

2025

Smart Panel Radiator Technical Information



01.1.2025

GENERAL SPECIFICATIONS

- ✓ All radiators are manufactured under the ISO 9001 quality system, ISO 14001 Environmental Management System and OHSAS 45001 Health and Safety Management System.
- ✓ All radiators are finished in white epoxy polyester powder coating. Every radiator undergoes a multi stage pre-treatment process (nanoceramic coating) followed by an epoxy polyester powder coating

Colour : RAL 9010 & RAL 9016

$\Delta E \leq 1,5$

Gloss : min. 80

- ✓ There is a wide range of panel radiator heights ranging from 300 mm to 900 mm and lengths from 400 mm to 3000 mm
- ✓ All radiators tested at 13 bars.
- ✓ All radiators are supplied in strong protective packaging with reinforced cardboard edges. Each radiator is bubble wrap wrapped and then shrink wrapped with strong polystyrene
- ✓ Each radiator is fully guaranteed for 10 years against all defects caused by faulty or manufacture.

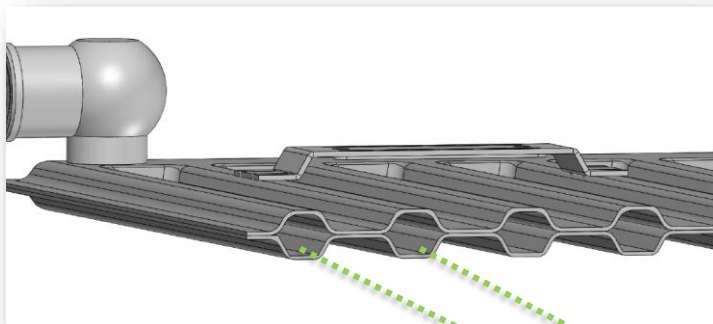


Max. Operation Pressure	Test Pressure	Max. Operation Temperature
10 bar	13 Bar	120 °C

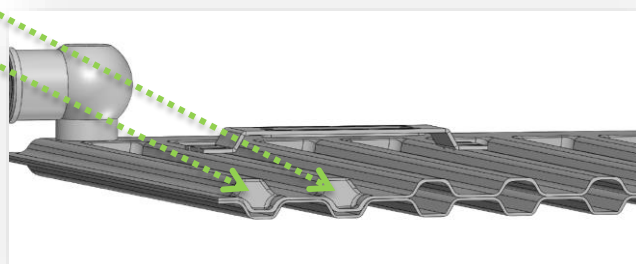


Specifications;

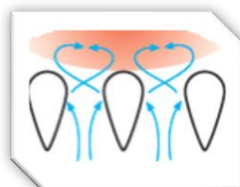
1- Special Panel Sheet Geometry;



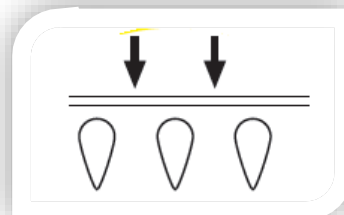
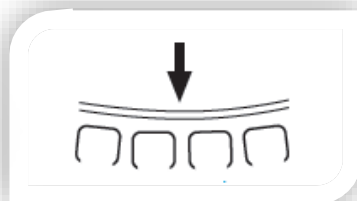
The water flow run off from the 1st and 2nd wet canals to prevent the by pass,the water flow is driven to the other canals by the throttles so heat outputs of the radiator increase .



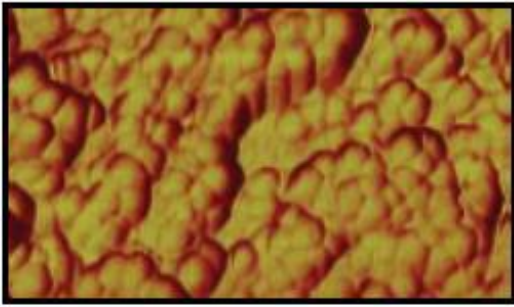
2- Top Cover Design;



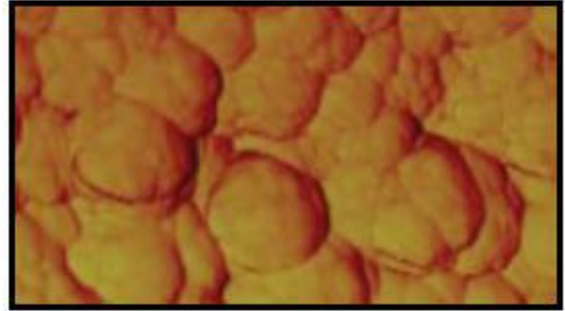
Drop Shape: The form lets the air go through the top grill properly after it get warmed. And also drop shaped grill ensures its body to be more durable.



