

United Arab Emirates
Ministry of interior
Civil Defense G.H.Q
Fire intentional Lab & House
Of Expertise & Training Center
Approval Committee



دولة الامارات العربية المتحدة
وزارة الداخلية
القيادة العامة للدفاع المدني
لجنة اعتماد المختبرات العالمية
وبيوت الخبرة ومعاهد التدريب

Date: January 28th, 2020

CERTIFICATE OF COMPLIANCE

This certificate of compliance validates the following

TEST REPORT NUMBER 'Assessment Reports' are not acceptable	RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 -rev EN	CERTIFICATE NUMBER	EFR-2001-0198_20-0
DATE OF ISSUE	April 2019	DATE OF ISSUE	January 28th, 2020 (Date of 1st issue: /)
DATE OF EXPIRY	Valid as long as the product, the test standard and the production process are not modified	DATE OF EXPIRY	July 28 th , 2021

Manufacturer details

NAME OF FACTORY / MANUFACTURER	ISONEM BOYA VE YALTIM TEKNOLOJILERI INS. SAN. TIC. A.S.	NAME OF THE BRAND	ISONEM
FACTORY ADDRESS / REGION (STREET / TOWN / CITY / COUNTRY)	TEKELI MENDERES IZMIR - TURKEY	MODEL / NO	ISONEM ANTI-FIRE PAINT PLUS
WEBSITE	www.isonem.com.tr	LOGO ON THE PRODUCT	ISONEM "Boya & Yalitim Teknolojileri" "Paint & Insulation Technologies"
TEL	+90 (232) 799 04 95	EMAIL	isonem@isonem.com.tr

لجنة اعتماد المختبرات العالمية وبيوت الخبرة ومعاهد التدريب

1

EFFECTIS FRANCE
Esp. Technologique - Bat. Apollo
Route de l'Orme des Merisiers
91193 - SAINT-AUBIN
RCS EVRY 460 530 712



Product Details From Test Report		Reference Test Report page NO
DESCRIPTION OF THE PRODUCT (TECHNICAL DETAILS FROM TEST REPORT, SUCH AS ACTUAL FIRE RATINGS/DIMENSIONS/THICKNESS/ SENSITIVITY ETC)	Water based acrylic paint with fire retardant: Nominal density: 1150 ± 0.05 kg/m ³ Measured density: 1288.32 kg/m ³ Nominal thickness from 1.5 to 7.5 mm	RFTR19116 -rev EN
TEST STANDARD (SUCH AS ASTM/BS EN/ DN ETC)	EN 1363-1: 2012 Fire resistance tests. General requirements EN 1363-2: 1999 Fire resistance tests. Alternative and additional procedures EN 13381-8: 2013 Test methods for determining the contribution to the fire resistance of structural members. Applied reactive protection to steel members	RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 - rev EN
TEST DESCRIPTION	<p>The temperature rise inside the furnace above the ambient temperature has been controlled according to the standard thermal program represented by the following function:</p> $T = 345 \log_{10} (8t + 1) + 20$ <p>where :</p> <p>t = Time (min) T = Furnace temperature at time t (°C).</p> <p>Application of instrumentation: In order to evaluate the design temperature of product thermocouples are attached to the steel profiles before paint application. For each loaded beam there are three measurement stations each consisting of five thermocouples for I and H sections. For I and H sections, two thermocouples are attached to the lower flange, on alternate sides of the web at a distance of 250 mm from the central measuring station. For each unloaded beam there are three measurement stations, at 1/3, 1/2 and 2/3 of the length of the beam each consisting of three thermocouples. Thermocouples on the web and flanges are positioned on alternate sides for adjacent measuring stations for I or H sections. For each short I or H column there shall be a measurement station consisting of five thermocouples located at a distance of 200 mm from the top of the column and a measuring station consisting of four thermocouples located at mid-height of the column. Thermocouples on the web and flanges shall be positioned on alternate sides for adjacent measuring stations for I or H sections. For loaded beams, the vertical deformation at mid-span relative to the supports is measured.</p> <p>Performance criteria: Load-bearing (R): the criteria by which the load bearing performance of the test specimen shall be judged acc. to EN 1363-1. The method of testing loaded beams in this part of the test method is designed to provide maximum deflection (span/30) under the influence of load and heating. If the rate of deflection exceeds that given in EN 1363-1, then it may not be possible to reach span/30. Insulation (I): the test is continued until reaching required design temperature.</p>	RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 - rev EN





