



TÜRK STANDARDLARI ENSTİTÜSÜ
TÜRK STANDARDLARINA UYGUNLUK BELGESİ
TURKISH STANDARDS INSTITUTION
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark
TSE veya/or  veya/or **T S E**

BELGE NUMARASI 007576-TSE-01/07
REFERENCE NUMBER OF LICENCE

BELGENİN İLK VERİLİŞ TARİHİ 27.05.2011
DATE OF FIRST ISSUE OF LICENCE

BELGENİN SON GEÇERLİLİK TARİHİ 27.05.2027
LICENCE VALID UNTIL

BELGE SAHİBİ KURULUŞUN ADI PANELSAN ÇATI CEPHE SİSTEMLERİ SAN. VE TİC. A.Ş.
NAME OF THE LICENCE HOLDER

BELGE SAHİBİ KURULUŞUN ADRESİ MUSTAFA KEMAL MAHALLESİ, 2118 CAD., A BLOK APARTMAN NO: 4
ADDRESS OF THE LICENCE HOLDER A/18 ÇANKAYA ANKARA/TÜRKİYE

ÜRETİM YERİ ADI PANELSAN ÇATI CEPHE SİSTEMLERİ SAN. VE TİC. A.Ş.
NAME OF THE MANUFACTURING PLACE

ÜRETİM YERİ ADRESİ ÇEKİRDEKSİZ OSB 202. CADDE NO:18-20 POLATLI ANKARA /
ADDRESS OF THE MANUFACTURING PLACE TÜRKİYE

İPTAL EDİLEN BELGE NUMARASI (Varsa) 007576-TSE-01/06
INDICATION OF SUPERSEDED LICENCE (if any)

TESCİLLİ TİCARİ MARKASI panelsan
REGISTERED TRADE MARK

İLGİLİ TÜRK STANDARDI TS EN 14509 / 02.04.2014
RELATED TURKISH STANDARD

BELGE KAPSAMI
SCOPE OF LICENCE

SELF-SUPPORTING DOUBLE SKIN METAL FACED INSULATING PANELS

1) ALUMINUM FACED EPS ROOFING PANEL

Thickness: min. 40 mm, mak. 150 mm

Aluminum faces:

-Thickness Tolerance (TS EN 485 - 4):Nominal

- Yield Strength: min. 140 N / mm²

Properties of Core Material:

-EPS (Expanded Polystyren)

-Thermal Conductivity (λ): Max. 0,038 W/mK

-Density (Kg/m³) : 16 $\pm$ 1 Properties of Panels:

-Shear Strength of Core Material (fcv): min. 0.065 MPa

e-imzalı/e-signed

11.05.2026

On Behalf Of The Head Of Certification Center
ŞİMA AKKAYA

DIRECTOR OF CONSTRUCTION MATERIALS
SECTOR

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(007576-TSE-01/07nolu belge devamı) : PANELSAN ÇATI CEPHE SİSTEMLERİ SAN. VE TİC. A.Ş.
İLGİLİ TÜRK STANDARDI(RELATED TURKISH STANDARD) TS EN 14509 / 02.04.2014

- Shear Modulus of Core Material (G): min. 1,75 Mpa
- Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
 - t: 1.000 h, min. 0,033 MPa
 - t: 2.000 h, min. 0,041 MPa
 - t: 100.000 h, min. 0,020 MPa
- Bending Moment Capacity and Rigidity:
 - Roof / Normal: Min. 2,50 kNm / m
 - Roof / Reverse: Min. 1,5 kNm / m
- Wrinkling Stress:
 - Roof / Normal: Min. 70 Mpa
 - Roof / Reverse: Min. 55 Mpa
- Crawling / Spreading Coefficient Creeping Coefficient (Shear Strength of Panel) (Roof panel):
 - t: 200 h, Φ : 0,72
 - t: 1.000 h, Φ : 1,16
 - t: 2.000 h, Φ : 1,62
 - t: 100.000 h, Φ : 2,41
- Bending Moment Capacity over a Central Support:
 - Roof / Normal: Min. 2,25 kNm / m
 - Roof / Reverse: Min. 1,55 kNm / m
- Wrinkling Stress over a Central Support:
 - Roof / Normal: Min. 50 Mpa
 - Roof / Reverse: Min. 55 Mpa
- Compression Strength (σ_{10}): min. 0,080 MPa
- Latitudinal Tensile Strength of Panel (fct): Min. 0,085 MPa
- Reaction to Fire: Fire Class E

