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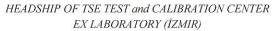
Accredited by TÜRKAK

### TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI

Elektroteknik ve Makine Laboratuvar Grup Başkanlığı (Gebze)

EX Laboratuvarı Müdürlüğü (İzmir)

Adres: Taris Pamuk Depoları Arkası Ciğli/ İZMİR Tel:+90 (232) 376 24 25/D:210 Fax: +90 (232) 386 15 10 Eposta:ex@tse.org.tr Web:www.tse.org.tr



Adress: Tariş Pamuk Depoları Arkası Çiğli/ İZMİR Tel:+90 (232) 376 24 25/D:210 Fax: +90 (232) 386 15 10 Email:ex@tse.org.tr Web:www.tse.org.tr TÜRKAK

AB-0001-T

AB-0001-T

139921

02-12

### MUAYENE VE DENEY RAPORU TEST REPORT

Deneyi Talep Eden

ISONEM YAPI KIMYASALLARI VE BOYA SAN.VE TİC.LTD.ŞTİ DÖKÜMCÜLER SAN.SİTEŞİ 106/9 SOKAK NO.6 IŞIKKENT/İZMİR --İZMİR)

Customer (Name, Adress, City etc.)

12.12.2011 / 62569

Deney Talep Tarihi/No

Order Date / No

(Adı, Adresi, Şehir vb.)

Numunenin Tanımı (Cins, Marka, Tip, Tür, Model vb.)

Sample Description(Type,Mark,Model etc.)

ANTI-FIRE SPAINT, ISONEM, , -, -, 20.00 kilogram

POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint), ISONEM .... 20.00 kilogramme

Numunenin Alındığı Tarih

Sample Receipt Date

09.12.2011

Numune,müşteri tarafından alınmıştır

Deneylerin Yapıldığı Tarih

Date of Test

14.12.2011 - 14.02.2012

Uygulanan Standard / Metod

TS EN ISO 11925-2:2010 :2011-04 Yangın dayanımı deneyleri – Aleve doğrudan maruz

kaldığında tutuşabilirlik - Bölüm 2: Tek alev kaynağıyla deney +TS EN ISO

11925-2:2010/AC:2011 :2011-04

Applied Standard/Method

TS EN ISO 11925-2:2010 :2011-04 Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test +TS EN ISO

11925-2:2010/AC:2011:2011-04

Raporun Sayfa Sayısı

Number of pages of the report

Açıklamalar

Remarks

Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınması konusunda Avrupa Akreditasyon Birliği(EA) ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanınma antlaşmasnı imzalamıştır.

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The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

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Mühür Seal

Tarih

1412 12012

Date

**Deney Sorumlusu** 

Person in charge of tests

Önder Volkan BALCI

Kontrol Eden

Reviewer

Önder Volkan BALCI Tekniker

Onaylayan Approved by

Tacettin AKGÜN Laboratuvar Müdürü

Bu rapor, hazırlayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.

Bu rapor, sadece deneyi yapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.

This test report shall not be reproduced other than in full except with the written permission of the laboratory. Test reports without signature and seal are not valid.

This test report represents only tested sample(s), and shall not be used as Product Certificate

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139921/02.2012 AB -0001-T

### TS EN ISO 11925-2: 2010 / April 2011

Building Materials – Fire Resistance Tests – Combustibility When Exposed to Direct Flame–
Part 2: Single-Flame Source Test

Calibration and Testing Center of TSE

Head of Electrotechnical and Mechanical Laboratories Group

Directorate of Ex Laboratory

Address/ Addresses : 8780\1 Sok. No:5 Tariş Pamuk Depoları Arkası Çiğli / İZMİR

### Decisions to be Taken in Consequence of Inspections and Tests:

If Related Rule/Test not necessary to be applied to the Specimen (Unapplied to Specimen)

If the Tested Specimen Conforms to the Rules (Passed)

If the Tested Specimen does not conform to the Rules (Failed)

If there is a Rule/Test that could not be Applied due to Any Reason (Undone)

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### General Evaluations:

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### COMPANY STATEMENTS: ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ.