Coating Technology



Nanoceramic Zr



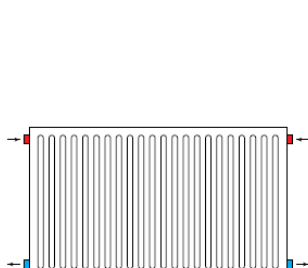
Fe-phosphate

- ✓ Nanoceramic Zr coatings increase the surface area and offer the paint a larger surface to adhere to than iron phosphating.
- ✓ Nanoceramic Zr coatings are in the nanometer range, while iron phosphate coatings are measured with micrometers.
- ✓ Nanoceramic Zr coatings delivers significantly improved paint adhesion and greater corrosion protection than iron phosphating.
- ✓ There is no organic contaminants in the content
- ✓ There is no toxic heavy metal contaminant in the content
- ✓ Its friendly to the environment

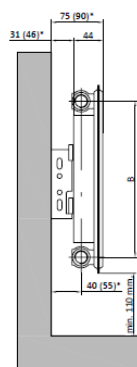


TECHNICAL SPECIFICATIONS

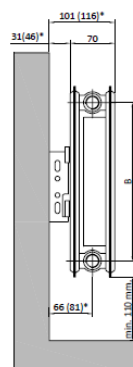
	300		400		500		600		700		800		900	
TYPE	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m	Weight kg/m	Water Volume l/m
11(PK)	7,79	1,80	10,29	2,23	12,79	2,65	15,30	3,50	17,80	3,87	20,30	4,23	22,81	4,60
21(PKP)	13,16	3,40	17,35	4,15	21,54	4,90	25,72	6,40	29,91	7,07	34,10	7,73	38,29	8,40
22(PKKP)	14,60	3,40	19,28	4,33	23,96	5,25	28,63	7,10	33,31	7,67	37,99	8,23	42,67	8,80
33(PKKPKP)	21,68	5,30	28,68	6,35	35,52	7,40	42,49	9,50	49,47	10,80	56,44	12,10	63,41	13,40



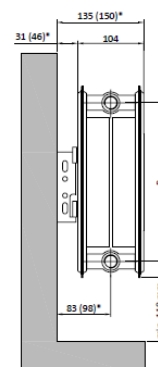
* This is valid for installation on the 45 mm side of the console



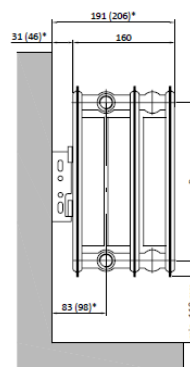
TYPE:11-PK



TYPE:21-PKP



TYPE:22-PKKP



TYPE:33-PKKPKP

Height mm	300	400	500	600	700	800	900
B mm	249	349	449	549	649	749	849
L ₁ mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L ₂ mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L ₂₂ mm	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000	400-3000
L ₃₃ mm	400-3000	400-3000	400-3000	400-3000	400-2400	400-2000	400-1800

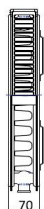
Thermal Capacity;

TYPE11



TYPE 11	HEIGHT	$\Delta 50^{\circ}\text{C}$		$\Delta 60^{\circ}\text{C}$		n	K _M
		Watt/m	Kcal/hm	Watt/m	Kcal/hm		
	300	476,4	409,7	603,9	519,4	1,3009	2,93617
	400	624,9	537,4	793,0	682,0	1,3066	3,76649
	500	766,5	659,2	973,7	837,4	1,3122	4,51985
	600	901,3	775,1	1146,1	985,6	1,3179	5,19753
	700	1029,3	885,2	1309,2	1126,0	1,3195	5,89863
	800	1150,6	989,5	1464,0	1259,0	1,3211	6,55262
	900	1265,3	1088,2	1610,4	1384,9	1,3227	7,16087

