



# Application

## Glued laminated timber

Temperature measurement: bonding timber laminations

## Description of the application

Timber laminations are planed and sorted after the drying process. Then they are cut to the required dimension and glue is applied on their flat sides. They are now piled up, forming several layers, and are pressed together. The glue is heated up with microwaves to dry quickly. The highest adhesion of the glue is given at a drying temperature of approximately 70 °C. The adhesive layer has a thickness of approximately 1 mm.

## Measuring procedure

Measurements with insertion probes can only be made sporadically. Ideally, the temperature should be detected and monitored continuously during running production. Only such a procedure guarantees a constant temperature which can also be documented, if required.

## Solution

The non-contact pyrometer CellaTemp PK(L) 11 is an appropriate device for this temperature measurement. It captures the infrared radiation of the object to be measured in milliseconds from a safe distance and it continuously calculates the measurement value on the basis of this radiation.

The infrared thermometer is optionally available with our without target marker. The LED spot light shows the exact target size and the correct measuring distance.

A supplementary lens can be attached in front of the device to detect very small measurement areas. The measurement value is legible on the large, highly-luminous display from a distance of several metres.



## Measuring system

Technical data								
Type	Supplementary lens	LED spot light	Measuring range	Focal distance	Size of measurement area	Measurement uncertainty <sup>*1</sup>	Setting time t <sub>98</sub>	Repeatability
PK 11 AF 1	–	no	0 - 1000 °C 32 - 1832 °F	0.30 m	Ø 11 mm	0.75% of reading [°C] plus 2.0 K	≤ 60 ms	1 K
	PK 11/E AF 1	no		0.30 m	Ø 1.5 mm			
PK 11 AF 2	–	no		0.90 m	Ø 33 mm			
	PK 11/E AF 1	no		0.33 m	Ø 1.6 mm			
PKL 11 AF 1	–	yes		0.295 m	Ø 9 mm			
PKL 11 AF 2	–	yes		0.089 m	Ø 3.2 mm			

<sup>\*1</sup> at  $\epsilon = 1$  and  $T_a = +23\text{ °C}$

<sup>\*2</sup> deviation from  $T_a = +23\text{ °C}$

## Accessories



Shielded cable  
VK 02/L AF 1: 5 m  
VK 02/L AF 2: 10 m



Mounting angle  
PS 11/U



Supplementary lens  
PK 11/E AF 1

## Other products



### CellaTemp® PA Series

Versatile pyrometers with focusable lens, through-the-lens sighting/ laser spotlight or video camera.



### CellaTemp® PA-LWL

Versatile fiber optics pyrometers with focusable head and laser spotlight.



### CellaPort PT Series

Portable single-colour and two-colour pyrometers with through-the-lens sighting, laser spot light and USB interface.



### CellaTemp® PK(L)

Compact infrared thermometer for cramped environments. Optional with LED spot light.



### CellaTemp® PKF

Compact infrared thermometer with optical fibre and optical sensor head.



### CellaTemp® PZ Series

Profibus pyrometers with focusable lens, through the lens sighting or laser spotlight.



### CellaTemp® PZ-LWL

Pyrometer with Profibus interface, fibre optics, focusable measuring heads and laser spot light.



### CellaSwitch Series

Compact infrared switch with LED display and auto-diagnostics.



### Mikro PV

Intensity comparison pyrometer for ultra accurate measurement.

Since 1967, the Division ITS (Infrared Temperature Solutions) of KELLER HCW GmbH develops and manufactures precision instruments and systems solutions for non-contact temperature measurements. Thanks to the continuous development of its range, KELLER ITS now is one of the leading providers for infrared thermometers and pyrometers worldwide.

With its very large product range of more than 250 models and systems KELLER ITS offers solutions for all standard applications and a variety of special measuring tasks.

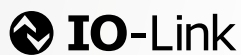
Following the KELLER philosophy, the key focus in the development and production of the devices is set to the high measuring accuracy and reliability. Therefore, KELLER ITS grants a warranty of 5 years on its products.

A global network of distributors and service points ensures competent and personal consultation on site.





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- Sales and Service Center
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