

Moulded parts and boards based on aluminium silicate and polycrystalline wool

## **SILCAVAC / SILCABOARD**

126-27N, 143-28N, 160-25N, 170-40N, 180-40N

**SILCAVAC** – shaped parts and **SILCABOARD boards** are vacuum formed fibre products. This manufacturing process represents the most economical solution for bigger quantities in the most different geometries.

**SILCAVAC / SILCABOARD 126-27N** and **143-28N** consist of aluminium silicate fibres as well organic and inorganic binders. For **SILCAVAC / SILCABOARD 160-25N** part of the aluminium silicate fibres is replaced by polycrystalline fibres.

**SILCAVAC / SILCABOARD 170-40N** and **180-40N** are made of polycrystalline fibres as well as organic and inorganic binders. Higher bulk densities are obtained through the use of inorganic fillers.

Spezial mixtures are available for the production of **SILCAVAC / SILCABOARD** shaped parts / boards suitable for temperatures up to 1.800 °C.

Further treatment of **SILCAVAC / SILCABOARD** is possible if required. Thus, the shaped parts and boards may be pre-fired at temperatures between 800 °C and 1.100 °C in order to remove the organic components. Depending on the application and requirements the surface may be hardened or coated. Our application engineers will be pleased to give advise on the advantages and disadvantages of the different further treatments.

**Note:**

**Our EC safety data sheet will inform you about the protective measures to be taken when handling and using aluminium silicate wool as well as the health risks.**

### **SPECIAL FEATURES**

- High temperature resistance
- Good thermal shock resistance
- Low thermal conductivity
- Thermally pre-fired on demand
- Good workability



# SILCAVAC / SILCABOARD

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| SILCAVAC / SILCABOARD   |   | Unit              | 126-27N                      | 143-28N                      | 160-25N   | 170-40N   | 180-40N   |
|---|---|-------------------|------------------------------|------------------------------|-----------|-----------|-----------|
| Classification temperature  |   | °C                | 1,200                        | 1,400                        | 1,600     | 1,700     | 1,800     |
| Bulk density  |   | kg/m <sup>3</sup> | < 350                        | < 350                        | 350 – 500 | 350 – 500 | 350 – 500 |
| Shrinkage after 24 h  | 1,000 °C  | %                 | 2.1                          | 1.5                          | –         | –         | –         |
|   | 1,100 °C  |                   | 2.7                          | 1.9                          | –         | –         | –         |
|   | 1,200 °C  |                   | 3.2                          | 2.3                          | –         | –         | –         |
|   | 1,300 °C  |                   | –                            | 3.8                          | –         | –         | –         |
|   | 1,400 °C  |                   | –                            | –                            | –         | –         | –         |
|   | 1,500 °C  |                   | –                            | –                            | –         | 0.2       | –         |
|   | 1,600 °C  |                   | –                            | –                            | < 1,5     | 0.2       | 0.1       |
|   | 1,700 °C  |                   | –                            | –                            | –         | 0.5       | 0.15      |
| Thermal conductivity $\lambda$ at<br>$t_m$  | 400 °C  | W/(m K)           | 0.08                         | 0.09                         | –         | –         | –         |
|   | 600 °C  |                   | 0.12                         | 0.12                         | 0.13      | –         | –         |
|   | 800 °C  |                   | 0.15                         | 0.16                         | 0.16      | 0.21      | 0.22      |
|   | 1,000 °C  |                   | 0.20                         | 0.22                         | 0.20      | 0.24      | 0.25      |
|   | 1,200 °C  |                   | –                            | –                            | 0.24      | 0.28      | 0.29      |
|   | 1,400 °C  |                   | –                            | –                            | 0.29      | 0.35      | 0.35      |
| Chemical reference<br>analysis  | Al <sub>2</sub> O <sub>3</sub>                    | %                 | 45                           | –                            | 90        | 79        | 85        |
|   | Al <sub>2</sub> O <sub>3</sub> + ZrO <sub>2</sub> |                   | –                            | 52                           | –         | –         | –         |
|   | SiO <sub>2</sub>                                  |                   | 55                           | 48                           | 10        | 21        | 15        |
| Annealing loss  |   | Wt-%              | < 6.0                        | < 6.0                        | < 6.0     | < 6.0     | < 6.0     |
| Dimensions SILCABOARD   |   |                   |                              |                              |           |           |           |
| Standard sizes  | Thickness   | mm                | 10 – 50*                     | 10 – 50*                     | 10 – 50*  | 10 – 50*  | 10 – 50*  |
|   | Length x width                                    | mm                | 1,000 x 610<br>1,200 x 1,000 | 1,000 x 610<br>1,200 x 1,000 | 900 x 600 | 900 x 600 | 900 x 600 |
| *Special thicknesses up to 100 mm, hardened, coated or pre-fired boards are available on demand |   |                   |                              |                              |           |           |           |

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.