TÜRK STANDARDLARI ENSTİTÜSÜ
DENEY ve KALİBRASYON
MERKEZİ BAŞKANLIĞI
YAPI MALZEMELERİ YANGIN VE AKUSTİK
LABORATUVAR MÜDÜRLÜĞÜ

TURKISH STANDARDS INSTITUTION
HEADSHIP OF TSE TEST and CALIBRATION CENTER
CONSTRUCTION MATERIALS FIRE AND ACOUSTICS LABORATORY

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Test
TS EN ISO/IEC 17025
AB-0001-T

AB-0001-T
269665
09-23

MUAYENE VE DENEY RAPORU
TEST REPORT

Deneyi Talep Eden/Firma : ***(Adı, Adresi, Şehir vb.)*** *Requesting/Customer (Name, Adress, City etc.)*	AKINCILAR PROJE İMALAT İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ ORTA MAH. HENDEK YANI CAD. Dış Kapı No:2 İç Kapı No:97 MERKEZ BARTIN
Deney Talep Tarih / No : *Order Date/No.*	10.08.2023 / 2023-190229
Numunenin Tanımı : ***(Cins, Marka, Sınıf, Tip, Tür, Model vb.)*** *Sample Description (Type,Mark,Class,Model etc.)*	2023-240001, Timber door with MDF frame and MDF leaf, LAST FIRE DOOR, LFD-30, -, -, 1.00, piece
Numune Kabul Tarihi : *Sample Receipt Date*	07.08.2023
Deneylerin Yapıldığı Tarih : *Date of Test*	21.08.2023 / 08.09.2023
Uygulanan Standart Metot : *Applied Standard/Method*	TS EN 13501-2/TS EN 13501-2 Yapı mamulleri ve yapı elemanları - Yangın sınıflandırması - Bölüm 2: Yangına dayanım deneylerinden elde edilen veriler kullanılarak sınıflandırma
Raporun Sayfa Sayısı : *Number of pages of the report*	7
Deney Sonucu : *Test Result*	-
Açıklamalar : *Remarks*	TS EN 13501-2:2016 Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests

Yukarıda tanımlanan numune için laboratuvarımızda yapılan muayene ve deneylerden elde edilen sonuçlar müteakip sayfalarda verilmiştir.
The testing and /or measurement results are given on the following pages which are part of this report.

Deney laboratuvarları olarak faaliyet gösteren TSE Deney ve Kalibrasyon Merkezi Başkanlığı Deney Laboratuvarları TÜRKAK'tan AB-0001-T ile TS EN ISO/IEC 17025:2017 standardına göre akredite edilmiştir.
TSE Headship of Test and Calibration Center Testing Laboratories accredited by TÜRKAK under registration number AB-0001-T for TS EN ISO/IEC 17025:2017 as test laboratory.
TÜRKAK deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği(ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.
TURKAK is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.
Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu raporun tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.
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.

Karekod *QR Code*	**Tarih** *Date*	**Deney Sorumlusu** *Person in charge of test*	**Kontrol Eden** *Reviewer*	**Onaylayan** *Head of Laboratory*
	08.09.2023	HARUN ÇAYIR	AHMET FAZIL KARA	SENCER GÜVEN

CLASSIFICATION OF THE FIRE RESISTANCE IN ACCORDANCE WITH TS EN 13501-2:2016

SPONSOR AKINCILAR PROJE İMALAT İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
ORTA MAH. HENDEK YANI CAD. Dış Kapı No:2 İç Kapı No:97 MERKEZ/BARTIN

TESTING LABORATORY TSE Building Materials Fire and Acoustics Laboratory
Aydınlı Mah. Ulus Sok. No:7/1 Tuzla/İSTANBUL/TÜRKİYE

1. INTRODUCTION

This classification report defines the resistance to fire classification of single acting single leaf timber door set with timber frame test sample with "LAST FIRE DOOR" brand, "LFD-30" coded, "Timber door with MDF frame and MDF leaf" description was sponsored by "AKINCILAR PROJE İMALAT İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ", in accordance with the procedures given in EN 13501-2:2016 using data from resistance to fire test.

2. DETAILS OF CLASSIFICATION REPORT

2.1. General

The classified product is defined as single acting single leaf timber door set with timber frame test sample with "LAST FIRE DOOR" brand, "LFD-30" coded, "Timber door with MDF frame and MDF leaf" description sponsored by "AKINCILAR PROJE İMALAT İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ". The classified product was tested at 21 August 2023 at TSE Construction Materials Fire and Acoustics Laboratory according to TS EN 1634-1+A1:2018.

2.2. Description

Single acting single leaf timber door set with timber frame test sample with "LAST FIRE DOOR" brand, "LFD-30" coded, "Timber door with MDF frame and MDF leaf" description is fully described in the test report in support of classification listed in 3.1.

3 TEST REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

3.1 Test Reports

Following test reports were taken into account in the determination of this classification.

