systemceram

# Material properties of chemo-technical fine stoneware 2005

| Properties | Test result | Test standard | Requirement |
|---|---|---|---|
| **Physical Properties** | | | |
| Raw density | 2,1 - 2,2 g/ $cm^3$ | EN 993-1 | 2,2 - 2,4 |
| Water absorption | 1,3 - 2,7 % | EN 993-1 | 0,2 - 3,5 |
| Specular gloss (for colour Polar at 20°, 60°, 85°) | 5, 24, 34 | ISO 2813 | |
| **Mechanical Properties** | | | |
| Bending strength 20°C | 38,8 $N/mm^2$ | EN 993-6 | > 23 |
| Cold compression strength | 85,25 M Pa | EN 993-5 | > 40 |
| Abrasion resistance (wear) | Grade 4 (12000 rotations) | 10 545-7 | 4 - 12 |
| Scratch hardness (acc. to Mohs) | 5 - 6 | DIN 101 | > 4 |
| **Thermal Properties** | | | |
| Coefficient of linear thermal expansion (WAK 20-100°C) | 5,4 $*10^{-6}$ $K^{-1}$ | 10 545-8 | 4 - 5 |
| **Chemical Properties** | | | |
| Resistance against sulphuric acid (170°C) | 2,02 % | 993-16 | |
| Chemical resistance | | | |
| household chemicals and swimming pool salts | Grade GA | 10 545-13 | Grade GA |
| high concentrated acids and alkalis | Grade GLA | | Grade GLA |
| low concentrated acids and alkalis | Grade GHA | | Grade GHA |
| (grade GA, GLA und GHA = no change visible pencil test and visual judgement passed successfully | | | |
| Resistance against staining agents for instance iodine | Grade 5 | 10 545- 14 | Grade 5 |
| (grade 5 = easiest removability - best grade) | | | |

Values determined by: Amtliche Materialprüfstelle Glas und Keramik, FH Höhr-Grenzhausen, July 2005, chemo-technical fine stoneware acc. to DIN 28062, materials table 1.1.4. (colour polar)