

	<p style="text-align: center;">TURKISH STANDARDS INSTITUTION HEADSHIP OF TEST and CALIBRATION CENTER Construction Materials Laboratory (Ankara) Necatibey Cad No: 112 06100 Bakanlıklar Çankaya / ANKARA Tel; +90 (312) 416 65 28 Fax: +90 (312) 416 66 18 E-mail: insaatl@tse.org.tr www.tse.org.tr TEST REPORT</p>	 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>AB-0001-T</td> </tr> <tr> <td>601320</td> </tr> <tr> <td>04-21</td> </tr> </table>	AB-0001-T	601320	04-21
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<p>Requesting/Customer (Name, Address, City etc.)</p> <p>Order Date / No</p> <p>Sample Descriptions, Type, Model, etc.)</p> <p>Test Item Receipt Date</p> <p>Date of Test</p> <p>Applied Standard/Method</p> <p>Number of pages of the report</p> <p>Remarks</p>	<p>YÜCEL BAHÇE MOBİLYALARI SAN. VE TİC. A.Ş. (5. OSB. 83528 No Cad. (göksuncuk mevkii) No: 4/1 Şehitkamil —GAZİANTEP)</p> <p>30 11 2020 / 514559</p> <p>681930, Type of use Heavy (4), fixed seat, made of plastic, without armrest, high back, seat element (audience seats) (used indoors and outdoors, not heat resistant), 30 pcs</p> <p>30 11.2020</p> <p>17 12.2020-05.04.2021</p> <p>TS EN 13200-4: 2007-03 TS EN 13200-4 (English Text) Audience equipment - Part 4: Seats - Product characteristics</p> <p>6</p> <p>Special Review / Substances marked (*) are accredited by TÜRKAK</p>
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TSE Headship of Test and Calibration Center Testing Laboratories accredited by TÜRK AK under registration number AB-0001-T for TS EN ISO/IEC 17025:2012 as test laboratory.

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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.

The sample was taken by the customer and the results in this report are valid for the status of the sample being received. This report has been prepared in accordance with the request for special tests and is not qualified as a Certificate of Conformity to Standards It does not represent the party, does not constitute a basis for Market Surveillance and Audit Activities, and cannot be used in announcement, advertisements and tenders in contradiction with the provisions of unfair competition in Articles 54 and 55 of the Turkish Commercial Law No 6102 TSE cannot be held responsible in case of violation of these issues in legal and criminal terms

Seal Date	Person in charge of test	Reviewer	Approval
05/04/2021	Vahap Cebel Testing Expert [Signature]	Hasan Aksu Division Head [Signature]	Musa Çakır Laboratory Manager [Signature]

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EXPERIMENTS were carried out at Temperature  $23 \pm 2$  nC, Humidity  $50 \pm 5\%$ .