2) GALVANIZED STEEL FACED EPS WALL AND ROOFING PANELS

- Thickness: min. 40 mm, mak. 150 mm
- Steel Faces:
 - Thickness Tolerance (TS EN 10143):Nominal
 - Yield Strength: min. 220 N / mm²

Properties of Core Material:

- EPS (Expanded Polystyren)
- Thermal Conductivity (λ): Max. 0,038 W/mK
- Density (Kg/m³) : 16 $\pm$ 1

Properties of Panels:

- Shear Strength of Core Material (fcv): min. 0.075 MPa
- Shear Modulus of Core Material (G): min. 2,5 Mpa
- Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):

e-imzalı/e-signed

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t: 1.000 h, min. 0,041 MPa
t: 2.000 h, min. 0,038 MPa
t: 100.000 h, min. 0,021 MPa
-Bending Moment Capacity and Rigidity:
Roof / Normal: Min. 4,0 kNm / m
Roof / Reverse: Min. 2,9 kNm / m
Wall / Normal: Min. 3,0 kNm / m
Wall / Reverse: Min. 1,50 kNm / m
-Wrinkling Stress:
Roof / Normal: Min. 90 Mpa
Roof / Reverse: Min. 85 Mpa
Wall / Normal: Min. 90 Mpa
Wall / Reverse: Min. 80 Mpa
-Crawling / Spreading Coefficient Creeping Coefficient (Shear Strength of Panel) (Roof panel):
t: 200 h, Φ t: 1,00
t: 1.000 h, Φ t: 1,33
t: 2.000 h, Φ t: 1,78
t: 100.000 h, Φ t: 2,29
-Bending Moment Capacity over a Central Support:
Roof / Normal: Min. 4,35 kNm / m
Roof / Reverse: Min. 2,85 kNm / m
Wall / Normal: Min. 2,50 kNm / m
Wall / Reverse: Min. 2,40 kNm / m
-Wrinkling Stress over a Central Support:
Roof / Normal: Min. 90 Mpa
Roof / Reverse: Min. 75 Mpa
Wall / Normal: Min. 65 Mpa
Wall / Reverse: Min. 70 Mpa
-Compression Strength (σ_{10}): min. 0,080 MPa
-Latitudinal Tensile Strength of Panel (fct): Min. 0,085 MPa
-Reaction to Fire: Fire Class E

3) GALVANIZED STEEL FACED MW (STONE WOOL) WALL AND ROOFING PANELS

Thickness: min. 40 mm, mak. 150 mm

Steel Faces:

-Thickness Tolerance (TS EN 10143):Nominal

- Yield Strength: min. 220 N / mm²

Properties of Core Material:

-Mineral Wool (MW)

-Thermal Conductivity (λ): Max. 0,043 W/mK

e-imzalı/e-signed

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-Density (Kg / m3) : 100 ± %10

Properties of Panels:

- Shear Strength of Core Material (fcv): min. 0.015 MPa
- Shear Modulus of Core Material (G): min. 0,9 Mpa
- Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
 - t: 1.000 h, min. 0,015 MPa
 - t: 2.000 h, min. 0,014 MPa
 - t: 100.000 h, min. 0,012 MPa
- Bending Moment Capacity and Rigidity:
 - Roof / Normal: Min. 4,50 kNm / m
 - Roof / Reverse: Min. 2,55 kNm / m
 - Wall / Normal: Min. 2,10 kNm / m
 - Wall / Reverse: Min. 1,70 kNm / m
- Wrinkling Stress:
 - Roof / Normal: Min. 160 Mpa
 - Roof / Reverse: Min. 110 Mpa
 - Wall / Normal: Min. 80 Mpa
 - Wall / Reverse: Min. 70 Mpa
- Crawling / Spreading Coefficient Creeping Coefficient (Shear Strength of Panel) (Roof panel):
 - t: 200 h, Φ t: 0,90
 - t: 1.000 h, Φ t: 1,06
 - t: 2.000 h, Φ t: 1,41
 - t: 100.000 h, Φ t: 3,80
- Bending Moment Capacity over a Central Support:
 - Roof / Normal: Min. 3,80 kNm / m
 - Roof / Reverse: Min. 2,80 kNm / m
 - Wall / Normal: Min. 1,85 kNm / m
 - Wall / Reverse: Min. 1,35 kNm / m
- Wrinkling Stress over a Central Support:
 - Roof / Normal: Min. 130 Mpa
 - Roof / Reverse: Min. 130 Mpa
 - Wall / Normal: Min. 70 Mpa
 - Wall / Reverse: Min. 60 Mpa
- Compression Strength (σ_{10}): Min. 0,050 MPa
- Latitudinal Tensile Strength of Panel (fct): Min. 0,040 MPa
- Reaction to Fire: Fire Class A2 S1 d0 (K.D. 07.12.2021)

