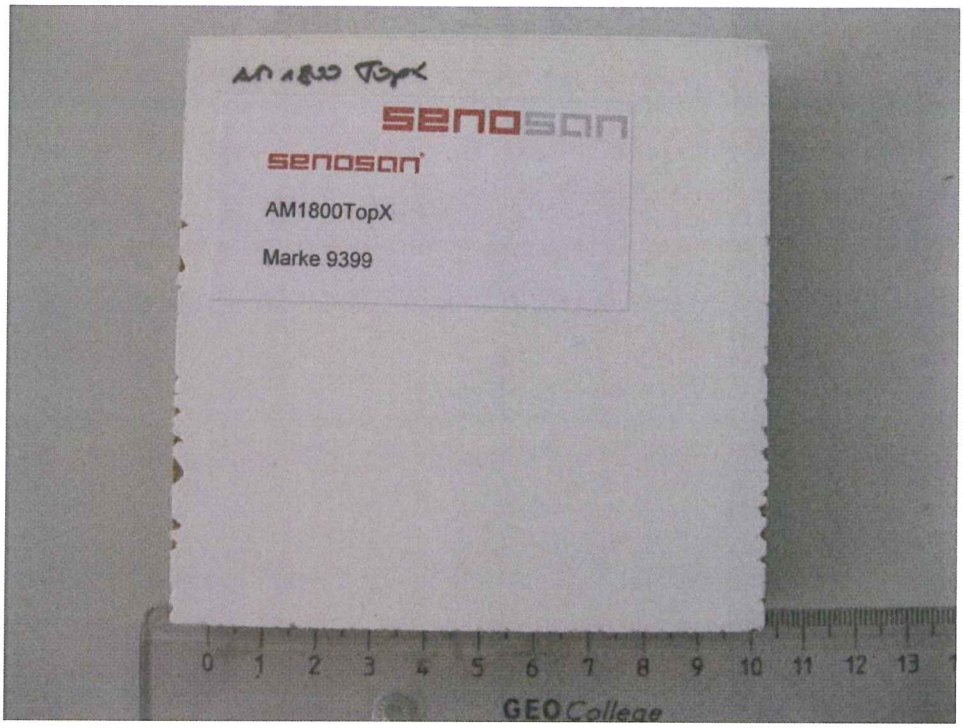

Figure 1: AM 1800TopX Type 9399 (Sample 3.1), back

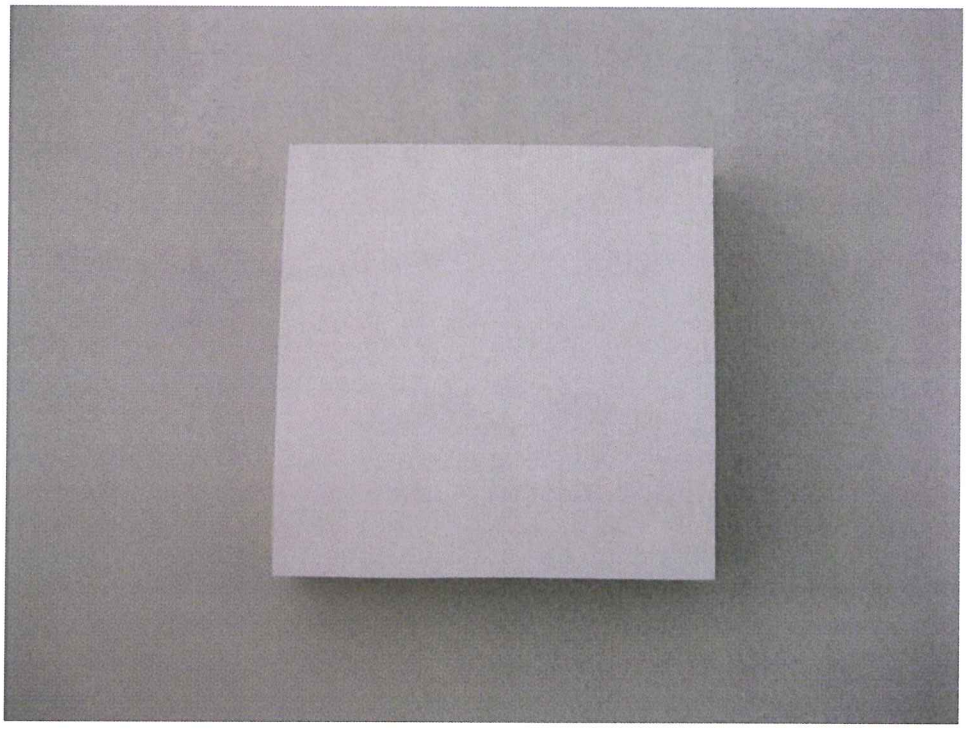

Figure 2: AM 1800TopX Type 9399 (Sample 3.1), front

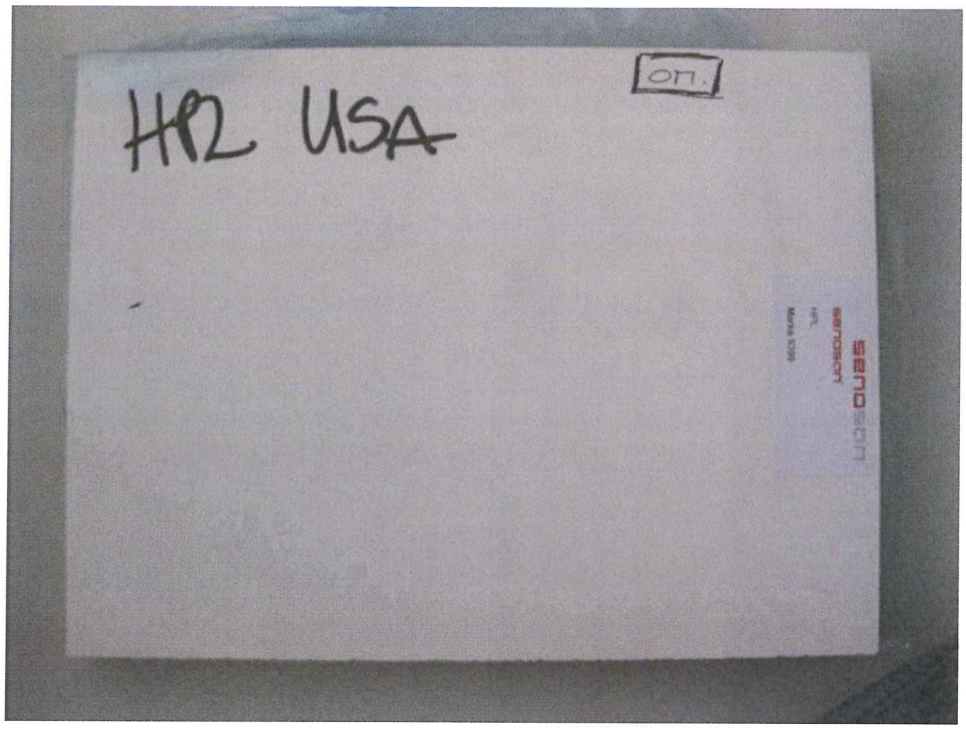

Figure 3: HPL Type 9399 (Sample 3.2), back

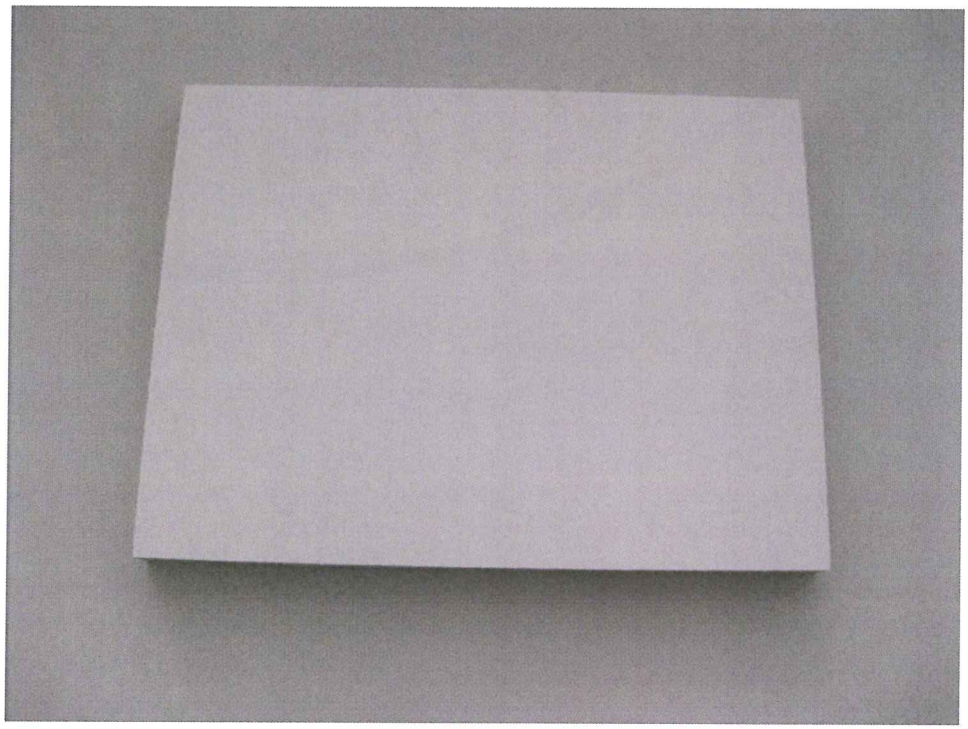

Figure 4: HPL Type 9399 (Sample 3.2), front

4 TESTS

Testing took place from 12 to 29 January 2015.

The tests were carried out in the technical departments in charge, within the scope of competence of the authorised signatories, in accordance with the OFI QM manual.

4.1 Ability to write and erase

Ability to write and erase was tested in accordance with EN 14434: Writing boards for educational institutions – Ergonomic, technical and safety requirements and their test methods, section 7.2, German edition 04/2010. The Taber Abraser tests were carried out in accordance with EN 14434, section 7.2.1; and EN 438-2: High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (usually called laminates) – Part 2: Determination of properties, section 11; German edition 04/2005; with a CS 10 abrading stone; in cooperation with the ÖTI Institute for Ecology, Technology and Innovation. The writing tests on the surface, as well as wet and dry erasing (water-based