Certificate of Compliance

This certificate is issued for the following:

KS100PRW ROOF PANEL

Prepared for:

Izopoli Yapi Elemanlari Taah. San. ve Tic. A.S.
Adana Yumurtalik Serbest Bolgesi
Ceyhan/Adana
Turkey

FM Approvals Class: 4471

Approval Identification: 3048441 Approval Granted: 6/14/2013

To verify the availability of the Approved product, please refer to www.roofnav.com.

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in RoofNav, an online resource of FM Approvals.

Cynthia E. Frank
Group Manager , A.V.P.
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062

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APPROVAL REPORT

KS100PRW ROOF PANEL

Prepared for:

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Adana Yumurtalik Serbest Bolgesi
Ceyhan/Adana
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Project ID: 3048441
Class: 4880/4471
Date of Approval: 6/14/2013
Authorized by: Cynthia E Frank

Cynthia E. Frank
Group Manager, A.V.P.

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

KS100PRW ROOF PANEL

from

Izopoli Yapi Elemanlari Taah. San. ve Tic. A.S.
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I INTRODUCTION

1.1 Izopoli Yapi Elemanlari Taah. San. ve Tic. A.S. submitted their KS100PRW roof panel to determine if it meets the approval requirements of Standard Class number 4471 in the category of Class 1 roof panels.

1.2 This Report may be reproduced only in its entirety and without modification.

1.3 **Standards:**

Title	**Class Number**	**Date**
Class I Panel Roofs	4471	March, 2010
Class 1 Fire Rating of Insulated Wall or Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings, and Exterior Wall Systems	4880	May, 2010

1.4 No testing was performed in this project. Tests were performed in previous projects by the project sponsor or express written consent was obtained for use of applicable data from sponsors of previous projects. The project sponsor requests the KS100PRW roof panels be produced at their Adana production facility.

1.5 Examination shows KS100PRW roof panels, as tested, meet the approval requirements of Standard Class number 4471in the Approval category of Class 1 roof panels.

1.6 **Listings:** The tested constructions meet the Approval criteria of FM Approvals when installed as specified in the **CONCLUSIONS** of this report and will be listed in RoofNav, an internet-based resource of FM Approvals.

II DESCRIPTION

2.1 KS100PRW roof panels are 1.6 to 3.9 in. (40 to 100 mm) thick, 39 in. (1000 mm) wide, and have four 1.7 in. (42 mm) tall ribs. The panels are faced with 0.012 in. (0.30 mm) thick coated galvanized steel and insulated with an IPN foam system. Panels are through-fastened to supports. Panel side joints consist of overlapping profiles.

2.2 Proprietary formulations and drawings are on file at FM Approvals.

III EXAMINATIONS AND TESTS

3.1 Examination was conducted as follows:

3.1.1 Testing was not performed in this project.

3.1.1.1 Flammability characterization data from project ID 3036213 was used to satisfy the requirement from Standard Class number 4880. Room fire test data from project ID 3031787 was used to satisfy the requirement from Standard Class number 4880. The use of apparent density, heat of combustion, ignition residue, ignition properties, and surface burning characterization data from project ID 3013471 was authorized by the owner for use in this project to satisfy the requirements of Standard Class number 4880. The use of simulated wind uplift pressure, combustibility from above, simulated hail damage, and resistance to foot traffic data from project ID 3034309 was authorized by the owner for use in this project to satisfy the requirements of Standard Class number 4471. Comparative tensile withdrawal test data from project ID 3039109 was used in this project. Combustibility from below the roof assembly, as required by Standard Class number 4471, is waived since the assembly meets the requirements of Standard Class number 4880.

3.1.1.2 All data is on file at FM Approvals under project IDs 3013471, 3031787, 3034309, 3036213, 3039109, and 3048441, along with other documents and correspondence applicable to this program.

IV MARKING

4.1 The manufacturer shall mark each individual panel (or each pallet or bundle of panels), each package of plates, and each package of screws with at least one label containing, at minimum, the manufacturer's name and product trade name. In addition, each package or container must be marked with the Approval Mark of FM Approvals.

4.2 Markings denoting FM Approval shall by applied by the manufacturer only within and on the premises of manufacturing locations which are under the FM Approvals Facilities and Procedures Audit program.

4.3 The manufacturer agrees that use of the FM Approvals name or Approval Mark is subject to the conditions and limitations of the FM Approval. Such conditions and limitations must be included in all references to FM Approval.

V REMARKS

5.1 The securement of the roof system must be enhanced at the building corners and perimeter as outlined in FM Global Property Loss Prevention Data Sheet 1-31.

5.2 The foam core has not been evaluated for the toxicity of the products of combustion.

VI SURVEILLANCE AUDITS

The Izopoli Yapi Elemanlari Taah. San. ve Tic. A.S. production facility in Adana, Turkey is subject to periodic audit inspections to determine that the quality and uniformity of the materials have been maintained and will provide the same level of performance as originally Approved. The facilities and quality control procedures in place have been found to be satisfactory to manufacture product identical to that examined and tested as described in this report.

VII MANUFACTURER'S RESPONSIBILITIES

7.1 To ensure compliance with his procedures in the field, the manufacturer shall supply to the roofer such necessary instruction or assistance required to produce the desired performance achieved in the tests.

7.2 The manufacturer shall notify FM Approvals of any planned change in the Approved product, prior to general sale or distribution, using Form 797, Approved Product Revision Report.

VIII DOCUMENTATION

The following document describes KS100PRW roof panel and is filed under project ID 3048441:

Document	Issue or Revision	Description
Surveillance Audit Manual for Izopoli Yapi Elemanlari Taah. San. ve Tic. A.S.—Adana, Turkey	May, 2013	audit manual

IX CONCLUSIONS

9.1 Test results indicate KS100PRW roof panel, as described in section II, meets the Approval requirements of Standard Class number 4471 for roof installation as follows:

9.1.1

Composite panel	KS100PRW
Mechanical fastener from composite panel to structure	SDT 14-A19-5.5, 5 fasteners per panel at each structure bearing: 1 fastener at each end through the ribs then 9.8 in. (250 mm) on center between the end fasteners
Structure	steel, minimum 0.20 in. (5 mm) thick flange, min 50 ksi (345 mPa), spaced maximum 71-5/8 in. (1820 mm) on center
Internal fire rating	Class 1
External fire rating	Class A noncombustible deck at maximum 5 in 12 slope
Hail rating	Class Severe Hail
Wind rating	Class 1-90

9.1.2 See RoofNav assembly ID 278399-0-0 for the Approved assembly.

9.2 Tests show 1) that the panels in and of themselves would not create a need for automatic sprinklers and 2) that the panels would be acceptable in a combustible occupancy protected by automatic sprinklers as defined by FM Global Loss Prevention Data Sheets.

9.3 The steel facings of the panels must be positively secured to the foam core by 1) attachment of the entire panel assembly to supporting structural members with mechanical fasteners or 2) positive attachment of the interior panel facer to the external panel facer with mechanical fasteners.

9.4 Continued Approval will depend upon satisfactory field experience and periodic Facilities and Procedures Audits.

TESTING SUPERVISED BY: **Michael Slocumb**

PROJECT DATA RECORD (PDR): **Project ID 3048441**

ORIGINAL TEST DATA: **PDR from project IDs 3013471, 3031787, 3034309, 3036213, and 3039109**

ATTACHMENTS: **none**

REPORT BY:

Michael S. Slocumb
Senior Engineer - Materials Section

REPORT REVIEWED BY:

P. J. Smith, PE
AVP, Technical Team Manager