



Accredited by TURKAK (Turkish Accreditation Agency)  
HEADSHIP OF TSE TEST & CALIBRATION CENTER  
CONSTRUCTION MATERIALS LABORATORY (GEBZE)

Address: TSE Gebze Kampusu Cumhuriyet Mahallesi 2258 Sokak No: 10 Cayirova Tren Istasyonu Yani Gebze/KOCAELI  
Phone: +90 (262) 723 14 57 Fax: +90 (262) 723 16 15 E-mail: ymlab@tse.org.tr Website: www.tse.org.tr



Test  
TS-EN-ISO-IEC-17025  
AB-0001-T  
397776  
03-18

TEST REPORT

Customer : GAZIANTEP CERTIFICATION INSTITUTION  
(Name, Address, City, etc.) (Certification Specialist HASAN ALPDOGAN)  
(PETEK PLYWOOD INDUSTRY & TRADE INC.)  
(TURGUT OZAL KUCUK SANAYI SITESI EBULFEYZ ELCIBEY BULVARI NO: 12/A SAHINBEY-GAZIANTEP)

Inspection No. : 1724953

Order Date/No. : 15.01.2018 / 201122

Sample Description : 384632 - SANDED PINE PLYWOOD FOR USE IN EXTERIOR CONDITIONS - HERCULES  
(No., Type, Mark, Model, etc.) 6 pieces

Test Item Receipt Date : 15.01.2018

Date of Test : 29.01.2018 - 27.03.2018

Applied Standard/Method : TS EN 636:2012+A1:2015-08:2015-08 Plywood - Specifications

Number of Pages of The Report : 4

Remarks : Results of inspection and tests are POSITIVE.

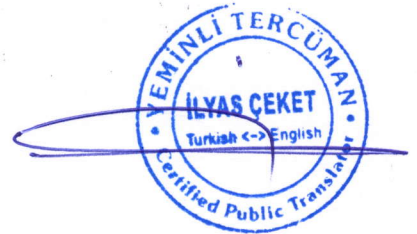
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The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

|                         |                    |                                                                          |                                                                            |                                                                   |
|-------------------------|--------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|
| Seal<br>(official seal) | Date<br>27.03.2018 | Person in Charge of Tests<br>Ibrahim ILKHAN<br>Technician<br>(signature) | Reviewer<br>Ahmet Oñder ELIRI<br>Technical Cheif (By Proxy)<br>(signature) | Approved By<br>Feyyaz ASKIN<br>Laboratory Director<br>(signature) |
|-------------------------|--------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|

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





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**TEST RESULTS**

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**3.3. PLYWOOD FOR USE IN EXTERIOR CONDITIONS (EN 636-3)**

This plywood will be used at a moisture content higher than Service Class 2 in climate conditions. These conditions are suitable for ENV 1995-1-1, Service Class 3.

This type of panels specified on EN 335-3 are suitable to use in Biological Attack Class 1, Biological Attack Class 2, Biological Attack Class 3.

Note: This plywood is suitable and have the capacity to show resistance on ventilable places in exterior conditions, liquid water or water hole steam in accordance with Article 9.2.

**6.General Properties**

6.1. Dimensional tolerances will be specified in accordance with EN 315.

Declaration of The Company: Panel Dimensions=18\*1250\*2500 mm

| Specification                                | Test Method | Tolerances in Standard (TS EN 315)    | Available      |                |                |                |                |                | Result |
|----------------------------------------------|-------------|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|
|                                              |             |                                       | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> |        |
| Panel Thickness                              | *EN 324-1   | Specified in Table 1                  | 0,07           | 0,10           | 0,09           | 0,08           | 0,09           | 0,06           | U      |
| Nominal Thickness                            | *EN 324-1   | Calculated in accordance with Table 1 | 0,07           | 0,09           | 0,10           | 0,11           | 0,11           | 0,11           | U      |
| Length                                       | *EN 324-1   | ±3,5 mm                               | 1,0            | 2,0            | 1,0            | 2,0            | 2,0            | 1,0            | U      |
| Width                                        | *EN 324-1   | ±3,5 mm                               | 1,0            | 2,0            | 0,0            | 2,0            | 2,0            | 2,0            | U      |
| Edge Smoothness                              | EN 324-2    | 1 mm/m                                | 0,40           | 0,40           | 0,40           | 0,40           | 0,48           | 0,40           | U      |
| Deviation from Perpendicularity (Squareness) | EN 322      | 1 mm/m                                | 0,50           | 0,60           | 0,50           | 0,50           | 0,60           | 0,50           | U      |

