

## TECHNICAL DATA SHEET, 3<sup>rd</sup> edition

### IKAFLOOR

Consider the data as indicative.

MATERIAL DESCRIPTION	IKADAN floor tile made of recyclable polypropylen, PP.
SIZE	49.4x49.4 cm per pcs.
WEIGHT	1490 g per pcs.
HEIGHT	36 mm
WATER ABSORPTION*	<0.01 mg; 4 days (DIN 53472)
LINEAR COEFFICIENT OF THERMAL EXPANSION * (0-30°C)	$1.8 \times 10^{-4} \text{ K}^{-1}$ (Estimated)
LINEAR COEFFICIENT OF THERMAL EXPANSION * (30-100°C)	$1.8 \times 10^{-4} \text{ K}^{-1}$ (DIN 53238)
FIRE CLASS	UL 94 HB
UV	The colors are UV resistant
ANTISTATIC	Transitory, maximum durability: 1 year

Point load At room temperature 23° C	AREA	Force
On ribs	1 cm <sup>2</sup>	106 kg
At centre	1 cm <sup>2</sup>	80 kg
On ribs	6 cm <sup>2</sup>	635 kg
At centre	6 cm <sup>2</sup>	483 kg

Point load at room temperature 23° C	AREA	Force
	0,0064 m <sup>2</sup> = 64 cm <sup>2</sup>	1482 kg
	0,01 m <sup>2</sup> = 100 cm <sup>2</sup>	2316 kg

MECHANICAL PROPERTIES**	TEST METHOD	CONDITIONS	UNIT	VALUE
TENSILE STRESS At yield	ISO 527-2	at 23° C	MPa	26
FLEX MODULE	ISO 178	at 23° C	MPa	1200
IZOD IMPACT STRENGTH (notched)	ISO 180/1A	at 23° C	KJ/m <sup>2</sup>	15
IZOD IMPACT STRENGTH (notched)	ISO 180/1A	at -20° C	KJ/m <sup>2</sup>	7
CHARPY IMPACT STRENGTH (notched)	ISO 179/1eA	at 23° C	KJ/m <sup>2</sup>	20
CHARPY IMPACT STRENGTH (notched)	ISO 179/1eA	at -20° C	KJ/m <sup>2</sup>	5

\* Data obtained from Carlowitz, Bodo, "Kunststoff Tabellen" 4<sup>th</sup> ed. , Carl Hanser Verlag München Wien, 1995

\*\* The information on mechanical properties obtained from the supplier of PP Ineos.

## Examples of calculation as explanation of linear thermal expansion.

Polymers thermal expansion coefficient is relatively high, that is why it is crucial to consider the thermal expansion, when laying out IkaFloor tiles.

Thermal span	Floor length	Calculation	Expansion	Floor length after expansion
0-10°C	10 m = 1000 cm	$0,00018K^{-1} \times 10m \times 10^{\circ}C$	0,018 m = 1,8 cm	10,018 m = 1001,8 cm
10-40°C	10 m = 1000 cm	$0,00018K^{-1} \times 10m \times 30^{\circ}C$	0,054 m = 5,4 cm	10,054 m = 1005,4 cm
10-70°C	10 m = 1000 cm	$0,00018K^{-1} \times 10m \times 60^{\circ}C$	0,108m = 10,8 cm	10,108 m = 1010,8 cm
0-10°C	20 m = 2000 cm	$0,00018K^{-1} \times 20m \times 10^{\circ}C$	0,036 m = 3,6 cm	20,036 m = 2003,6 cm
0-30°C	20 m = 2000 cm	$0,00018K^{-1} \times 20m \times 30^{\circ}C$	0,108 m = 10,8 cm	20,108 m = 2010,8 cm
10-70°C	20 m = 2000 cm	$0,00018K^{-1} \times 20m \times 60^{\circ}C$	0,216 m = 21,6 cm	20,216 m = 2021,6 cm
0-10°C	40 m = 4000 cm	$0,00018K^{-1} \times 40m \times 10^{\circ}C$	0,072 m = 7,2 cm	20,072 m = 2007,2 cm
10-40°C	40 m = 4000 cm	$0,00018K^{-1} \times 40m \times 30^{\circ}C$	0,216 m = 21,6 cm	40,216 m = 4021,6 cm
10-70°C	40 m = 4000 cm	$0,00018K^{-1} \times 40m \times 60^{\circ}C$	0,432 m = 43,2	40,432 m = 4043,2 cm