Laboratory	Sponsor	Test Report Reference No	Test Method
TSE Construction Materials Fire and Acoustics Laboratory	AKINCILAR PROJE İMALAT İNŞAAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ	269625	TS EN 1634-1+A1:2018
		09-23	

3.2 Test Results

INTEGRITY (E)	
Sustained Flaming	Failure at 32nd minute.
Gap Gauges	
-Φ6 (150mm)	No failure at 31 minutes.
-Φ25	No failure at 31 minutes.
Cotton Pad	No failure at 31 minutes.
INSULATION (I_2)	No failure at 31 minutes.
RADIATION (W)	No measurement.*

Test Duration: The test was terminated at 32nd minute at the request of the sponsor.

Test Date: 21 August 2023

*An element which satisfies the thermal insulation criterion is also deemed to satisfy the Radiation (W) requirement for the same period.

4 CLASSIFICATION AND FIELD OF APPLICATION

4.1 Reference of Classification

This classification has been carried out in accordance with Clause 7 of EN 13501-2:2016.

4.2 Classification

Single acting single leaf timber door set with timber frame test sample with "LAST FIRE DOOR" brand, "LFD-30" coded, "Timber door with MDF frame and MDF leaf" description is classified according to the following combinations of performance parameters and classes as appropriate.

R	E	I	W		*t*	*t*	-	M	S	-	C	IncSlow	sn	ef	r

CLASSIFICATION OF FIRE RESISTANCE

E 30	**CATEGORY “A”**
EI_2 30	**CATEGORY “A”**
E 20	**CATEGORY “B”**
EI_2 20	**CATEGORY “B”**
EW 30	

Note: The doorset was tested opening into the furnace.

4.3 Field Of Direct Application

This classification is valid for the following end use applications.

The field of direct application of the results taken from the TS EN 1634-1+A1:2018, Clause 13, Annex B and Annex C.

4.3.1 General

The field of direct application defines the allowable changes to the test specimen following a successful fire resistance test. These variations can be applied automatically without the need for the sponsor to seek additional evaluation, calculation or approval.

NOTE:When extended product size requirements are envisaged, the dimensions of certain components within the test specimen can be less than those intended to be used at full size in order to maximize the extrapolation of the test results by modelling the interaction between components at the same scale.

4.3.2 Materials and construction

4.3.2.1 General

Unless otherwise stated in the following text, the materials and construction of the doorset or openable window shall be the same as that tested. The number of leaves and the mode of operation (e.g. sliding, single action or double action) shall not be changed.

4.3.2.2 Specific restrictions on materials and construction

4.3.2.2.1 Timber construction

The thickness of the door panel(s) shall not be reduced but may be increased.

The door panel thickness and/or density may be increased provided the total increase in weight is not greater than 25 %.

For timber based board products (e.g. particle board, blockboard, etc), the composition (e.g. type of resin) shall not change from that tested. The density shall not be reduced but may be increased.

The cross-sectional dimensions and/or the density of the timber frames (including rebates) shall not be reduced but may be increased.

4.3.2.3 Decorative finishes

4.3.2.3.1 Paint

Where the paint finish is not expected to contribute to the fire resistance of the door, alternative paints are acceptable and may be added to door leaves or frames for which unfinished test specimens were tested. Where the paint finish contributes to the fire resistance of the door (e.g. intumescent paints) then no change shall be permitted.

4.3.2.3.2 Decorative laminates

Decorative laminates and timber veneers up to 1,5 mm thickness may be added to the faces (but not the edges) of doors that satisfy the insulation criteria (normal or supplementary procedure).

Decorative laminates and timber veneers applied to door leaves that do not satisfy the insulation criteria (normal or supplementary procedure) and/or those in excess of 1,5 mm thickness shall be tested as part of the test specimen. For all doorsets tested with decorative laminate faces, the only variations possible shall be within similar types and thicknesses of material (e.g. for colour, pattern, supplier).

4.3.2.4. Fixings

The number of fixings per unit length used to attach doorsets to supporting constructions may be increased, but shall not be decreased and the distance between fixings may be reduced but shall not be increased.

4.3.2.5 Building hardware

The number of hinges and dog bolts may be increased but shall not be decreased.

Where a doorset has been tested with a door closing device fitted, but with the retention force released in accordance with 10.1.4, the doorset may be provided either with or without that closing device, i.e. where self closing characteristics are not required.

Note1: The number of movement restrictors such as locks and latches is not covered by direct application.

Note2: Interchange of building hardware is not covered by the field of direct application.

4.3.3 Permissible size variations

4.3.3.1 General

Doorsets of sizes different from those of tested specimens are permitted within certain limitations, but the variations are dependent on product type and the length of time that the performance criteria are fulfilled.

The increase and decrease of dimensions permitted by the field of direct application are applicable to the overall size and to each door leaf, each side panel and each over panel independently.

4.3.3.2 Test periods

The amount of variation of size permitted is dependent on whether the classification time was just reached (Category 'A') or whether an extended time (Category 'B') in accordance with the values shown in Table 1 were fulfilled before the test was concluded.

The test was successfully carried out 30 minutes for integrity (E) and insulation (I_2).

