














STO No. 030 - 049916
 – Catalogue number: XXXXXXXX
Formsteine (ceramic fittings)

Technische Parameter Technical characteristics Caractéristiques techniques	Norm Norm Norme	Norm EN 14411 Anlage L, Ala (max. Wert) Standard requirements EN 14411 annex L, Ala (max. value) Exigence de la norme EN 14411 annexe L, Ala (max. valeur)	Werte LB (max.) Parameters LB (max.) Valeur LB (max.)
 Ausmaße Sizes Dimensions	ISO 10545-2	Länge und Breite / Length and width Longueur et largeur $\pm 2,0 \%$ Dicke / Thickness / Epaisseur $\pm 10 \%$	$\pm 2,0 \%$ $\pm 10 \%$
 Wasseraufnahmevermögen Water absorption Assorbenza de l'eau	ISO 10545-3	$E < 0,5\%$	$E < 0,5\%$
Oberflächenqualität Surface quality Qualité de la surface	ISO 10545-2	Min. 95 % Stück ohne sichtbare Oberflächenmängel Min. 95 % of the tiles without visible defects Min. 95 % de pièces sans défauts visibles de la surface	Min. 95 % Stück ohne sichtbare Oberflächenmängel Min. 95 % of the tiles without visible defects Min. 95 % de pièces sans défauts visibles de la surface
 Biegefestigkeit Bending strength Résistance à la flexion	ISO 10545-4	Dicke $\geq 7,5$ mm min. 28 N/mm ² Thickness / Epaisseur	$\geq 7,5$ mm min. 28 N/mm ²
 Bruchfestigkeit Breaking strength Force de rupture	ISO 10545-4	Dicke $\geq 7,5$ mm min. 1300 N Thickness / Epaisseur	$\geq 7,5$ mm min. 1300 N
 Festigkeit bei Temperaturschwankungen Thermal shock resistance Résistance à la variation de la température	ISO 10545-9	Wird nicht gefordert Not required N'est pas requis	Beständig / Resistant Résistant
 Frostbeständigkeit Frost resistance Résistance au gel	ISO 10545-12	Wird gefordert Required Requis	Vollständig Frostbeständig Fully frost resistant Résistance parfaite au gel
Beständigkeit gegen Haarrisse Crazing resistance for glazed tiles Résistance aux fissures capillaires	ISO 10545-11	Wird gefordert / Required Requis / Viene richiesto	Beständig / Resistant Résistant / Resistente
 Rutschfestigkeit-Reibungskoeffizient Slip resistance - coefficient of friction Qualité antidérapante- coefficient de frottement	CEN/TS 16 165 DIN 51130 DIN 51097 ČSN 725191	Wert und entsprechende Prüfungsmethode werden vom Hersteller bestimmt Manufacturer to state value and test method used Fabricant détermine valeur et processus d'essai adéquat	Ausgewählte Arten C Selected types C Pour les types choisis C
 Tiefenbeständigkeit gegen Abnutzung Deep abrasion resistance Résistance à l'abrasion de profondeur	ISO 10545-6	Wird nicht gefordert Not required N'est pas requis	max. 275 mm ²
Oberflächenhärte laut Mohs Surface hardness according to Mohs scale Dureté de surface selon échelle de Mohs	ČSN EN 101	Klasse wird vom Hersteller bestimmt Manufacturer to state classification Classifié par fabricant	Min. Kl. 5 Min. cl. 5 Min. cl. 5
Koeffizient der Wärmelängendehnbarkeit (20-100 °C) Coefficient of linear thermal expansion (20-100 °C) Coefficient de dilat. thermique linéaire (20-100°C)	ISO 10545-8	Wird nicht gefordert Not required N'est pas requis	max. 9 · 10 ⁻³ °C
 Beständigkeit gegen im Haushalt verwendete chemische Stoffe Resistance to various chemicals used in household Résistance aux agents chimiques domestiques	ISO 10545-13	Min. GB Min. GB Min. GB	Min. GA Min. GA Min. GA
 Beständigkeit gegen Säuren und Laugen in schwacher Konzentration Resistance to low concentrations of acids and alkalis Résistance aux acides et bases de faible concentration	ISO 10545-13	Klasse wird vom Hersteller bestimmt Manufacturer to state classification Classifié par fabricant	Min. Kl. GLB Min. cl. GLB Min. cl. GLB
 Beständigkeit gegen Säuren und Laugen in starker Konzentration Resistance to high concentrations of acids and alkalis Résistance aux acides et bases de haute concentration	ISO 10545-13	Wird nicht gefordert Not required N'est pas requis	Min. Kl. GHB Min. cl. GHB Min. cl. GHB
 Fleckenbeständigkeit / Resistance to staining Résistance aux taches	ISO 10545-14	Min. Kl. 3 / Min. cl. 3 Min. cl. 3	Min. Kl. 3 / Min. cl. 3 Min. cl. 3
 Stahl und Kadmium Inhalt / Lead and cadmium release Teneur en plomb et cadmium	ISO 10545-15	Wird nicht gefordert / Not required N'est pas requis	Pb < 0,8 mg/dm ² Cd < 0,07 mg/dm ²

Nähere Informationen im technischen Katalog / Detailed data is in Technical Catalogue / Les informations détaillées sont indiquées dans le Catalogue technique



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznamovaný subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán / Accredited Testing Laboratory, Authorized Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body, Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Authorised Body No. 204 empowered by the Decision of the ÚNMZ
No. 11/2013
Branch 0300 – Plzen

Issues

Pursuant to the provisions of Act No. 22/1997 Coll., on Technical Requirements for Products and on Amendment to Certain Other Acts, as amended, and § 2 and 3 of Government Regulation No. 163/2002 Coll., as amended by Government Regulation No. 312/2005 Coll.