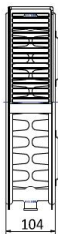
TYPE21



TYPE 21	HEIGHT	$\Delta 50^{\circ}\text{C}$		$\Delta 60^{\circ}\text{C}$		n	K _M
		Watt/m	Kcal/hm	Watt/m	Kcal/hm		
	300	732,3	629,8	928	798,1	1,2993	4,54169
	400	931,7	801,3	1180,6	1015,3	1,2985	5,79647
	500	1120,9	964	1420,1	1221,3	1,2978	6,99268
	600	1301,6	1119,4	1648,8	1418	1,297	8,14542
	700	1475,2	1268,7	1871,8	1609,8	1,306	8,91243
	800	1642,2	1412,3	2087,1	1794,9	1,3149	9,58187
	900	1803,4	1550,9	2295,7	1974,3	1,3239	10,15841

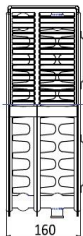


TYPE22



TYPE 22	HEIGHT	$\Delta 50^{\circ}\text{C}$		$\Delta 60^{\circ}\text{C}$		n	K_M
		Watt/m	Kcal/hm	Watt/m	Kcal/hm		
	300	923,3	794	1176,7	1012	1,3301	5,07625
	400	1180,8	1015,5	1502,2	1291,9	1,3203	6,74569
	500	1425,1	1225,6	1809,8	1556,4	1,3106	8,4562
	600	1657,9	1425,8	2101,6	1807,4	1,3008	10,22205
	700	1880,7	1617,4	2385,2	2051,2	1,3033	11,48291
	800	2094,3	1801,1	2657,2	2285,2	1,3057	12,66758
	900	2299,3	1977,4	2918,6	2510	1,3082	13,77219

TYPE33



TYPE 33	HEIGHT	$\Delta 50^{\circ}\text{C}$		$\Delta 60^{\circ}\text{C}$		n	K_M
		Watt/m	Kcal/hm	Watt/m	Kcal/hm		
	300	1269	1092	1601	1376	1,27253	8,74023
	400	1615	1388	2040	1754	1,28242	10,69625
	500	1943	1671	2459	2115	1,29231	12,38286
	600	2257	1941	2862	2461	1,3022	13,84063
	700	2560	2201	3248	2793	1,30686	15,41166
	800	2852	2452	3622	3115	1,31152	16,85921
	900	3134	2695	3984	3426	1,31618	18,19457

Not : The value given above are catalogue values that may change by $\pm 4\%$ accordance with EN 442 norm.

To calculate heat capacities at various extreme temperature in accordance with EN 442 standard:

Standard heat capacity of a model is calculated using the following formula;

$$\Phi = K_M \cdot \Delta T^n$$

The K_M and n values shown in the table are used for calculating the capacity at various input/output water and ambient temperature

Example: Calculation of capacity of Type 22 600x1000 product
at water temperature 80/50 °C and ambient
temperature 22°C:

Calculation of capacity of Type 22 600x1000 product at water temperature
80/50 °C and ambient temperature 22 °C;