Classification time (min)	All performance criteria fulfilled for at least minutes
15	18
20	24
30	36

Table 1. Category B overrun requirements

4.3.3.3 Size variation related to product type

4.3.3.3.1 Hinged and pivoted doorsets and openable windows

4.3.3.3.1.1 Size Variation (Accordance with Annex B of standard TS EN 1634-1)

Category A

The test sample is classified E 30 (CATEGORY “A”) and EI_2 30 (CATEGORY “A”) since reach the time periods specified in TS EN 13501-2:2016 Clause 7.5.5.4 and TS EN 1634-1+A1:2018 Clause 13.3.2.The allowable size increase and decrease in the test sample for these classification periods and lower periods are as follows.

-Unlimited size reduction is permitted.

-Size increase is not permitted for Category A classifications.

Leaf size	Tested	Minimum	Maximum
Width	884 mm	Unlimited	-
Height	2557 mm	Unlimited	-

Table 2. Permitted size variations for Category A

Category B

The test sample is classified and E 20 (CATEGORY "B") and EI_2 20 (CATEGORY "B") since reach the time periods specified in TS EN 13501-2:2016 Clause 7.5.5.4 and TS EN 1634-1+A1:2018 Clause 13.3.2. The allowable size increase and decrease in the test sample for these classification periods and lower periods are as follows.

Note: Size variations do not apply to doors that meet the radiation criteria with integrity (EW) .

-Unlimited size reduction is permitted.

-Size increase is permitted only for Category B classifications which are required to satisfy integrity or integrity and insulation and then only up to:

•Up to 15 % in height

•Up to 15 % in width

•Up to 20 % in total area

Note:In case of size variation in length and width, attention should be paid area limitation.Dimensions are given from unexposed side.

Leaf size	Tested	Minimum	Maximum
Width	884 mm	Unlimited	1017 mm
Height	2557 mm	Unlimited	2941 mm
Area	2,2604 m²	-	2,7125 m²

Table 3. Permitted size variations for Category B

4.3.3.3.1.2 Other changes

For smaller doorset sizes the relative positioning of movement restrictors (e.g. hinges and latches) shall remain the same as tested or any change to the distances between them will be limited to the same percentage reduction as the decrease of test specimen size.

For larger doorset sizes the following shall also apply:

-the height of the latch above floor level shall be equal to or greater than the tested height, and such increase in height shall be at least proportional to the increase in door height;

-the distance of the top hinge from the top of door leaf shall be equal to or less than that tested;

-the distance of the bottom hinge from bottom of door leaf shall be equal to or less than that tested;

-where three hinges or distortion preventers are used, the distance between the bottom of the door leaf and centre restraint shall be equal to or greater than that tested.

4.3.3.3.1.4 Timber constructions

The number, size, location and orientation of any joints in the timber framing shall not be changed.

Where decorative veneers of 1,5 mm or greater thickness, or other claddings which themselves provide constructive benefits, are part of the test specimen, they shall not be substituted with alternatives of lesser thickness or strength.

4.3.3.3.1.5 Gaps

The gap measurement points and the gap measurement values are given in Figure 7.1 and Table 1.1 in the test report.

Permitted gap size in application given in the table below.

Measurement section	No	Mean Value (mm)	Maximum Value (mm)	Maximum Permitted Gap Size (mm)
Hinged edge to frame	$b_{1,2,3}$	3,83	3,85	**5,84**
Leaf top edge to frame head	$b_{4,5,6}$	4,75	6,65	**7,70**
Leading edge to frame	$b_{7,8,9}$	2,88	3,30	**5,09**
Leaf bottom edge to sill	$b_{10,11,12}$	0,05	0,05	**2,05**

Table 4. Permitted gap size in application (mm)

The minimum size of the primary gaps may be reduced.

The permitted gap size may be different for different parts of the door.

4.3.4 Asymmetrical assemblies

4.3.4.1 Direction to Cover

Table below gives lists the type of door assembly for which rules can be generated and gives the direction in which it should be tested to cover the opposite direction according to TS EN 1634-1 Clause 13.4.

Type of Doorset	Direction to be tested to cover opposite direction	Integrity	Insulation	Radiation
Hinged, timber leaf, timber frame	Opening into the furnace	√	√	√

Table 5. Type of doorset and direction to be tested to cover the opposite direction

"√": possible to identify the direction of test which covers the opposite direction

4.3.5 Supporting constructions

4.3.5.1 Rigid standard supporting constructions (low density)

The fire resistance of a doorset tested in a high or low density rigid standard supporting construction as specified in EN 1363-1 can be applied to a doorset mounted in the same manner in a wall provided the density and the thickness of the wall are equal to or greater than that in which the doorset was tested. This classification is valid for 10 cm and above wall applications since 10 cm thick wall is used in the test.

4.3.5.2 Specific rules for hinged or pivoted doorsets

-For timber door leaves hung in timber frames, the result of a test in a rigid standard supporting construction is applicable to that door assembly mounted in a flexible construction.

5 LIMITATIONS

This classification report does not represent type approval or certification of the product.

Signed	**Approved**
Harun ÇAYIR	**Sencer GÜVEN**
Testing Expert (Civil Engineer)	**Laboratory Manager**

This document is electronically signed.