Table 1- Thickness Tolerances (TS EN 315)

| Nominal Thickness | Unsanded Panels                  |                                 | Sanded Panels                    |                                 |
|-------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|
|                   | Thickness Tolerances in Panel mm | Nominal Thickness Tolerances mm | Thickness Tolerances in Panel mm | Nominal Thickness Tolerances mm |
| ≥3                | 1,0                              | + (0,8 + 0,03 t)                | 0,6                              | + (0,2 + 0,03 t)                |
| ≤12               |                                  | - (0,4 + 0,03 t)                |                                  | - (0,4 + 0,03 t)                |
| >12               | 1,5                              | + (0,8 + 0,03 t)                | 0,6                              | + (0,2 + 0,03 t)                |
| ≤25               |                                  | - (0,4 + 0,03 t)                |                                  | - (0,4 + 0,03 t)                |
| >25               | 1,5                              | + (0,8 + 0,03 t)                | 0,8                              | + (0,0 + 0,05 t)                |
| ≤30               |                                  | - (0,4 + 0,03 t)                |                                  | - (0,4 + 0,05 t)                |
| >30               | 1,5                              | + (0,8 + 0,03 t)                | 0,8                              | + (0,0 + 0,03 t)                |
|                   |                                  | - (0,4 + 0,03 t)                |                                  | - (0,4 + 0,03 t)                |

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6.2. Mechanical Properties

6.2.1. General

Table 1- Flexural Strength Classes for Plywood

| Flexural Strength                     |                                        |     |
|---------------------------------------|----------------------------------------|-----|
| Class                                 | Lower Limit Value (N/mm <sup>2</sup> ) |     |
| f <sub>m,0</sub><br>f <sub>m,90</sub> | F3                                     | 5   |
|                                       | F5                                     | 8   |
|                                       | F10                                    | 15  |
|                                       | F15                                    | 23  |
|                                       | F20                                    | 30  |
|                                       | F25                                    | 38  |
|                                       | F30                                    | 45  |
|                                       | F35                                    | 52  |
|                                       | F40                                    | 60  |
|                                       | F50                                    | 75  |
|                                       | F60                                    | 90  |
|                                       | F70                                    | 105 |
|                                       | F80                                    | 120 |

Table 2- Flexural Modulus Classes for Plywood

| Flexural Modulus                      |                                        |       |
|---------------------------------------|----------------------------------------|-------|
| Class                                 | Lower Limit Value (N/mm <sup>2</sup> ) |       |
| e <sub>m,0</sub><br>e <sub>m,90</sub> | E5                                     | 450   |
|                                       | E10                                    | 900   |
|                                       | E15                                    | 1350  |
|                                       | E20                                    | 1800  |
|                                       | E25                                    | 2250  |
|                                       | E30                                    | 2700  |
|                                       | E35                                    | 3150  |
|                                       | E40                                    | 3600  |
|                                       | E50                                    | 4500  |
|                                       | E60                                    | 5400  |
|                                       | E70                                    | 6300  |
|                                       | E80                                    | 7200  |
|                                       | E90                                    | 8100  |
|                                       | E100                                   | 9000  |
|                                       | E120                                   | 10800 |
|                                       | E140                                   | 12600 |