t_g , inlet water temperature = 80 °C

t_c , ioutlet water temperature = 50 °C

t_o , ambient temperature = 22 °C

t_m , average temperature = $(t_g + t_c) / 2 = (80 + 50) / 2 = 65$ °C

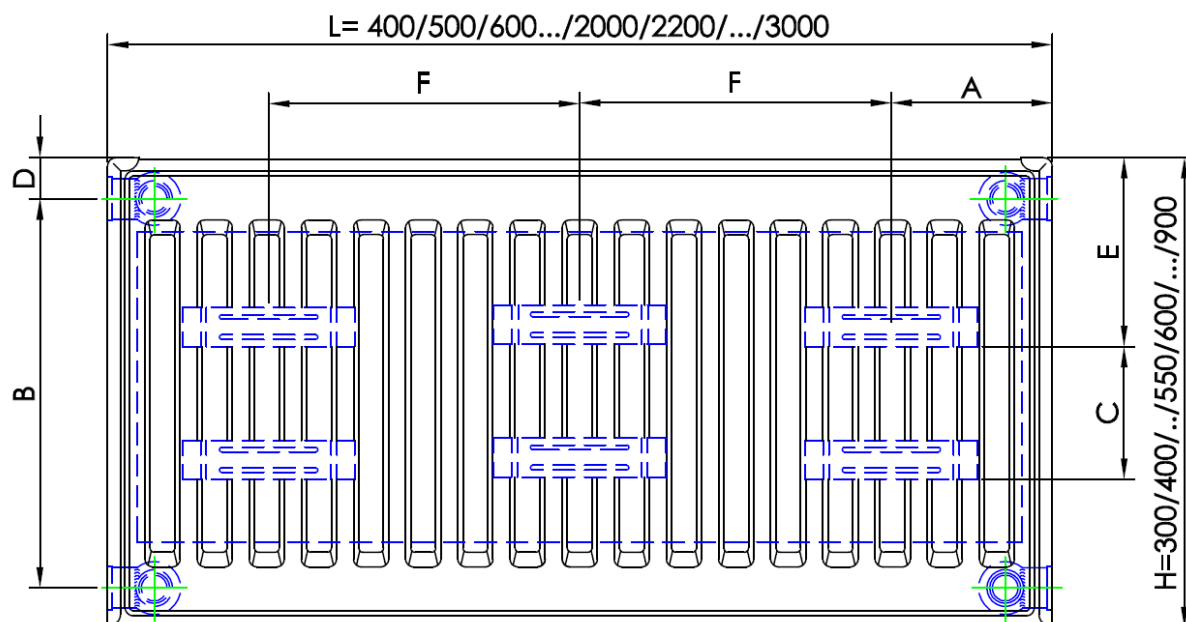
ΔT , extreme temperature = $t_m - t_o = 65 - 22 = 43$ °C

Using the formula;

$\Phi = 10,22205 \times 43^{1,3008} = 1362,55$ W/m



Radiator Dimensions;

