

# Declaration of performance

## BRISE HEIZKÖRPER

brand :

1. Product type ID Code : Panel radiators 10P, 11PK, 20PP, 22PKKP, 33PKKP
2. Intended use : Radiators are the most commonly used devices for volume heating in conjunction with boilers and central heating systems. In these devices 70-80 % of total heat transfer is by convection and 20-30% is by radiation.
3. Producer
- mastas**  
MASTAŞ Makina Kalıp Sanayi ve Ticaret A.Ş.  
NOSAB Nilüfer Bulvarı No:3 BURSA
4. Authorized Representative : Nonexistence
5. Evaluation of performance stability and performance verification systems :  
Annual checks are performed by TSE auditors at the company, product performance tests for base models are performed every 3 years in accredited labs. Regular tests for base and variation models are performed at in house laboratory. %100 percent pressure tests and product goodness confirmation is performed in production lines.

6.1. Applied Standarts : EN 442/1-2 Radiators and Convectors (Panel Sheet Thickness 1 mm)

6.2. European Evaluation Principles : EN 442/1-2 Radiators and Convectors (Panel Sheet Thickness 1 mm)

7. Declared Performances : Max. Working Pressure : 7 bar

Essential features	Performance		INTERNAL TEST RESULTS		
Time resistance test	Test 100 hours in wet conditions.		pass	Turkish Standards Institution (TSE) notified 1783	
Fire reaction test	Class A1		pass	Turkish Standards Institution (TSE) notified 1783	
Pressure resistance test results	Impermeability test : 9Bar		pass	MASTAŞ laboratory	
	Test pressure resistance : 12Bar				
	Maximum working pressure : 7Bar				
Thermal power test	Characteristic equations for thermal power. ( L=Length in meters )		MASTAŞ laboratory		
Heights / mm	75/65/ΔT 50°C	90/70/ΔT 60°C	n	K <sub>m</sub>	φ
	Watt/m	Watt/m			
300	916	1161	1,3	5,6654	φ = K <sub>m</sub> * ΔT <sup>n</sup>
400	1160	1470	1,302	7,1186	
500	1392	1765	1,3051	8,4394	
600	1618	2057	1,3199	9,2578	
900	2255	2867	1,3382	12,0111	

\*The power is calculated for 1 meter length. This power value is measure according to EN 442-2 at Mastaş Laboratory.

8. Appropriate technical certificate and/or Special Technique Certification :  
The construction material which identified above is included in declared performance group. Construction materials regulations (305/2011 / EC) declaration of performance prepared in accordance with the just published under the responsibility of the manufacturer described above.

MASTAŞ Makina Kalıp Sanayi ve Ticaret A.Ş.  
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Sign of behalf of the manufacturer : Name : ALTUĞ ÜNAL

Date : 21.03.2017

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