4) ALUMINUM FACED POLYURETHANE FILLED ROOFING PANELS

Thickness: min. 30 mm, mak. 120 mm

Aluminum Faces:

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- Thickness Tolerance (TS EN 485 - 4):Nominal
- Yield Strength: min. 140 N / mm²

Properties of Core Material:

- Polyurethane (PUR), self-adhesive
- Thermal Conductivity (λ): Max. 0,022 W / mK
- Density (Kg / m³) : 40 $\pm$ 2
- Dimensional Stability (TS EN 13165 - Table 4)
Level DS (TH): 11

Properties of Panels:

- Shear Strength of Core Material (fcv): Min. 0.11 MPa
- Shear Modulus of Core Material (G): Min. 3 Mpa
- Straining Coefficient (Roof panel)
t: 2.000 hour (snow load), Φ t: Max. 2
t: 100.000 hour (free load), Φ t: Max. 3
- Compressive Strength (σ_{10}): Min. 0,11 MPa
- Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
t: 1.000 h, Min. 0,040 MPa
t: 2.000 h, Min. 0,030 MPa
t: 100.000 h, Min. 0,020 MPa
- Latitudinal Tensile Strength of Panel (fct) Min. 0,070 MPa
- Bending Moment Capacity (Mu)
Roof / Normal: Min. 2,3 kNm / m
Roof / Reverse: Min. 2,0 kNm / m
Wall / Normal: Min. 2,7 kNm / m
Wall / Reverse: Min. 1,4 kNm / m
- Wrinkling Stress (σ_w):
Roof / Normal: Min. 115 Mpa
Roof / Reverse: Min. 100 Mpa
Wall / Normal: Min. 120 Mpa
Wall / Reverse: Min. 100 Mpa
- Bending Moment Capacity over a Central Support:
Roof / Normal: Min. 3,0 kNm / m
Roof / Reverse: Min. 3,0 kNm / m
Wall / Normal: Min. 3,0 kNm / m
Wall / Reverse: Min. 1,26 kNm / m
- Wrinkling Stress over a Central Support:
Roof / Normal: Min. 90 Mpa

e-imzalı/e-signed

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Roof / Reverse: Min. 90 Mpa
Wall / Normal: Min. 90 Mpa
Wall / Reverse: Min. 75 Mpa
-Reaction to Fire: Fire Class D S3 d0

5) GALVANIZED STEEL FACED POLYURETHANE FILLED WALL AND ROOFING PANELS
Thickness: min. 40 mm, mak. 200 mm
Steel Faces:
-Thickness Tolerance (TS EN 10143):Nominal
- Yield Strength: Min. 220 N/mm²

Properties of Core Material:
-Polyurethane (PUR), self-adhesive
-Thermal Conductivity (λ): Max. 0,022 W / mK
-Density (Kg / m³) : 40 $\pm$ 2
-Dimensional Stability (TS EN 13165 - Table 4) Level DS (TH): 11

Properties of Panels:
-Shear Strength of Core Material (fcv): Min. 0.11 MPa
-Shear Modulus of Core Material (G): Min. 3 Mpa
-Straining Coefficient (Roof panel)
t: 2.000 hour (snow load), Φ t: Max. 2
t: 100.000 hour (free load), Φ t: Max. 3
-Compressive Strength (σ_{10}): Min. 0.11 MPa
-Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
t: 1.000 h, Min. 0,040 MPa
t: 2.000 h, Min. 0,030 MPa
t: 100.000 h, Min. 0,020 MPa

-Tensile Strength of Panel as Latitudinal (fct) Min. 0,070 MPa
-Bending Moment Capacity
Roof / Normal: Min. 2,3 kNm / m
Roof / Reverse: Min. 2,0 kNm / m
Wall / Normal: Min. 2,7 kNm / m
Wall / Reverse: Min. 1,4 kNm / m
-Wrinkling Stress (σ_w)
Roof / Normal: Min. 115 Mpa
Roof / Reverse: Min. 100 Mpa
Wall / Normal: Min. 120 Mpa
Wall / Reverse: Min. 100 Mpa
-Bending Moment Capacity over a Central Support:

e-imzalı/e-signed

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Roof / Normal: Min. 3,0 kNm / m
Roof / Reverse: Min. 3,0 kNm / m
Wall / Normal: Min. 3,0 kNm / m
Wall / Reverse: Min. 1,26 kNm / m
-Wrinkling Stress over a Central Support:
Roof / Normal: Min. 90 Mpa
Roof / Reverse: Min. 90 Mpa
Wall / Normal: Min. 90 Mpa
Wall / Reverse: Min. 75 Mpa
-Reaction to Fire: Fire Class B S2 d0