Declaration of The Company: F20/10, E30/20

Mechanical Properties of General Purpose Plywood for Use in Exterior Conditions

| Properties                                                                                                    | Flexural Strength<br>Longitudinal Axis | Flexural Strength<br>Transverse Axis | Flexural Elastic Modulus<br>Longitudinal Axis | Flexural Elastic Modulus<br>Transverse Axis |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|
| Unit                                                                                                          | N/mm <sup>2</sup>                      |                                      | N/mm <sup>2</sup>                             |                                             |
| Test Method                                                                                                   | *TS EN 310                             |                                      | *TS EN 310                                    |                                             |
| Lq 5% (Lower Limit)                                                                                           | 51,6                                   | 26,5                                 | 7077                                          | 2690                                        |
| Required Values (In accordance with Declaration of The Company:<br>Lower Limit Values in Table 1 and Table 2) | 30                                     | 15                                   | 2700                                          | 1800                                        |
| L <sub>1</sub>                                                                                                | 55,1                                   | 31,1                                 | 7897                                          | 3879                                        |
| L <sub>2</sub>                                                                                                | 57,7                                   | 33,0                                 | 8439                                          | 4027                                        |
| L <sub>3</sub>                                                                                                | 57,0                                   | 30,4                                 | 7725                                          | 3233                                        |
| L <sub>4</sub>                                                                                                | 56,4                                   | 30,6                                 | 8254                                          | 4047                                        |
| L <sub>5</sub>                                                                                                | 63,7                                   | 38,4                                 | 9543                                          | 5013                                        |
| L <sub>6</sub>                                                                                                | 56,4                                   | 31,9                                 | 8333                                          | 3447                                        |
| Average                                                                                                       | 57,7                                   | 32,6                                 | 8365                                          | 3941                                        |
| Panel' s Average Standard Deviation Value                                                                     | 6,908                                  | 4,215                                | 103,289                                       | 231,300                                     |
| Standard Deviation between Panel Average                                                                      | 3,043                                  | 3,015                                | 637,8                                         | 619,3                                       |
| Result                                                                                                        | U                                      | U                                    | U                                             | U                                           |

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9. Properties of Plywood for Use in Exterior Conditions (EN 636-3)

9.1. Bonding Quality

Bonding quality will be suitable for conditions specified on EN 314-2, Bonding Class 3.

Provide two criterions in each bonding line for the whole three bonding classes. Average shear strength and wood defect average value for bonding will be suitable for conditions specified on Table 2. (TS EN 314-2)

Table 2-Properties

| Average Shear Strength $f_v$ Newton/mm <sup>2</sup> | Wood Defect Average Value for Bonding % |
|-----------------------------------------------------|-----------------------------------------|
| $0,2 \leq f_v < 0,4$                                | $\geq 80$                               |
| $0,4 \leq f_v < 0,6$                                | $\geq 60$                               |
| $0,6 \leq f_v < 1,0$                                | $\geq 40$                               |
| $1,0 \leq f_v$                                      | N/A                                     |

Assignment of Bonding Quality of General Purpose Plywood for Use in Exterior Conditions

| Panel No. | Average Shear Strength $f_v$ N/mm <sup>2</sup> | Wood Defect Average Value for Bonding % | Result |
|-----------|------------------------------------------------|-----------------------------------------|--------|
| 1         | 3,10                                           | ---                                     | U      |
| 2         | 2,72                                           | ---                                     |        |
| 3         | 3,03                                           | ---                                     |        |
| 4         | 3,24                                           | ---                                     |        |
| 5         | 3,55                                           | ---                                     |        |
| 6         | 2,88                                           | ---                                     |        |

12. MARKING

Directly affix marking or extra information on the product or affix label on the package or deliver with commercial documents.

| If there are no marking rules regarding panels and packages, marking will include the below-mentioned information.             | Result                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Manufacturer's Business Title (logo) or Code,                                                                                  | U<br>(In accordance with<br>Analysis Report & Test Request Form<br>on 05.01.2018) |
| This standard is TS EN 636 and terms of use (1 for dry conditions, 2 for humid conditions, or 3 for exterior conditions,       |                                                                                   |
| Application class letter: "S" for Structural Application or "G" for General Application,                                       |                                                                                   |
| Formaldehyde oscillation class or "only use for exterior conditions" (use plywood for exterior conditions in unassigned class) |                                                                                   |

Note: Methods marked by (\*) take place in the scope of accreditation.

U: Applicable under specified conditions.

UD: Not applicable under specified conditions.

NU: Not applicable for this test.

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This is to certify that above translation is the literal and true version of the attached document in Turkish, which bears also stamp of certified public translator in verification that both texts are essentially the same.

Date: 24.10/2018