Characteristics of the test sample;

### **ISONEM ANTI-FIRE PAINT**

POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint)





## TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI EX LABORATUVARI HEADSHIP OF TSE TEST and CALIBRATION CENTRE EX LABORATORY MUAYENE - DENEY SONUÇLARI TEST RESULTS

139921/02.2012 AB -0001-T

Clause	Rule / Test	Result / Remark	Decision
	Behavior across fire		
	Behavior across fire of the products (European Class)	EN 13501-1 Class B criterias were	Р
	according to EN 13501-1.	applied.	
	Clause 8.1 (TS EN 13501-1)	· · · · · · · · · · · · · · · · · · ·	
	Class B		
	The product is tested according to TS EN ISO 11925-2 for	r determine compliance with Class E	
	using the exposure time of 30 sec.	3	
	Clause 10.3 (TS EN 13501-1)		
	Class B		
	The product must ensure the following criterias:		
	In case of exposure to flame from surface and when	Class B	P
	necessary exposure to flame from edge for a period		
	of 15 s (Clause 6.3), after exposure to flame within 20 s	Were exposed to flame for 30 s	
	musn't show flame spread over more than 150 mm	from the surface.	
	vertically from the application point.		
	Clause 4.5 (TS EN ISO 11925-2)		
	Sample Carrier		
	Sample carriers are U-shaped, 15 mm wide, (5 ± 1) m	m thickness a pair of stainless steel	
	Frame hangers placed vertical position according to the		
	sample from the bottom and from the edges to be expos		
	carrier each tipped with a screw or clamp to prevent further	er displacement of the sample	
	Clause 5.2 (TS EN ISO 11925-2)	Length 250 mm	
	Dimensions	Width 90 mm	Р
	The test samples must be 250 (+0 -1) length and	Thickness 2 mm	
	90(+0-1) wide.	(Application on the sheet was 12	
		mm calcium silicate.)	
	Clause 6 (TS EN ISO 11925-2)	min daloidin dilidate.)	
	Conditioning	Duration of conditioning: 8 Weeks	
	The test samples and filter paper must conditioned as	Conditioning Temperature: 23 ± 2 °C	Р
	specified in EN 13238: 2010.	Humidity Conditioning : 50 ± 5 %	
	Openiod III 214 10200. 2010.	(EN 13238 :2010 Clause 4.3 a)	
		(E14 10200 .2010 Gladdo 4.0 a)	
	Clause 7.1 (TS EN ISO 11925-2)		
	General		
	Tests can applicable 15 s or 30 s on condition that	30 s. selected. (class B)	Р
	determined by who wants to tests.	(	200
	Clause 7.4 (TS EN ISO 11925-2)		
	Duration of Test		
	Test time is 20 s if flame application duration selected	Test duration is 60 s. (Class B)	Р
	as 15 s, test time is 60 s if flame application duration	(0.000 2)	
	selected as 30 s.		
	Clause 8.2 (TS EN ISO 11925-2)		
	The following saved for each test sample.	a) Combustion wasn't at the	Р
	a) Whether to be combustion or not,	samples.	
	b) Whether flame height reached 150 mm or not from	b) Flame did not reach the	
	the flame application point and the reach duration of this	measuring line 150 mm	
	height of flame,	within test period.	
	c) Whether burning on the filter paper or not,	c) Drip wasn't from the samples	
	d) Observations of physical characteristics of the test	filter paper did not burn.	
	, , , , , , , , , , , , , , , , , , ,	papa, aid not buili.	1
	samples.	d) Melting was at the test	





## TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI EX LABORATUVARI HEADSHIP OF TSE TEST and CALIBRATION CENTRE EX LABORATORY MUAYENE - DENEY SONUÇLARI TEST RESULTS

139921/02.2012 AB -0001-T

	TABLE	1 (TE	ST RES	ULTS)	
Number of samples	Combustion (Yes/No)	Flame spread to 150 mm (Yes/No)	150mm Flame Spread Time(T150) Den.Sür. Fs≤150mm -Passed Den.Sür. Fs≥150mm - Failed	Combustion filter paper (Yes/No)	Conclision
1	No	No	-	No	Р
2	No	No	-	No	Р
3	No	No	-	No	Р
4	No	No	-	No	Р
5	No	No	-	No	Р
6	No	No	-	No	Р

### **RESULT**

This test result relates to the behavior of the test sample is applied under special conditions. This test result is not the only relevant criterion for the product's evaluation of a potential fire hazard.

ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ. company that has produced ISONEM Trademark POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint, White) samples tested according to TS EN ISO 11925-2:2010 / April 2011 numbered Turkish Standard.



TÜRKAK - TÜRK AKREDİTASYON KURUMU tarafından akredite

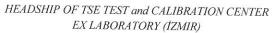
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### TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI



EX Laboratuvarı Müdürlüğü (İzmir)

Adres: Tariş Pamuk Depoları Arkası Çiğli/ İZMİR Tel:+90 (232) 376 24 25/D:210 Fax: +90 (232) 386 15 10 Eposta:ex@tse.org.tr Web:www.tse.org.tr



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MUAYENE VE DENEY RAPORU

TEST REPORT

ISONEM YAPI KIMYASALLARI VE BOYA SAN.VE TİC.LTD.ŞTİ

DÖKÜMCÜLER SAN.SİTEŞİ 106/9 SOKAK NO.6 IŞIKKENT/İZMİR --İZMİR)

ÜRKAR

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02-12

### Deneyi Talep Eden

(Adı, Adresi, Şehir vb.)

Customer (Name, Adress, City etc.)

Deney Talep Tarihi/No

Order Date / No

Numunenin Tanımı (Cins, Marka, Tip, Tür, Model vb.)

Sample Description(Type,Mark,Model etc.)

12.12.2011 / 62569

ANTİ-FIRE SPAINT, ISONEM,, ,-,-, 20.00 kilogram

POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint), ISONEM,,,, 20,00 kilogramme

Numunenin Alındığı Tarih

Sample Receipt Date

09.12.2011

Numune,müşteri tarafından alınmıştır

Deneylerin Yapıldığı Tarih

Date of Test

14.12.2011 - 14.02.2012

Uygulanan Standard / Metod

Applied Standard/Method

Raporun Sayfa Sayısı Number of pages of the report

Açıklamalar

Remarks

TS EN 13823:2010 :2011-01 Yapı Ürünleri İçin Yangına Tepki Deneyleri-Tek Bir Yakma Unsuru İle İsil Etkiye Maruz Kalan-Döşemeler Haricindeki Yapı Ürünleri

TS EN 13823:2010 :2011-01 Reaction to fire tests for building products - Building

products excluding floorings exposed to the thermal attack by a single burning item

Türk Akreditasyon Kurumu(TÜRKAK) deney raporlarının tanınması konusunda Avrupa Akreditasyon Birliği(EA) ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanınma antlaşmasnı imzalamıştır.

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Mühür

Seal

Tarih Date

**Deney Sorumlusu** Person in charge of tests

Kontrol Eden Reviewer

Tacettin AKGÜN Laboratuvar Müdürü

Onaylayan

Approved by

Önder Volkan BALCI Tekniker >

Volkan BALCI Tekniker

Bu rapor, hazırlayan laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.

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## REACTION TO FIRE TESTS FOR BUILDING PRODUCTS – BUILDING PRODUCTS EXCLUDING FLOORINGS EXPOSED TO THE THERMAL ATTACK BY A SINGLE BURNING ITEM

Calibration and Testing Center of TSE Head of Electrotechnical and Mechanical Laboratories Group Directorate of Ex Laboratory Address/ Addresses : 8780\1 Sok. No:5 Taris Pamuk Depoları Arkası Çiğli / İZMİR

### Decisions to be Taken in Consequence of Inspections and Tests:

### General Evaluations:

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### COMPANY STATEMENTS: ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ.

#### ISONEM ANTI-FIRE PAINT

POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint)



Bu rapor, hazırlayan laboratuvarın yazılı izni olmadan kısmen veya tamamen çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir. Bu rapor, sadece deneyi yapılan numune için geçerlidir ve "Ürün Belgesi" yerine geçmez.