glass-cleaning detergent), were carried out in accordance with section 7.2.2 of EN 14434, and the surfaces were assessed in accordance with EN 438-2, section 26.7. The test results are given in Table 1 below.

4.2 Staining tests

Resistance to staining was tested in accordance with EN 14434: Writing boards for educational institutions – Ergonomic, technical and safety requirements and their test methods, section 7.4, German edition 04/2010; and EN 438-2: High-pressure decorative laminates (HPL) – Sheets based on thermosetting resins (usually called laminates) – Part 2: Determination of properties, section 26; German edition 04/2005. For this purpose, the sample boards were exposed to the test substances for 16 hours at ambient temperature, covered with a Petri dish. The surfaces were subsequently cleaned with n-butyl acetate, and assessed after 1 hour.
The test results are given in Table 3 below.

Table 1

Test results for ability to write and erase				
Sample	No. of cycles with Taber Abraser	Type of cleaning	Assess-ment [grade]	**Requirement**
AM Top 1800X Type 9399 (Sample 3.1)	500	Dry	5	**Level 3**
	1000		3	
	2000		3	
	500	Wet	5	
	1000		5	
	2000		5	
HPL Type 9399 (Sample 3.2)	500	Dry	5	**Level 3**
	1000		3	
	2000		3	
	500	Wet	5	
	1000		5	
	2000		5	

