



## Cork natural panel

# RADIALIS

### Heat:

thermal energy (Q); unit of measurement: calorie  
Quantity of thermal energy necessary to increase by one Kelvin grade the temperature of one gram of water (therefore for 1 kg: 1 kcal = 4,18 kJ)

### Thermal power:

thermal energy exchanged per unit of time (W = Q/t); unit of measurement: watt = J / s (1000 kcal/h = 1.16 kW)

### Specific heat of a material:

quantity of thermal energy necessary to increase by one Kelvin grade the temperature of one gram of material (Ce); unit of measurement: J / kgK (1 kcal/kgK = 4.18 kJ/kgK)

### Thermal capacity of mass:

in a body of mass "m", the heat quantity necessary to increase by one Kelvin grade the temperature; unit of measurement: J/K (1 kcal/K = 4.18 J/K)

	<b>CORK THERMAL TRANSMITTANCE</b>	<b>CORK THERMAL RESISTANCE</b>
<b>Thickness (mm.)</b>	<b>U Wm<sup>2</sup> K</b>	<b>R m<sup>2</sup> K/W</b>
20	1,574	0,4651163
30	1,152	0,6976744
40	0,908	0,9302326
50	0,75	1,1627907
60	0,638	1,3953488
70	0,556	1,627907
80	0,492	1,8604651
90	0,441	2,0930233
100	0,4	2,0930233
110	0,366	2,5581395
120	0,337	2,7906977

PANEL DIMENSION 108X93,5 cm.

TICKNESS: 3,0+2,5 cm.

DENSITY

180 Kg/mc ca.

THERMAL CONDUCTIVITY

0,043 W/mK

RESISTANCE RATE TO VAPOUR DIFFUSION

$\mu = 10$

WATER ABSORPTION IN IMMERSION AT CONSTANT TEMPERATURE

After 3 days 19,4% vol.

After 28 days 34,4% vol.

WATER ABSORPTION IN FLOATING CONDITION AT CONSTANT TEMPERATURE

After 3 days 1,9% vol.

After 28 days 28,8% vol.

DIMENSIONAL ALTERATION FOR SHIFTING FROM DRY TO WET ENVIRONMENT

(35% Ur 90%)

+11,5%.

DIMENSIONAL ALTERATION FOR SHIFTING FROM WET TO DRY ENVIRONMENT (35%- Ur 90%)

-11,7%.

DIMENSIONAL VARIATION

The coefficient of linear expansion is 62 x 10<sup>-6</sup> mm/C.

Under environmental conditions of 20°C and Ur 65% and undergoing conditions of 20°C and Ur 95%, the agglomerate will suffer a maximum variation of 0.60% in 12 days, tending to stabilization.

At the end of the 12th day, it will tend to recover, decreasing to approx. 0.26% of linear

expansion until the initial conditions are restored.

SOUND ABSORPTION

The sound propagation speed through LIS KORK is 450-500 m/s.

Airplane noises can be reduced by 32-35 dB with a cork thickness of 3 cm.

Pattering noises can be reduced as follows:

- 20 dB in the low frequency
- 40 dB in the middle frequency
- 30 dB in the high frequency

Reverberation:

- in empty room di 200 mc. 0,5 sec.
- in empty room di 500 mc. 0,6 sec.

ELECTROSTATIC BEHAVIOUR

Cork is antistatic.

COMPRESSION TENSION WITH 10% SHORTENING

0,22 N/mm2

RESISTANCE TO VERTICAL TENSILE STRESS

On the dishes surface 0,16 N/mm2

SPECIFIC HEAT (THERMAL MASS CAPACITY)

1900 - 2100 J/Kg K (a 20°)

RESISTANCE TO DAMPNESS

Its permeability to water vapour at 23°C with Ur 85% 0.21 g/m h mm Hg.

RESISTANCE TO FIRE

Weakly inflammable and weakly smoky. It is very important to point out this physical characteristic regarding the reaction of LIS compressed natural cork to fire! Of course, fire never destroys cork, and on the occasion of tests carried out all over the

world results have always been the same: cork has a surface with a very low or almost null fire propagation speed.

REACTION TO FIRE (ITALY)

Class 2; self-extinguishing

"TI VE AFNOR" PROVISIONS

Class M 2 = without fire

Class F 2 = without smoke

ANTI-VIBRATION

In order to limit and reduce the vibrations caused by industrial machines or moving machines, it is recommended to use a cork with the highest density (300 Kg/m<sup>3</sup>) because it can better stand high pressure without suffering from deformations.

STABILITY TO AGEING:

Practically UNLIMITED, even under very severe conditions.

RESISTANCE TO CHEMICALS:

good water-tightness, good resistance to hydrochloric, sulphuric and lactic acid (10%); good resistance to concentrated citric acid, to benzene and ethyl alcohol; light degradation with acetic acid, 10% with ammonia, ethyl acetate and trichloroethylene.

Degradable from the sodium carbonate used at 10%.

RESISTANCE TO BIOLOGICAL AGENTS: cryptogamic development after 28 days (in conformity with test AFNOR x 41-504).

RESISTANCE TO COMPRESSION:

6,0 Kg/cm<sup>2</sup> ca.

POSSIBILITY OF ATTACK BY INSECTS OR RODENTS:

NON EDIBLE