6) GALVANIZED STEEL FACED POLYURETHANE FILLED WALL AND ROOFING PANELS
Thickness: 40 mm
Steel Faces:
-Thickness Tolerance (TS EN 10143):Nominal
- Yield Strength: Min. 220 N/mm2

Properties of Core Material:
-Polyurethane (PUR), self-adhesive
-Thermal Conductivity (λ): Max. 0,024 W / mK
-Density (Kg / m3) : 32 ± 4
-Dimensional Stability (TS EN 13165 - Table 4) Level DS (TH): 11

Properties of Panels:
-Shear Strength of Core Material (fcv): Min. 0.06 MPa
-Shear Modulus of Core Material (G): Min. 1,5 Mpa
-Straining Coefficient (Roof panel)
t: 2.000 hour (snow load), Φt : Max. 1,6
t: 100.000 hour (free load), Φt : Max. 2,3
-Compressive Strength (σ_{10}): Min. 0.060 MPa
-Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
t: 1.000 h, Min. 0,020 MPa
t: 2.000 h, Min. 0,020 MPa
t: 100.000 h, Min. 0,020 MPa

-Tensile Strength of Panel as Latitudinal (fct) Min. 0,030 MPa
-Bending Moment Capacity
Roof / Normal: Min. 1,0 kNm / m
Roof / Reverse: Min. 1,0 kNm / m
Wall / Normal: Min. 1,0 kNm / m
Wall / Reverse: Min. 1,0 kNm / m

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- Wrinkling Stress (σ_w)
Roof / Normal: Min. 75 Mpa
Roof / Reverse: Min. 75 Mpa
Wall / Normal: Min. 75 Mpa
Wall / Reverse: Min. 75 Mpa
- Bending Moment Capacity over a Central Support:
Roof / Normal: Min. 1,0 kNm / m
Roof / Reverse: Min. 1,0 kNm / m
Wall / Normal: Min. 1,0 kNm / m
Wall / Reverse: Min. 1,0 kNm / m
- Wrinkling Stress over a Central Support:
Roof / Normal: Min. 75 Mpa
Roof / Reverse: Min. 75 Mpa
Wall / Normal: Min. 75 Mpa
Wall / Reverse: Min. 75 Mpa
- Reaction to Fire: Fire Class D-s2,d0
- External fire performance (roofs): Broof (t1) (K.G. 02.11.2023)

7) GALVANIZED STEEL FACED POLYURETHANE FILLED WALL AND ROOFING PANELS

Thickness: 50 mm

Steel Faces:

- Thickness Tolerance (TS EN 10143):Nominal
- Yield Strength: Min. 220 N/mm²

Properties of Core Material:

- Polyurethane (PUR), self-adhesive
- Thermal Conductivity (λ): Max. 0,024 W / mK
- Density (Kg / m³) : 32 $\pm$ 4
- Dimensional Stability (TS EN 13165 - Table 4) Level DS (TH): 11

Properties of Panels:

- Shear Strength of Core Material (fcv): Min. 0.06 MPa
- Shear Modulus of Core Material (G): Min. 1,5 Mpa
- Straining Coefficient (Roof panel)
t: 2.000 hour (snow load), Φ t: Max. 1,6
t: 100.000 hour (free load), Φ t: Max. 2,3
- Compressive Strength (σ_{10}): Min. 0.060 MPa
- Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
t: 1.000 h, Min. 0,020 MPa
t: 2.000 h, Min. 0,020 MPa
t: 100.000 h, Min. 0,020 MPa

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TÜRK STANDARDLARI ENSTİTÜSÜ
TÜRK STANDARDLARINA UYGUNLUK BELGESİ
TURKISH STANDARDS INSTITUTION
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS



(007576-TSE-01/07nolu belge devamı) : **PANELSAN ÇATI CEPHE SİSTEMLERİ SAN. VE TİC. A.Ş.**
İLGİLİ TÜRK STANDARDI(RELATED TURKISH STANDARD) TS EN 14509 / 02.04.2014