SPECIFICATION OF TEST SPECIMEN	<p>An epoxy based primer with thickness of 50 μm was applied prior to the application of the paint</p> <p>The loaded beams were located in the furnace as simply supported at the same time with the reference beam. Unloaded short columns are located on the floor of the furnace separately.</p>			<p>RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 -rev EN</p>	
	Test specimen	Type of steel section	Protection thickness measured (mm) (nominal thickness)	Actual section factor m^{-1}	
	Unloaded Short Column	HEM 280	1,7 (1,5)	72	
	Unloaded Short Column	HEM 280	3,5 (3,3)	72	
	Unloaded Short Column	HEM 280	5,6 (5,1)	72	
	Unloaded Short Column	HEA 300	1,6 (1,5)	188	
	Unloaded Short Column	HEA 300	5,5 (5,1)	188	
	Unloaded Short Column	HEA 300	8,1 (7,5)	188	
	Unloaded Short Column	HEA 140	1,6 (1,5)	261	
	Unloaded Short Column	HEA 140	3,5 (3,3)	263	
	Unloaded Short Column	HEA 140	5,5 (5,1)	261	
	Unloaded Short Column	HEA 140	8,2 (7,5)	261	
	Unloaded Short Column	IPE 80	3,5 (3,3)	475	
	Unloaded Short Column	IPE 80	5,3 (5,1)	479	
	Unloaded Short Column	IPE 80	7,9 (7,5)	478	
	Loaded beam	IPE 400	1,6 (1,5)	160	
	Reference beam	IPE 400	1,6 (1,5)	159	
	Loaded beam	IPE 400	8,1 (7,5)	157	
	Reference beam	IPE 400	8,2 (7,5)	159	
TEST RESULT (SUCH AS PASSED CRITERIA ___ / COMPLIED TO ___ / DURATION ___ / OBSERVATION ___ / ETC)			Min. paint thickness	Max. paint thickness	<p>RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 -rev EN</p>
	Loading;				
	- Maximum deflection ($L_{\text{sup}}/30$)	- 94th minute.	- 180th minute.		
	- Rate of deflection	- 93rd minute.	- 180 th minute.		




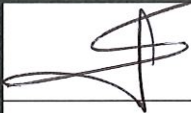
	Field of application	Duration of load bearing capacity (R) maintained in minutes	
<p>PRODUCT APPLICATION GUIDELINE (END USE) (CLEARLY STATE THE END USE WITH SPECIFIC APPLICATION, SUCH AS EXACT FIRE RATING/TO BE INSTALLED IN ___/TO BE INSTALLED AT ___/TO BE CONNECTED WITH ___/TO BE INSTALLED WITH ___ ETC ALONG WITH ANY WARNINGS SUCH AS NOT TO BE USED IN ___/NOT TO BE INSTALLED AT ___/ NOT TO BE INSTALLED</p>	<p>Design tables (Thickness (in mm) of Fire Protection Material to Maintain Steel Temperature Below Design Temperature) are given in the Efectis Certified Certificate EFR-2001-0198_20-0</p> <p>The results from this test method and the assessment procedure are applicable to fire protection system over the range of fire protection material thicknesses tested, the values of section factor A_m/V tested and the maximum temperatures established during the test.</p> <p>If the tables in chapter 6 are used, intermediate values for the critical steel temperature may be interpolated using linear interpolation.</p> <p>The results of the assessment are applicable to all other grades of steel to that tested and as given in EN 10025-1 as specified in clause 6.1 of EN 13381-8 and with the limitations given therein. The results of the assessment are also applicable to fabricated sections.</p> <p>The section factors have to be determined according to EN 13381-8:2013 standard.</p> <p>The results of this assessment are valid for the conditions indicated below for three or four sided profiled single layered protection:</p> <ul style="list-style-type: none"> - Section factor: $65 \text{ m}^{-1} \leq A_m/V \leq 527 \text{ m}^{-1}$ - Thickness: $1,5 \text{ mm} \leq d_p \leq 8,6 \text{ mm}$ - Design temperature: $300 \text{ }^\circ\text{C} \leq \theta_a \leq 750 \text{ }^\circ\text{C}$ - Section shape: I and H beams <p>Numbers of layers: the combination of layers may perform differently compared with a single layer of the same overall thickness. The results of the assessment are also applicable to fabricated sections.</p>	<p>R 15, R 20, R 30, R 45, R 60, R 90, R 120, R 180</p>	<p>RFTR19111 RFTR19112 RFTR19113 RFTR19114 RFTR19116 -rev EN</p>



