IBP Fraunhofer Institute for Structural Physics
Stuttgart, 09.06.2016
Test report No. P5-157/2016

Heat Transition Coefficient

wellhöfer
TREPPEN AUS WÜRZBURG

tested, DIN EN ISO 12567-1:2010-12 (heater box process)

Wellhöfer Attic Stairs

(Type with additional feature thermal protection WS4D)

Heat Transition Coefficient = 0.58

U-value; W/(m²K)

-> **Component tested insulation value**
for complete attic stairs

-> **Significantly better** than the requirements of EnEV with regard windows
(German Energy Saving Ordinance; U≤1.3)

PfB Testing Centre for Construction Elements
14.09.2016
Certificate No. 16/09-A392-Z1

Permeability to air

wellhöfer
TREPPEN AUS WÜRZBURG

tested in accordance with DIN EN 1026:2016-09 (in horizontal installation)

Wellhöfer Thermal Protection
WS Attic Stairs and Connection System

Air Permeability: Class 4
in accordance with DIN EN 12207, at overpressure/underpressure 600 Pa

Joint Permeability Coefficient: a-value = 0.01
$m^3/hm(daPa^{2/3})$; in accordance with DIN 4108-2

Air Permeability: q_{50}-value = 0.03
m^3/mh at 50 Pa; in accordance with DIN 4108-7

-> Permeability to air is **almost twice as good** as the requirements for class 4 (DIN EN 12207)

-> Permeability to air is **10x better** than required for the construction element connection joints (DIN 4108-2)

-> **Significantly exceeds** the requirements for airtightness as set out by blower door tests (DIN 13829) and EnEV (German Energy Saving Ordinance)

PfB Testing Centre for Construction Elements
08.09.2014
Certificate No. 14/05-A175-Z1

Hygrothermal test

tested in accordance with DIN EN 1121: 2000-09 (test regulation; climate category c and d)

Wellhöfer Attic Stairs

(Type with additional feature thermal protection WS)

i. acc. with DIN EN 1121: 2000-09	i. acc. with DIN EN 12219: 2000-06
Climate category **c**	**Class 3**
Climate category **d**	**Class 3**

-> The form stability of the attic stairs with thermal protection WS under changing temperature/humidity conditions is better than required for doors of **Class 2**
(i. acc. DIN EN 12219)

Extract from the TÜV Rheinland LGA Products
test report 02.11.2015
Test report no. 21242493001
VOC emissions test

tested, DIN EN ISO 16000, according to the approval regulations for the health-related assessment of construction products, CEN/TS 16516

Wellhöfer Attic Stairs

28-day test of the **sum total of volatile organic compounds (TVOC)** and **formaldehyde (HCHO);** target values for harmlessness as specified by the Sentinel Haus Institut.

Emission	**Test results**	**Harmless value** according to Sentinel Haus Institut
TVOC:	**35** µg/m³	**<300** µg/m³
HCHO:	**1,5** µg/m³	**<24** µg/m³

-> The emissions value of the attic stairs is **over 9x better than the value which is considered to be harmless** as required by the Sentinel Haus Institut.

-> The formaldehyde value of the attic stairs is **over 16x better than the value which is considered to be harmless** as required by the Sentinel Haus Institut.

For over 20 years, Ecological Building Systems has been at the forefront of environmental and sustainable building products supplying a range of innovative airtightness solutions and natural insulations backed up with expert technical support.

As product suppliers in the UK and Ireland, we're happy to assist you with your projects and have expert technical and sales advice on hand.

Call us

Great Britain +44 (0)1228 711511

Ireland +353 46 9432104

Email us

info@ecologicalbuildingsystems.com

Find us

Great Britain Ecological Building Systems UK Ltd.,
Cardewlees, Carlisle, Cumbria, CA5 6LF,
United Kingdom

Ireland Ecological Building Systems Ltd.,
Main Street, Athboy. Co. Meath, C15 Y678,
Republic of Ireland

ecological BUILDING SYSTEMS

Discover our solutions online at

ecologicalbuildingsystems.com