- Tensile Strength of Panel as Latitudinal (fct) Min. 0,030 MPa
- Bending Moment Capacity
 - Roof / Normal: Min. 1,0 kNm / m
 - Roof / Reverse: Min. 1,0 kNm / m
 - Wall / Normal: Min. 1,0 kNm / m
 - Wall / Reverse: Min. 1,0 kNm / m
- Wrinkling Stress (σ_w)
 - Roof / Normal: Min. 75 Mpa
 - Roof / Reverse: Min. 75 Mpa
 - Wall / Normal: Min. 75 Mpa
 - Wall / Reverse: Min. 75 Mpa
- Bending Moment Capacity over a Central Support:
 - Roof / Normal: Min. 1,0 kNm / m
 - Roof / Reverse: Min. 1,0 kNm / m
 - Wall / Normal: Min. 1,0 kNm / m
 - Wall / Reverse: Min. 1,0 kNm / m
- Wrinkling Stress over a Central Support:
 - Roof / Normal: Min. 75 Mpa
 - Roof / Reverse: Min. 75 Mpa
 - Wall / Normal: Min. 75 Mpa
 - Wall / Reverse: Min. 75 Mpa
- Reaction to Fire: Fire Class C-s2,d0
- External fire performance (roofs): Broof (t1) (K.G. 02.11.2023)

8) GALVANIZED STEEL FACED POLYISOCYANURATE (PIR) FILLED WALL AND ROOFING PANELS
Thickness: Thickness: min. 50 mm, mak. 200 mm (wall panels), min. 50 mm, mak. 120 mm (roof panels)
Steel Faces:

- Thickness Tolerance (TS EN 10143):Nominal
- Yield Strength: Min. 220 N/mm²

Properties of Core Material:

- polyisocyanurate (PIR)
- Thermal Conductivity (λ): Max. 0,022 W / mK
- Density (Kg / m³) : 40 $\pm$ 2
- Dimensional Stability (TS EN 13165 - Table 4) Level DS (TH): 11

Properties of Panels:

- Shear Strength of Core Material (fcv): Min. 0.09 MPa
- Shear Modulus of Core Material (G): Min. 2,4 Mpa
- Straining Coefficient (Roof panel)

e-imzalı/e-signed

11.05.2026

On Behalf Of The Head Of Certification Center
ŞİMA AKKAYA

DIRECTOR OF CONSTRUCTION MATERIALS
SECTOR

*This certificate also shows that the production place of the certified product meets the requirements of Institute.

*This certificate under any circumstances cannot be changed, duplicated partially or in a way that makes it difficult to read and erasure cannot be done.

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(007576-TSE-01/07nolu belge devamı) : PANELSAN ÇATI CEPHE SİSTEMLERİ SAN. VE TİC. A.Ş.
İLGİLİ TÜRK STANDARDI(RELATED TURKISH STANDARD) TS EN 14509 / 02.04.2014

- t: 2.000 hour (snow load), Φ t: Max. 2,0
t: 100.000 hour (free load), Φ t: Max. 3,0
-Compressive Strength (σ_{10}): Min. 0.095 MPa
-Shear Strength After Long-term Loading (Reduced Shear Strength) (fcv - long term):
t: 1.000 h, Min. 0,040 MPa
t: 2.000 h, Min. 0,030 MPa
t: 100.000 h, Min. 0,020 MPa
- Tensile Strength of Panel as Latitudinal (fct) Min. 0,019 MPa
-Bending Moment Capacity
Roof / Normal: Min. 6,0 kNm / m
Roof / Reverse: Min. 5,0 kNm / m
Wall / Normal: Min. 7,0 kNm / m
Wall / Reverse: Min. 6,0 kNm / m
-Wrinkling Stress (σ_w)
Roof / Normal: Min. 115 Mpa
Roof / Reverse: Min. 80 Mpa
Wall / Normal: Min. 90 Mpa
Wall / Reverse: Min. 70 Mpa
-Bending Moment Capacity over a Central Support:
Roof / Normal: Min. 5,0 kNm / m
Roof / Reverse: Min. 5,0 kNm / m
Wall / Normal: Min. 5,0 kNm / m
Wall / Reverse: Min. 3,5 kNm / m
-Wrinkling Stress over a Central Support:
Roof / Normal: Min. 90 Mpa
Roof / Reverse: Min. 70 Mpa
Wall / Normal: Min. 60 Mpa
Wall / Reverse: Min. 50 Mpa
-Reaction to Fire: Fire Class B.s1.d0
-External fire performance (roofs): Broof (t1) (K.G. 23.09.2025)

e-imzalı/e-signed

11.05.2026

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