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### TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI EX LABORATUVARI HEADSHIP OF TSE TEST and CALIBRATION CENTRE EX LABORATORY MUAYENE - DENEY SONUCLARI TEST RESULTS

139912/02.2012 AB -0001-T

### 1. DEFINITION OF THE TEST METHOD

Tests were carried out, without any deviations from the standard, in accordance with TS EN 13823 March 2010 - Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item standard.

Standard is defined for classification building products' reaction to fire, different performance classes; excluding floorings, and separately for floorings.

### 2. DEFINITION OF SPECIMEN

Arrival date of the specimen: 11.01.2012

Definition of the specimen: POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint)

Name of the company that produced the specimen: ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ.

Production date of the specimen: -

Name of the company that requested testing: ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ.

Trademark of the specimen: ISONEM

### Company Declarations

Specimen:	Nominal Values (*)	Measured Values (**)
Thickness (mm)		2 mm
Unit area mass (g/m²)		4 lt/ m²
		(applied amount of test)
Density (kg/m³)		

(\*) Values declared by the company

(\*\*) Values verified by the laboratory

Assembling and fixing the specimen:

TS EN 13823/March 2010 Clause 5.3 Placement of the sample arms to trolley. 80 mm gap is left between support panels and short and long panels.

(TS EN 13823 Clause 5.2.2 Free-standing plates when end use application)

#### Conditioning:

Beginning of conditioning: 11.01.2012

End of conditioning: 03.02.2012 (TS EN 13238 Clause 4.3. c.)

### 3. RESULTS OF CALIBRATION

Latest calibration date :

01.02.2012 STEP CALIBRATION

01.02.2012 HEPTANE CALIBRATION

01.02.2012 NOISE AND DRIFT CALIBRATION

02.02.2012 VELOCITY PROFILE MEASURING

Calibration validity date: 01.03.2012

3/7



### 4. RESULTS AND OBSERVATIONS

Date of test: 03.02.2012

Ambient pressure: 105000 Pa Ambient relative humidity: 50 % Ambient temperature : 23 °C

a)

Measured Values			
Numbers of test	M1	M2	M3
specimen:			
FIGRA value (W/s)	32,68	0	19,05
THR600s (MJ)	1,6	0,4	0,8
SMOGRA value (m <sup>2</sup> /s <sup>2</sup> )	21,04	5,03	5,69
TSP600s (m <sup>2</sup> )	82,8	36,2	36,6

Observations			
Numbers of test specimen:	M1	M2	M3
Spread of lateral flame in long arm	Did not occur	Did not occur	Did not occur
Fiery bits or driblets f<10s f>10s	Did not occur	Did not occur	Did not occur
State of inflaming of the surface	Occur	Occur	Occur
Flow of smoke emitted by the specimen, coming out of the carriage car into the test room	Did not occur	Did not occur	Did not occur
Bits falling down from the specimen	Did not occur	Did not occur	Did not occur
Formation of gap in the corner (due to failure in fixing support panels)	Did not occur	Did not occur	Did not occur
Early ending of the test	Did not occur	Did not occur	Did not occur
Corruption of the specimen or formation of breakdown	Did not occur	Did not occur	Did not occur

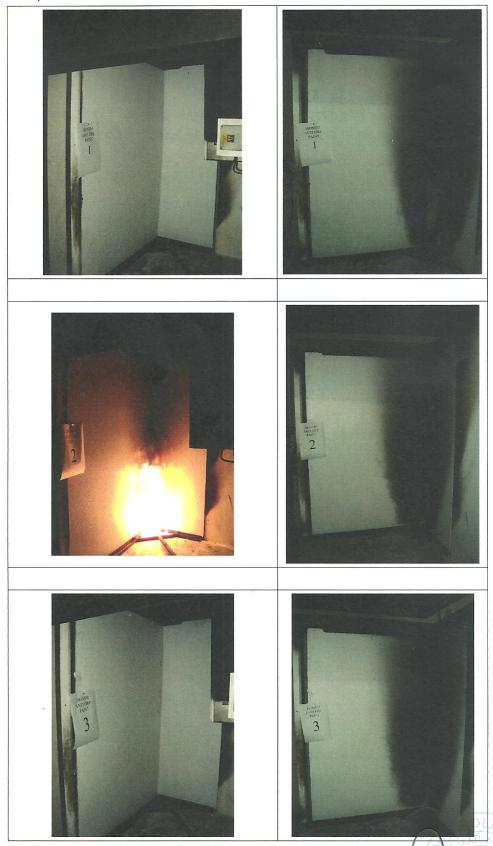
### C) Summary of test results:

