

## Technical data sheet of CEMVIN boards R1

CEMVIN boards are manufactured pursuant to standard EN 12467 and within the quality control ISO 9001:2016. The boards are made from a mixture of cement, cellulose, limestone and organic fibre. Thanks to this composition, CEMVIN boards have unique properties and many ways of use.

### CEMVIN board properties and advantages

- frost resistance
- water resistance
- reaction to fire A1
- fire resistance
- weather resistance
- hygienically harmless
- resistance to electric arc
- easy to cut
- excellent paint adhesion
- strength
- fast assembly

### Possible CEMVIN board applications

- dry construction
- internal and external wall jacketing,
- for industry lost formwork
- fire walls and noise barriers
- components for prefabricated constructions
- dry paving
- cable trays
- insulation and inflammable mats
- switchboard fillings and partitions
- and others

**Table of basic physical and mechanical properties of CEMVIN**

|                                                                                |                                 |
|--------------------------------------------------------------------------------|---------------------------------|
| Bulk density, dry, average (EN 12467)                                          | 1 770 kg/m <sup>3</sup>         |
| Bulk density, dry, minimal (EN 12467)                                          | 1 700 kg/m <sup>3</sup>         |
| <b>Strength characteristics and mechanical properties</b>                      |                                 |
| Bending tensile strength along fiber direction – ambient (EN 12467)            | 25 MPa                          |
| Bending tensile strength across fiber direction – ambient (EN 12467)           | 16 MPa                          |
| Bending tensile strength along fiber direction – wet (EN 12467)                | 21 MPa                          |
| Bending tensile strength across fiber direction – wet (EN 12467)               | 13 MPa                          |
| Modulus of elasticity                                                          | 8 000 MPa                       |
| Shear friction coefficient (ČSN 74 4507)                                       | $\mu_s = 0,53$ ; $\mu_d = 0,59$ |
| <b>Humidity effects and structural physical properties</b>                     |                                 |
| Water absorbency of the board in water for 24 hours                            | max. 15 %                       |
| Balanced weight humidity at 20 °C                                              | 5–8 %                           |
| Linear expansivity when the air humidity changes from 35 % to 85 % (EN 13 009) | 0,17 %                          |
| Water impermeability after 24 hours (EN 12467)                                 | Impermeable                     |
| Weighted sound reduction index – board thickness 12 mm (EN ISO 10140-2)        | Rw 30 dB                        |
| Water vapour resistance factor (EN ISO 12572)                                  | 70–90                           |
| Thermal conductivity (EN ISO 10456)                                            | max. 0,35 W/mK                  |

| Fire properties                                                 |                      |                                             |
|-----------------------------------------------------------------|----------------------|---------------------------------------------|
| Reaction to fire (EN 13 501-1)                                  |                      | A1                                          |
| Flame spread index (ČSN 73 0863)                                |                      | i = 0 mm/min                                |
| Fire resistance (EN 1363-1)                                     | 6 min (board 5 mm)   |                                             |
|                                                                 | 15 min (board 8 mm)  |                                             |
|                                                                 | 16 min (board 10 mm) |                                             |
| Other properties                                                |                      |                                             |
| Frost resistance (max R <sub>L</sub> > 0,75; EN 12467)          |                      | 100 cycles                                  |
| Heat resistance                                                 |                      | 200 °C                                      |
| Board pH                                                        |                      | 11                                          |
| Weight activity Ra 226                                          |                      | 21 Bq/kg                                    |
| Weight activity index                                           |                      | I = 0,37                                    |
| Resistance to the electric arc effects (ČSN 33 2000-5-52 ed. 2) |                      | resistant without signs of material rupture |
| Resistance to high voltage arc discharge (EN 61621)             |                      | th. 10 mm, min. 142 sec                     |
| Release of hazardous VOC substances (ISO 16000-10)              |                      | meets the requirements                      |
| Dimension tolerances (EN 12467)                                 |                      |                                             |
| Board thickness                                                 | 3–6 mm               | ±0,6 mm                                     |
|                                                                 | 7–20 mm              | ±10 %                                       |
|                                                                 | 21–40 mm             | ±2,0 mm                                     |
| Basic format length and width                                   |                      | l. ±4,0 mm; w. ±2,0 mm                      |
| Accurate division of length and width                           |                      | ±2,0 mm                                     |
| Diagonal tolerance                                              |                      | ±4,0 mm                                     |
| Tolerance of edge straightness                                  |                      | 2,0 mm/m                                    |
| Tolerance of rectangularity                                     |                      | 3,0 mm/m                                    |