



MATERIAL DATA SHEET

CERAMICS



CHEMICAL COMPOSITION IN WEIGHT-PERCENTAGE OF THE CERAMIC FIBER

SiO ₂	approx. 50 - 52 %
Al ₂ O ₃	approx. 47 - 49 %

Rest: Traces of TiO₂ // Fe₂O₃ // MgO // K₂O // Na₂O

PHYSICAL DATA WITH REFERENCE TO THE PURE CERAMIC FIBER

MELTING POINT	approx. 1.760 °C
CLASSIFICATION TEMP*	approx. 1.260 °C
FIBER DIAMETER:	ø 1,8 - 2,5 µm

* The classification TEMP is the reference temperature during which a linear contraction is not higher than 4% with a temperature exposure of 24 hours (according to CEN recommendation)

COMPOSITION // UTILIZATION

Ceramic fibers are manufactured from a fusion of aluminum oxide (Al₂O₃) and silica (SiO₂) in the centrifuging process. In this way, a white, fleecy fiber is obtained with high temperature resistance, low thermal conductivity and relatively good chemical resistance. In addition, ceramic fibers have excellent resistance against sudden temperature fluctuations. Since pure CMS bio-fibers cannot be processed to textile products, organic fibers must be added as a so-called „spinning aid“. With the CMS bio-products, the content of organic fibers and the ignition loss inevitable in this case is approx. 15-20%. In addition, textile ceramic fiber products are reinforced either by cores of glass yarn or by chrome steel wire.

PROPERTIES

The maximum temperature resistance of the ceramic products with glass core is approx. 550°C and ceramic products with chrome steel wire can be used to approx. 1000°C. However, the influence of the medium and the mechanical stressing of the material are to be considered here. Ceramic products are resistant against water, oils, greases, liquid metals and most acids, except for hydrofluoric acid, phosphoric acid and strong caustic solutions.

Since all parameters indicated in this catalog represent only rough values concerning characteristics, specification and applications, and can influence each other mutually, the specific application in each case should not be carried out without independent testing and evaluation. All technical information and recommendations are based on experience acquired to date.

IGNITION LOSS // TEXTILES

IGNITION LOSS	approx. 20 %
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MAXIMUM EMPLOYMENT TEMP ¹

WITH GLASS CORE	approx. 550 °C
WITH CHROME STEEL WIRE	approx. 1.000 °C

¹ With the evaluation of the temperature resistance, the influence of the medium and the type of stressing are of decisive importance.

Ceramic products are classified as carcinogenic, K2. Ceramic fibers are identified as CMR in accordance with Article 57 (a) of the REACH Ordinance No. 1907/2006, and since date 13.01.2010 have been on the list of candidates of especially worrying materials (SVHC). The general determinations of the fiber manufacturers concerning the handling of fiber ceramics are to be considered. In case of submission of your employment parameters, we will be glad to advise you concerning a possible substitution through materials harmless to health.

Errors on the selection of sealing can lead to damage. Specifications concerning characteristics, specification and applications are implemented subject to unannounced future changes. RUHRLAND STOPFBÜCHSEN PACKUNG GmbH does not assume any liability of any type.