This test result relates to the behavior of the test sample is applied under special conditions. This test result is not the only relevant criterion for the product's evaluation of a potential fire hazard. These test results are valid for the tested specimen.

Average FIGRA value (W/s)	17,24
Average THR600s (MJ)	0,93
Average SMOGRA value (m²/s²)	10,58
Average TSP600s (m²)	51,86
LFS <up (mm)<="" edge="" td="" the="" to=""><td>Did not occur</td></up>	Did not occur
Burning driblets/bits ≤ 10 s	Did not occur
Burning driblets/bits > 10 s	Did not occur



Pictures of the test specimen -



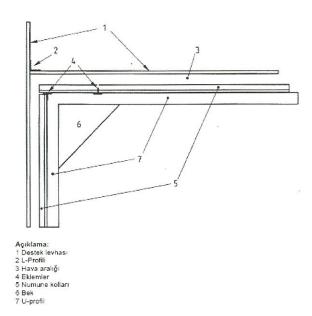
### Assembling properties

TS EN 13823/March 2010 Clause 5.3 Placement of the sample arms to trolley 1500x500 mm armlet: 1:1 Isonem anti-fire paint which diluted with water painted with roller on coating applied calcium silicate plate 12 mm thick 650 kg/m³ density. (1. fold 2 lt/ m² after 4 hours 2.fold 2 lt/ m²)

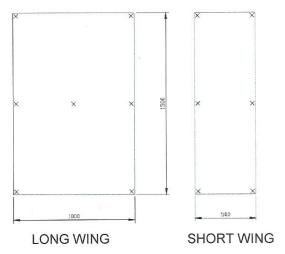
 $1500 \times 1000$  mm long arm : 1:1 Isonem anti-fire paint which diluted with water painted with roller two fold on coating applied calcium silicate plate 12 mm thick 650 kg/m³ density. (1. fold 2 lt/ m² after 4 hours 2.fold 2 lt/ m²)

80 mm gap is left between support panels and short and long panels.

(TS EN 13823 Clause 5.2.2 Free-standing plates when end use application)



(\*)Unscaled drawing.







### TSE DENEY ve KALİBRASYON MERKEZİ BAŞKANLIĞI EX LABORATUVARI HEADSHIP OF TSE TEST and CALIBRATION CENTRE EX LABORATORY MUAYENE - DENEY SONUCLARI TEST RESULTS

139912/02.2012 AB -0001-T

### CONCLUSION

This test result relates to the behavior of the test sample is applied under special conditions. This test result is not the only relevant criterion for the product's evaluation of a potential fire hazard. These test results are valid for the tested specimen.

ISONEM YAPI KİMYASALLARI VE BOYA SAN. VE TİC. LTD. ŞTİ. company that has produced ISONEM Trademark POLYMER-BASED PAINT (Fire Retardant Interior Wall Paint, White) samples tested according to TS EN 13823:March 2010 Turkish Standard.

This test report and test results given at TS EN ISO 11925-2 topical 02.2012 date / 139921 numbered test report **COMPLY** with TS EN 13501-1/January 2010 Table-1 **B S1 d0 class** criteria.



# ISONEM® ANTI-FIRE PAINT



P. Code: 045

### Fire Retardant Paint

Fire retardant is a non-flammable, fire proof paint. It dries and forms a monolith layer on the surface of application. It has an excellent fire retarding feature and it is decorative. It functions as fire retardant when in direct contact with flame. It is fire resistant. It is water-based and does not consist any solvents. It is flexible and not affected by motion. It can be easily applied on dry or semi-humid surfaces. It is water resistant but steam permeable. This feature allows respiration of the application surface. Special dirt-resistant formula allows maintaining its initial features for many years. It prevents carbon dioxide gases generated in the structure and slows down carbonization generation, protecting steel structures, preventing corrosions. It comes in white color and it can be colored by preference. It is suitable for use on concrete, wooden, prefabricated and steel structures.

