WOODEXPERTCZ

WOODEXPERT s.r.o. I Tečovice 45 I 763 02 Zlín 4

issues the

CERTIFICATE

for the applicant

ESCO CZ PRODUCTION s.r.o.
Blatenská 267, 387 31 Radomyšl

about the execution of the resistivity test of flooring material for floor heating

for these products:

1) Double-layer wood parquet, DB wear layer, oiled surface

2) Three-layer wood parquet, DB wear layer, oiled surface

Based on this Certificate, WOODEXPERT s.r.o. certifies that the samples of the above mentioned products were tested according to WE-FH-01 methodology to determine the resistivity when of the flooring material used in floor heating.

Certificate No.: 08122/16 was issued on the basis of Test Certificate 016-14P and 009-16P.

Under endurance and simulating the floor heating load, it was found out that the flooring material samples:

Passed the test at reduced humidity and at subsequent humidity variation
Passed the shape deformation test during the simulation process
Passed the test of quality of bonding between layers
(neither delamination nor separation occurred)
Passed the examined requirement of flooring material thermal resistance
Passed the crack and fissure formation test

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APPENDIX TO CERTIFICATE No. 08122/16 – Summary of test results

The test results were achieved under the effect of the following climate cycles:

	Climate 0	Climate A	Climate B
Climate characteristics	At the time of delivery (stored in laboratory)	Flooring material desiccation	Storage of flooring material in an ideal climate
Air temperature	25 °C	80 ± 2 °C	20 ± 1°C
Relative air humidity	40 %	25 ± 5 %	50 ± 5%
Equilibrium wood moisture	8,6 %	2,6 %	7,3 %

Evaluation of the test to determine the suitability of parquets and other types of wood flooring materials on floor heating

Sample identification	Parquet structure – number of layers	Parquet thickness [mm]	Parquet width [mm]	Thermal resistance R VI 0,15 m2K/W	No lamination at wood moisture < 5%	No joint or surface destruction	Shape deformation ≤0,5% of parquet width	Width dimension variation up to 1 %	No cracks ≥ 3 mm must be formed	No adhesive discharge	No oil softening	No change in tone	Classification
7/16 - 1	2	15	245	✓ (0,12)	✓	✓	✓ (0,20%)	✓ (0,33%)	✓ (0,55mm)	✓	✓	✓	Suitable for floor heating

The moisture in the samples submitted into test cycles at the time of the delivery of the parquets (8.6%) was reduced by the dry climate effect below 5% (in this case down to 2.6%) and the moisture of the parquets was again increased by storage in the prescribed ideal climate (7.3% moisture achieved); no changes or damage preventing the use of these parquets on floor heating were detected.

In the event that significant wood moisture (below 5%) would occur during use, there is no danger of serious damage to the parquets in the form of delamination of bonded layers or any other failure of the structure. However, it is necessary to reconcile with the fact that, due to changes in parquet dimensions, depending on the level of wood moisture reduction, longitudinal fissures in between the parquets, fissures in the wear layer may form, or crack occurrence around filler repairs. During the test, no colour shade changes or any other damage to surface treatment were observed.

By examination of the Test Report No. 175/11: Determination of thermal resistance and thermal conductivity according to EN 12664, issued May 16, 2011, Centrum stavebního inženýrství, a.s., workplace Zlín, it was verified that the flooring meets the requirement of the EN 1264-4 Floor heating – Systems and components - Part 4: The assembly that prescribes the maximum thermal resistance of flooring materials for floor heating is 0,15 m^2 K/W.