TEST SAMPLE PHOTOS

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REQUIRED IN STANDARD	FOUND	CONCLUSION																										
<p>5. General Construction Conditions 5.1. seats Seats must comply with the following general conditions.</p> <p>a) It must be designed in a way that does not cause harm to the user. All parts of the seating areas that come into contact with the user must be designed to avoid physical harm or injury to the audience during use.</p> <ul style="list-style-type: none"> <li>- Safety distances for accessible moving parts must be as given in EN 294 during any position movement.</li> <li>- All accessible parts must be free of sharp corners or edges,</li> <li>- The edges of the seats, backrests and arm supports that come into contact with the audience during seating should be rounded to a recommended minimum radius of 3 mm,</li> <li>-The end parts of the holes should be closed or covered,</li> </ul> <p>b) Parts lubricated to aid sliding must be designed to protect users from lubricant stains when in normal use.</p> <p>c) Seats must be securely fixed to supports or steps.</p> <p>d) The shape of the seats should be such as to allow rain and water to drain and dry, and the steps and the parts underneath should be easy to clean.</p> <p>e) If the components are made of different materials, they must be compatible with each other.</p> <p>f) Seating areas must comply with the minimum dimensions given in EN 13200-1. (Depth (f) at least 350mm)</p> <p>g) Recommended values are given in Table 1.</p> <p>Table 1</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Seat Type</th> <th rowspan="2">F (mm)</th> <th rowspan="2">l (mm)</th> <th rowspan="2">S (mm)</th> <th colspan="2">Row Depth (BSE) (mm)</th> </tr> <tr> <th>Mm</th> <th>rec</th> </tr> </thead> <tbody> <tr> <td>bench</td> <td>300</td> <td>0</td> <td>0</td> <td>700</td> <td>800</td> </tr> <tr> <td>Low Back Seat</td> <td>400</td> <td>500</td> <td>&lt; 150</td> <td>700</td> <td>800</td> </tr> <tr> <td>High Back Seat</td> <td>400</td> <td>500</td> <td>&gt;150</td> <td>700</td> <td>800</td> </tr> </tbody> </table>	Seat Type	F (mm)	l (mm)	S (mm)	Row Depth (BSE) (mm)		Mm	rec	bench	300	0	0	700	800	Low Back Seat	400	500	< 150	700	800	High Back Seat	400	500	>150	700	800	<p>-Measured dimensions* F=397mm, l=419mm, S=300mm *Since Table-1 dimensions are recommended, dimensions were not taken into consideration.</p> <p>-Other Features are suitable. NOTE: EN 13200-1 has not been evaluated as it can be inspected in a project or fully furnished area.</p>	<p>PASS (in terms of dimensions that can be evaluated)</p>
Seat Type					F (mm)	l (mm)	S (mm)	Row Depth (BSE) (mm)																				
	Mm	rec																										
bench	300	0	0	700	800																							
Low Back Seat	400	500	< 150	700	800																							
High Back Seat	400	500	>150	700	800																							
<p>5.2. General Conditions for Fixing Elements and Fixing Methods (TS EN 13200-4) 5.2.1. General Seat fasteners must comply with the following conditions.</p> <p>a) The fixing elements of the seats must be able to resist the forces created during the tests defined in EN 12727.</p>	<p>TS EN 12727- Suitable for use type "Heavy (4)".</p>	<p>PASS</p>																										
<p>7. PROPERTIES OF MATERIALS 7.1. General Evaluation of the properties of materials used in seating should be made on the finished product, but test samples derived from the finished product may also be evaluated after conditioning in accordance with 6.2. Mounting components of the seats must comply with the following requirements. All components must comply with national fire regulations.</p> <p>7.2. Corrosion Resistance All metal components and fastening elements of the seats will be resistant to corrosion. These conditions must be met after testing according to ISO 9227 for the following periods: -Outdoor use exposure 500 hours -Indoor use exposure 200 hours There should be no visual errors; Compliance should be checked by visual inspection.</p>	<p>Not applicable (Since there is no metal part in the sample)</p>																											