TECHNICAL FEATURES: •Color: White or any color of preference •Application temperature: Over + 5°C •Water absorption feature: 12% •Steam permeability: 2 o 20 g/m<sup>2</sup> • Tensile strength: 2 N/mm at + 23°C • Breaking elongation: 50% at + 23°C • Fire retardant feature: It CONFORMS to TS 13501-1/JANUARY 2010 Schedule 1 B S1 d0 requirements in accordance with the examination and experiments performed based on TS EN 13823:March 2010 standard, examination and experiment report results referenced TS ISO 11925-2, dated 02.2012 / No. 139921.

ACCORDING TO THE RESULT OF EX LAB EXAMINATION EXPERIMENT BY DIRECTORATE OF TSE EXPERIMENT and CALIBRATION CENTER: Reaction of the experiment sample to fire in EN 13501-1 B (in accordance with the European classification) test method: PASSED

Test of experiment samples pursuant to TS EN ISO 11925-2 test method: •Inflammation of samples: DID NOT OCCUR

Flames DID NOT REACH 150 mm testing line during the experiment period

• Dripping of samples: DID NOT OCCUR • Filter paper: DID NOT BURN • Experiment sample just: MELTED • Lateral fire spread on the longitude: DID NOT OCCUR • Fire particles or drops f < 10s and f > 10s: DID NOT OCCUR • Smoke spread from the sample into the room: DID NOT OCCUR • Early termination of the experiment: DID NOT OCCUR • Sample deterioration or denture: DID NOT OCCUR

SUMMARY OF THE TSE TEST RESULT: Average FIGRA value (W/s): 17.24 Average THR600s (MJ): 0.93 Average SMORA value (m²/s²): 10.58 Average TSP600s (m<sup>2</sup>): 51.86 • Up to LFS line (mm): DID NOT OCCUR • Burning drops/particles < 10s: DID NOT OCCUR • Burning drops/particles > 10s: DID NOTOCCUR

RESULT: During the examinations and tests performed on ISONEM ANTI FIRE PAINT "inflammable" paint" sample pursuant to TS EN 13823:MARCH 2010 standard, result of the examination and experiment reference TS EN ISO 11925-2, dated 02,2012/No. 139921 CONFORMS to TS EN 13501-1/JANUARY 2010 Schedule 1 B S1 d0 classification criteria.

#### METHOD OF USE:

SURFACE PREPARATION: Surfaces shall be clean, free of substances such as oil, dirt, mud before the application, and the extracted particles must be removed. Surface can be dry or lightly damp. The packing must be opened and stirred homogenously before application.

AREAS OF USE: •All types of plastered, painted and unpainted internal and external surfaces, •On Concrete, Wooden and Steel structures, •On the roofs and fire-escape stairs • All locations where inflammability is required • At schools, day care, hospitals theatres and cinema halls, • On plaster board wall partitions and ceilings •On chimneys •At thermal plants and industrial structures, factories •At military facilities

APPLICATION METHOD: It can be applied using brush, roll or a suitable paint gun. Before the application, apply a primer coat diluted with 50% water. Allow to dry for 4 hours. Non-diluted paint should be applied in 2 layers at 4 hours intervals after the primer layer to finish the painting process.

PACKING: 18 kg PE bucket

STORAGE: Unopened packages shall be good for minimum 12 months if stored at ambient temperature between + 10 and +30 °C.

CONSUMPTION: 1 It, paint will be sufficient for 2-3 m<sup>2</sup> areas in two layers based on the surface, material thickness and required fire retarding resistance.

SAFETY: Keep away from children. Store in cool places. In case of contact with eyes, wash with plenty of water and consult a physician. If swallowed, immediately consult with a physician.

COLOR: White or it can be made in any color.











































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