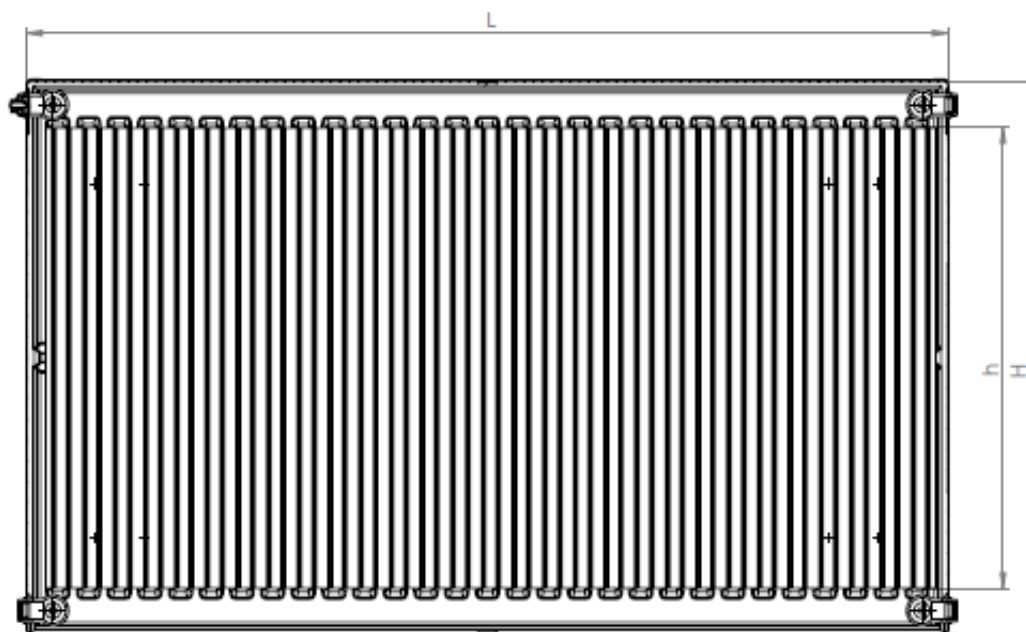


SPECIFIC DIMENSIONS OF PANEL RADIATOR			
TYPE	11 - 21 - 22 - 33		
L (mm)	400-500-600-...-2000-2200-...-3000	H (mm)	300-400-500-600-700-800-900
A (mm)	101 (Type 11 = 117 mm)	B (mm)	249-349-449-549-649-749-849
C (mm)	85-185-285-335-385-485-585-685	D (mm)	26
E (mm)	120	F (mm)	$(L - 2A) / 2$
SPECIFICATIONS AND THICKNESS OF RADIATOR MATERIAL			
MATERIAL		THICKNESS	SPECIFICATIONS (Standard)
PANEL SHEET		1,15 mm	DIN EN 10130 DC 01 QUALITY
CONVECTOR SHEET		*0,25 mm	DIN EN 10130 DC 01 QUALITY
TOP COVER SHEET		0,50 mm	DIN EN 10130 DC 01 QUALITY
SIDE COVER SHEET		0,50 mm	DIN EN 10130 DC 01 QUALITY

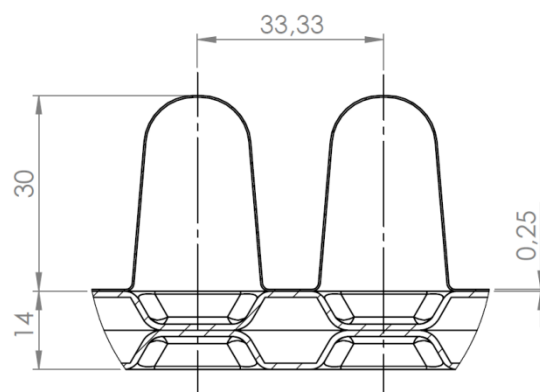
*For type 11 convector sheet thickness is 0,32 mm.



Convactor Dimension;



H (mm)	h (mm)
300	200
400	300
500	400
600	500
900	800



For type 11 convactor sheet thickness is 0,32 mm.

CERTIFICATES

TSE-ISO-EN 9000

KALİTE YÖNETİM SİSTEMİ BELGESİ QUALITY MANAGEMENT SYSTEM CERTIFICATE	TÜRK STANDARDLARI ENSTİTÜSÜ bu belge ile ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE kuruluşunun TS EN ISO 9001:2015 şartlarına uygun bir KALİTE YÖNETİM SİSTEMİNE sahip olduğunu onaylar. Belge kapsamı: Ek'te verilmiştir TURKISH STANDARDS INSTITUTION hereby certifies that the organization ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE has a QUALITY MANAGEMENT SYSTEM which fulfills the requirements of the TS EN ISO 9001:2015 Scope of the certificate is given in annex <table> <tr> <td>Belge No / Certificate No</td><td>KY-457-02/KG-97/10-R15</td></tr> <tr> <td>Belge Tarihi / Date of Certificate</td><td>18.02.2025</td></tr> <tr> <td>Geçerlilik Tarihi / Valid Until</td><td>18.02.2028</td></tr> <tr> <td>Revizyon Tarihi / Date of Revision</td><td>18.02.2025</td></tr> <tr> <td>İlk Belge Tarihi / Initial Certification Date</td><td>24.01.1997</td></tr> </table> This certificate is valid provided that compliance with the certification requirement is maintained. Izmir Belgelendirme Müdür V. Izmir Vice Certification Manager Kenan AKTÜRK Türk Standardları Enstitüsü Türk Akreditasyon Kurumu TÜRKAK tarafından akredite edilmiştir. Turkish Standards Institution, has been accredited by the Turkish Accreditation Agency TÜRKAK. Bu belge belgelendirme şartlarına uygunluk sağlandığı sürece geçerlidir.	Belge No / Certificate No	KY-457-02/KG-97/10-R15	Belge Tarihi / Date of Certificate	18.02.2025	Geçerlilik Tarihi / Valid Until	18.02.2028	Revizyon Tarihi / Date of Revision	18.02.2025	İlk Belge Tarihi / Initial Certification Date	24.01.1997
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İlk Belge Tarihi / Initial Certification Date	24.01.1997										