Laboratory and Certification body details			
NAME OF CERTIFICATION BODY	Efectis France	NAME OF TEST FACILITY	Efectis ERA AVRAYA TEST VE BELGELENDİRME A.Ş
CERTIFICATION BODY ADDRESS / REGION (STREET / TOWN / CITY / COUNTRY)	Espace Technologique Bâtiment Apollo Route de l'orme des merisiers 91193 SAINT-AUBIN FRANCE	TEST FACILITY ADDRESS / REGION (STREET / TOWN / CITY / COUNTRY)	Dilovası Organize Sanayi Bölgesi 5.Kısım Fırat Cad. No:18 Dilovası Kocaeli - Turkey
WEBSITE	www.efectis.com	WEBSITE	www.efectis.com
TEL	00 33 (0)1 60 13 83 90	TEL	+90 262 658 16 62
EMAIL	france@efectis.com	EMAIL	france@efectis.com
ACCREDITED BY (NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE CERTIFICATION BODY, ALONG WITH WEBSITE)	COFRAC	ACCREDITED BY (NAME OF ACCREDITATION BODY WHICH ISSUED ACCREDITATION TO THE LABORATORY, ALONG WITH WEBSITE)	TÜRKAK
AS PER (STANDARD TO WHICH THE CERTIFICATION BODY IS ACCREDITED TO)	ISO/IEC 17065	AS PER (STANDARD TO WHICH YOUR ORGANIZATION IS ACCREDITED TO)	ISO/IEC 17025
VALIDITY (EXPIRY DATE OF CERTIFICATION BODY ACCREDITATION)	2021, November 30 st	VALIDITY (EXPIRY DATE OF LABORATORY ACCREDITATION)	2021, April 12 th
REFERENCE NUMBER: (CERTIFICATION BODY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)	5-0540	REFERENCE NUMBER: (THE LABORATORY ACCREDITATION REFERENCE NUMBER TO VERIFY ON THE ACCREDITOR'S WEBSITE)	AB-0556-T
CERTIFICATION MARK	<p>Efectis Certified</p> <p>Old logo:  (up to 2016):</p> <p>New logo (since 2016): </p>		



(ENDORSEMENT) TO BE SIGNED BY MANUFACTURER			
NAME OF MANUFACTURER'S SIGNATORY	Kubilay KURT	SIGNATURE	
EMAIL / TEL	kubilay.kurt@isonem.com.tr	FACTORY OFFICIAL SEAL	
NOTES: I Undertake that all data and information provided are genuine and accurate			

(ENDORSEMENT) TO BE SIGNED BY CERTIFICATION BODY			
NAME OF CERTIFICATION BODY SIGNATORY	EFFECTIS France, Chairman Daniel JOYEUX	SIGNATURE	 EFFECTIS FRANCE Esp. Technologique - Bât. Apollo Route de l'Om. des Mousiers 91193 - SAINT AUBIN RCS EVRY 490 550 712
EMAIL / TEL	daniel.joyeux@effectis.com 00 33 1 60 13 83 83	CERTIFICATION BODY OFFICIAL SEAL	
NOTES: I Undertake that all data and information provided are genuine and accurate			

ATTACHMENTS:

COPY OF 'CERTIFICATE OF COMPLIANCE' ISSUED BY CERTIFICATION BODY (OLD OR NEW)