The requirements in accordance with EN 14434, section 7.2.3 are as follows:

Table 2

Requirement	Level 1	Level 2	Level 3
Test cycles	500	1000	2000
Assessment after dry cleaning	min. grade 3	min. grade 3	min. grade 3
Assessment after wet cleaning	min. grade 5	min. grade 5	min. grade 5

Table 3

Results of staining tests			
Test substance	Contact time	HPL Type 9399	AM 1800 TopX Type 9399
Acetone	16 h	Grade 5	Grade 5
Ethanol	16 h	Grade 5	Grade 5
Ballpoint ink	16 h	Grade 5	Grade 5
Fountain pen ink	16 h	Grade 5	Grade 5
Washable ink	16 h	Grade 5	Grade 5
Stain and paint remover	16 h	Grade 5	Grade 5
Alkaline cleaning agent	16 h	Grade 5	Grade 5
Requirement	-	**Level 3**	**Level 3**

The requirements in accordance with EN 14434, section 7.4.2 are as follows:

Table 4

Requirement	Level 1	Level 2	Level 3
Assessment	Grade 2	Grade 4	Grade 5

- Grade 5: no visible change
- Grade 4: mild change in gloss and/or colour (visible only from certain angles of observation)
- Grade 3: moderate change in gloss and/or colour
- Grade 2: significant change in gloss and/or colour
- Grade 1: surface damaged and/or development of blisters

This Test Report No. **414 720**

comprises 8 sheets with 3 table(s), 4 figures, 0 appendixes.

Testing engineer

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