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REQUIRED IN STANDARD	FOUND	CONCLUSION
<p>7.3. Color Fastness Durability Test Against Weather Conditions Plastic components of the seats must be exposed to a xenon arc lamp in accordance with EN ISO 4892-2. The parts will be irradiated between 295nm - 3000nm wavelength with a total energy of 8.3 GJ/m<sup>2</sup>. Note: This energy value, defined in the xenon arc lamp test conditions in method A in EN ISO 4892-2, can be reached with an irradiation period of 2300 hours when the spectral brightness is selected as 0.50 W/m<sup>2</sup> (340nm). Test room conditions are as follows: - Black panel temperature 63 °C ± 3 °C, -Relative Humidity 65% ± 5 °C -102 minutes Light, -18 minutes Light and water spray There should be no visual artifacts on the exposed surface of the test sample after exposure. Evaluation of the amount of color change should be on gray scale according to ISO 105-A02. The minimum amount of color change must be agreed between the manufacturer and the customer. Alternative measurements can be made in the following ways: -Color change according to ISO 7724, parts 1,2 and 3 (Laboratory Color Parameters) -Brightness change according to EN ISO 2813 When tested according to EN ISO 527-2, the exposed sample should have a tensile strength change of at most 30% compared to the unexposed sample.  When tested according to EN ISO 179-1:2000 method 1 e A, the exposed sample should have a charpy impact change of no more than 30% compared to the unexposed sample.</p>	<p>- Tensile strength Change after artificial aging; -4% - Charpy impact resistance;  Change after artificial aging experiment: -28% (According to the Chemistry and Food Laboratory Ankara Directorate test report dated 25.03.2021 and numbered 598708)  -No visual defects (cracks, etc.) were observed in the sample after artificial aging. Color change value gray scale 3</p>	PASS
<p>(* ) 8. Strength and Durability Conditions (TS EN 13200-4) Seats will be tested for mechanical durability in accordance with EN 12727. Various loads and cycles with 4 different levels of intensity (1,2,3 and 4) can be realized. At the end of the tests, the seat is safe. There should be no damage or deformation that would affect its use, and functions must be provided. NOTE: Testing at level 4 according to EN 12727 is recommended.</p>	<p>Suitable (According to usage type Heavy (4)  The applied experiments are given in table-1.)</p>	PASS
<p>11. Instructions for Use Each seat will be delivered with usage and assembly information in the language of the country it reaches. It will contain at least the following details: -Information about the planned use -Installation instruction, usage and maintenance information -Parts lists provided -List of required tools -Table for bolts and other desired connections -Minimum color eclipse change</p>	Not evaluated	-----
<p>12. Marking All seating elements shall be permanently marked with the following information indicating compliance with this standard: -Name, description or trademark of the manufacturer -Product identification -Serial number -Year of production -Number and year of this standard</p>	Not evaluated	-----

(\* ) MARKED ITEMS ARE ACCREDITED BY TÜRKAK.

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Experiment	Load	1	2	3	4	EXPERIMENTS APPLIED TO THE SAMPLE
6.3 Seat and backrest static load test	Seat force, N backing force, N 10 times	560	1600 760	2000 760	2000 760	✓
6.4 Horizontal static loading towards the backrest	Force, N 10 times			760	760	✓
6.5 Vertical static loading on backrest	Force, N 10 times		600	900	900	✓
6.6 Sideways static loading of the armrest	Force, N 10 times	400	600	900	1000	-----
6.7 Vertical static loading on armrests	Force, N 10 times	800	900	1000	1000	-----
6.11 Seat shock test	Release height, mm 10 times	180	240	300	300	✓
6.12 Backrest shock test	Height, mm angle, degree 10 times	210 38	330 48	620 68	620 68	✓
6.13 Armrest shock test	Height, mm Angle, degree 10 times	210 38	330 48	620 68	620 68	-----
6.14 Usage test of reclining seating elements	Transfers	25 000	25 000	50 000	100 000	-----
6.8 seat endurance test backrest durability test combined seat and backrest durability test	Transfers Seat load 950 N Backrest load 330 N	50 000	100 000	150 000	200 000	✓

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Experiment	Load	1	2	3	4	EXPERIMENTS APPLIED TO THE SAMPLE
6.9 Seat front edge durability test	Transfers Seat load 950 N	50 000	100 000	150 000	200 000	✓
6.10 Horizontal strength test towards backrest	Transfers Backrest force 330 N		20 000	50 000	100 000	✓
6.15 Vertical static loading on auxiliary writing surface	Force, N 10 times	150	200	300	300	-----
6.16 Auxiliary writing surface durability test	Transfers 10 times	10 000	10 000	25 000	25 000	-----
1 There are applications where normal use is combined with experimental high frequency use and vice versa. Therefore, the type of intended use of bench seating should be carefully considered before selecting suitable loads and cycles from Table 1.						

NOTE: 11.Using instructions and 12.Marking are not taken into consideration.  
-This report is only valid for the tested sample.

-This report was prepared as six pages and two copies on 05.04.2021.

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