ARISTOTLE UNIVERSITY OF THESSALONIKI – FACULTY OF ENGINEERING

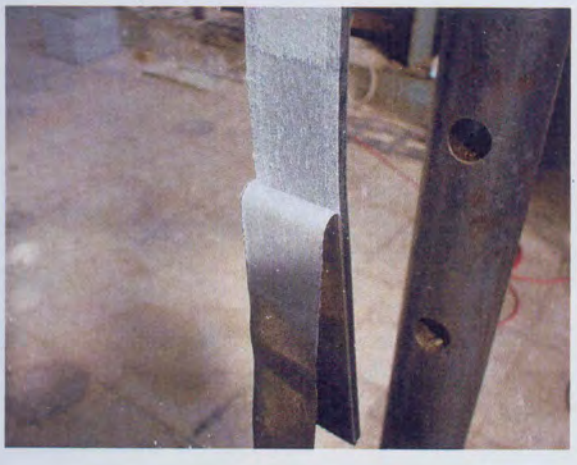
DEPARTMENT OF CIVIL ENGINEERING

TECHNICAL REPORT ON
STANDARD TESTS FOR
PEEL OF STRIPPING OF ADHESIVE BONDS
IN SANDWICH CONSTRUCTIONS OF ALUFYL S.A. (O)

IN THE FRAMEWORK OF THE RESEARCH PROJECT OF THE RESEARCH COMMITTEE OF THE ARISTOTLE UNIVERSITY OF THESSALONIKI NR. 20397 AND TITLE "ISS LABORATORY TESTING"
Scient. Responsible: Professor Dr.-Ing. C. C. Baniotopoulos

Rel. Desicion
EE 2/37455

Date
2.3.2004



INSTITUTE OF STEEL STRUCTURES

SECTION OF SCIENCE AND TECHNOLOGY OF STRUCTURES

TECHNICAL REPORT ON

PEEL OF STRIPPING STRENGTH OF ADHESIVE BONDS (O)

CLIENT: ALUFYL S.A.
Industrial Area
Kilkis 61100
Greece

SUBJECT: Physical Properties

AUTHORIZATION: ALUFYL S.A., Order for Test dated February, 2004

SAMPLE ID: Ten (10) samples of material were received from the Client on February 27, 2004. The material was identified by the Client as composite thin panel composed by synthetic plastic material of 3 mm thickness adhesively bonded together as a sandwich with two (2) aluminium thin plates having 0.5 mm thickness. All the samples were in acceptable conditions. The code number of the material was 22 and the type of it was (Double layer adh. Film (ORBITA)).

TEST PROCEDURE: The submitted samples were tested for adhesive bond stripping strength accordance with the procedure outlined in ASTM D903-98.

TEST DATE: March 2, 2004

RESULTS: The testing equipment shown below (Figs. 1-2) has been used for the execution of the testing program following the guidelines of the previously presented procedure as described in the test procedure paragraph.
From the ten (10) samples tested, the following results (shown in Table 1) concerning their adhesive bond stripping strength have been obtained.


Fig. 1.


Fig. 2.

Specimen Determination	Width of Specimen mm	Peeling load Kg	Peeling load/mm Kg/mm
O1	25	11,5	0,46
O2	25	12	0,48
O3	25	11,5	0,46
O4	25	12	0,48
O5	25	11,5	0,46
O6	25	11	0,44
O7	25	11,5	0,46
O8	25	10,5	0,42
O9	25	10,5	0,42
O10	25	11	0,44

Table 1.

CONCLUSIVE RESULTS: The mean value for the peeling load per length (Kg/mm) is equal to 0,452Kg/mm.

PREPARED BY:	SIGNED FOR THE ISS BY:

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DEPARTMENT OF CIVIL ENGINEERING

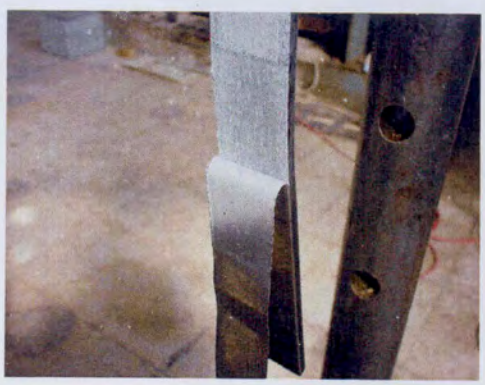
TECHNICAL REPORT ON
PEEL OF STRIPPING STRENGTH OF ADHESIVE BONDS (P)

IN THE FRAMEWORK OF THE RESEARCH PROJECT OF THE RESEARCH COMMITTEE OF THE ARISTOTLE UNIVERSITY OF THESSALONIKI NR. 20397 AND TITLE "ISS LABORATORY TESTING"

Scient. Responsible: Professor Dr.-Ing. C. C. Baniotopoulos

Rel. Desicion
EE 2/18749

Date
24.3.2004



INSTITUTE OF STEEL STRUCTURES

SECTION OF SCIENCE AND TECHNOLOGY OF STRUCTURES

TECHNICAL REPORT ON

PEEL OF STRIPPING STRENGTH OF ADHESIVE BONDS

CLIENT: ALUFYL S.A.
Industrial Area
Kilkis 61100
Greece

SUBJECT: Physical Properties

AUTHORIZATION: ALUFYL S.A., Order for Test dated March, 2004

SAMPLE ID: Ten (10) samples of material were received from the Client on March 22, 2004. The material was identified by the Client as composite thin panel composed by synthetic plastic material of 3 mm thickness adhesively bonded together as a sandwich with two (2) aluminium thin plates having 0.5 mm thickness. All the samples were in acceptable conditions. The code number of the material was P and the type of it was (No name (P)).

TEST PROCEDURE: The submitted samples were tested for adhesive bond stripping strength accordance with the procedure outlined in ASTM D903-98.

TEST DATE: March 22, 2004

RESULTS: The testing equipment shown below (Figs. 1-2) has been used for the execution of the testing program following the guidelines of the previously presented procedure as described in the test procedure paragraph.
From the ten (10) samples tested, the following results (shown in Table 1) concerning their adhesive bond stripping strength have been obtained.


Fig. 1.


Fig. 2.

Specimen Determination	Width of Specimen mm	Peeling load Kg	Peeling load/mm Kg/mm
P1	25	25	1
P2	25	23,5	0,94
P3	25	24	0,96
P4	25	26	1,04
P5	25	27	1,08
P6	25	14,5	0,58
P7	25	15,5	0,62
P8	25	15,5	0,62
P9	25	16	0,64
P10	25	14	0,56

Table 1.

CONCLUSIVE RESULTS: The mean value for the peeling load per length (Kg/mm) is equal to 0,804 Kg/mm. The two sides of the material have different mean value. The side with paint (P6 to P10) has a mean value equal to 0,604 Kg/mm and the side without paint (P1 to P5) has a mean value equal to 1,004 Kg/mm.

PREPARED BY:	SIGNED FOR THE ISS BY:

ΑΡΙΣΤΟΤΕΛΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΤΜΗΜΑ ΠΟΛΙΤΙΚΩΝ ΜΗΧΑΝΙΚΩΝ
ΤΟΜΕΑΣ ΕΠΙΣΤΗΜΗΣ ΚΑΙ
ΤΕΧΝΟΛΟΓΙΑΣ ΤΩΝ ΚΑΤΑΣΚΕΥΩΝ
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