  ÇEVRE YÖNETİM SİSTEMİ BELGESİ ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE 	TÜRK STANDARDLARI ENSTİTÜSÜ bu belge ile ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE kuruluşunun TS EN ISO 14001:2015 şartlarına uygun bir ÇEVRE YÖNETİM SİSTEMİNE sahip olduğunu onaylar. Belge kapsamı Ek'te verilmiştir TÜRK STANDARDLARI ENSTİTÜSÜ TURKISH STANDARDS INSTITUTION TÜRKİSH STANDARDS INSTITUTION hereby certifies that the organization ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE has an ENVIRONMENTAL MANAGEMENT SYSTEM which fulfills the requirements of the TS EN ISO 14001:2015 Scope of the certificate is given in annex Belge No / Certificate No CY-117-0604-R15 Belge Tarihi / Date of Certificate 21.02.2024 Geçerlilik Tarihi / Valid Until 21.02.2027 Revizyon Tarihi / Date of Revision 21.02.2024 İlk Belge Tarihi / Initial Certification Date 09.01.2004 İzmir Belgelendirme Müdürü İzmir Certification Manager Ahmet Namli Türk Standardları Enstitüsü Türk Akreditasyon Kurumu TÜRKAK tarafından akredite edilmiştir. Turkish Standards Institution, has been accredited by the Turkish Accreditation Agency TÜRKAK. Bu belge belgelendirme şartlarına uygunluk çağrısıdır. Sadece geçerlidir. 
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TSE	İŞ SAĞLIĞI ve GÜVENLİĞİ YÖNETİM SİSTEMİ BELGESİ OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE											
TÜRK STANDARDLARI ENSTİTÜSÜ bu belge ile ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE	TURKISH STANDARDS INSTITUTION hereby certifies that the organization ELBA BASINÇLI DÖKÜM SAN. A.Ş. MERKEZ:MANİSA OSB I. KISIM KEÇİLİKÖY OSB MAH. 50. YIL CAD. NO:15 YUNUSEMRE - MANİSA FABRİKA:MANİSA OSB III. KISIM KEÇİLİKÖY OSB MAH. MUSTAFA ÇAPRA CAD. NO:8 YUNUSEMRE - MANİSA / TÜRKİYE	kuruluşunun TS ISO 45001:2018 şartlarına uygun bir İŞ SAĞLIĞI ve GÜVENLİĞİ YÖNETİM SİSTEMİNE sahip olduğunu onaylar.										
Belge kapsamı Ek'te verilmiştir	TÜRK STANDARDLARI ENSTİTÜSÜ TURKISH STANDARDS INSTITUTION	has a OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM which fulfills the requirements of the TS ISO 45001:2018										
		Scope of the certificate is given in annex										
Izmir Belgelendirme Müdürü V. Izmir Vice Certification Manager	 Kenan AKTÜRK	<table border="1"> <tr> <td>Belge No / Certificate No</td> <td>OY-342-10/07-R18</td> </tr> <tr> <td>Belge Tarihi / Date of Certificate</td> <td>19.02.2025</td> </tr> <tr> <td>Geçerlilik Tarihi / Valid Until</td> <td>19.02.2028</td> </tr> <tr> <td>Revizyon Tarihi / Date of Revision</td> <td>19.02.2025</td> </tr> <tr> <td>İlk Belge Tarihi / Initial Certification Date</td> <td>12.02.2007</td> </tr> </table>	Belge No / Certificate No	OY-342-10/07-R18	Belge Tarihi / Date of Certificate	19.02.2025	Geçerlilik Tarihi / Valid Until	19.02.2028	Revizyon Tarihi / Date of Revision	19.02.2025	İlk Belge Tarihi / Initial Certification Date	12.02.2007
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Bu belge belgelendirme şartlarına uygunluk sağlandığı sürece geçerlidir.	Bu belge, Türk Standartları Enstitüsü'nün kuruluşu hakkındaki 132 sayılı kanun uyarınca verilmiştir. This certificate is issued in accordance with the Law No. 132 establishing Turkish Standards Institution.	This certificate is valid provided that compliance with the certification requirement is maintained										