TECHNICAL BUILDING APPROVAL

No. 030 – 049916

On product:

Ceramic fittings

Applicant:

LASSELSBERGER, s. r. o.

Business ID: 25238078
Address: 320 00 Plzeň, Adelova 2549/1
Manufacturer: LASSELSBERGER, s. r. o.
Address: 320 00 Plzeň, Adelova 2549/1
Plant: LASSELSBERGER, s. r. o.
Address: 320 00 Plzeň, Adelova 2549/1
Order No: Z030140069

the Authorised Body No. 204 hereby certifies the correctness of technical data of the product, their values and procedures of checking their compliance with the basic requirements stipulated by Annexe 1 to Government Regulation No. 163/2002 Coll., as amended by Government Regulation No. 312/2005 Coll.

This approval serves as technical specification for assessment of the conformity of the said product.

No. of pages of the Technical Building Approval including the title page: 4

Author of this Technical Building Approval:

Ing. Hana Kotorová
Head Assessor

Approval validity till: **31st July 2017**

Person responsible for correctness of this Technical Building Approval:

Signature and seal of Authorised entity No. 204



Ing. Alexander Trinner
Deputy Manager of Authorised Body No. 204

Plzen, on 4th July 2014

Note: This Technical Building Approval may only be reproduced in full: Partial reproductions only with written consent from the Manager of Authorised Entity No. 204.

1 Product Description and Specification of its Use on Site

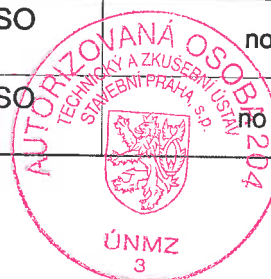
Ceramic fittings are divided into three groups as follows:

- ◆ Ceramic fittings with water absorption up to 3%, dry glazed (group BIb), which are suitable for tiling of showers, tubs and pools, suitable for various uses: e.g. medicinal applications, food and chemical industries, etc. The group contains shape tiles, stair tiles, skirting, corners, running and continuous edges, accessibility shape tiles, border pieces, etc.
- ◆ Ceramic fittings with water absorption up to 0.5%, dry pressed, both glazed and non-glazed (group BIa), which are suitable for special shape applications at internal and external tiling of indoor as well as outdoor walls and floors, facades, pools, etc. The group contains shape tiles, balcony shape tiles, stair tiles, skirting, corners, moulds, accessibility shape tiles, border pieces, etc.
- ◆ Ceramic fittings with water absorption up to 0.5%, extruded, glazed (group A1a), which are suitable for applications such as tiling and flooring of pools indoor and outdoor, public and private. They represent specialty pool ceramic systems that incorporate tiling of the side walls and bottom of the pool, special shape pieces for overflow edges and flutes, a set of rounded edges, etc.

2 Specification of Measured Properties and Method of Assessment

Table 1:

No	Property	Test procedure	Declared values (average)
1	Geometric parameters	ČSN EN ISO 10545-2	The deviation of the average size for each tile from the work size: ±2,0 mm The deviation of the average size for each tile from the average size of the 10 test specimens: ±1,5 % Thickness – the deviation in % the average thickness of each tile from the work size: ± 10 %
2	Surface quality	ČSN EN ISO 10545-2	A minimum of 95 % of the tiles shall be free from visible defects that would impair the appearance of a major area of tiles
3	Water absorption	ČSN EN ISO 10545-3	average $\leq 0,5 \%$, individual max. 0,6 % $0,5\% < \text{average} \leq 3,0\%$, individual max. 3,3% (boiling method)
4	Breaking strength, modulus of rupture	ČSN EN ISO 10545-4	average min. 28 MPa modulus of rupture individual min. 1300 N (for thickness $\geq 7,5$ mm) $0,5\% < \text{average} \leq 3,0\%$, individual max. 3,3%
5	Scratch hardness of surface according to Mohs	ČSN EN 101	scratch min. 5. degree
6	Resistance to thermal shock (glass surfaces)	ČSN EN ISO 10545-9	no visible change
7	Resistance to stains	ČSN EN ISO 10545-14	no visible changes



No	Property	Test procedure	Declared values (average)
8	Chemical resistance	ČSN EN ISO 10545-13	no visible changes
9	Resistance to deep abrasion	ČSN EN ISO 10545-6	max 275 mm ³
10	Coefficient of linear thermal expansion	ČSN EN ISO 10545-8	max. $9 \times 10^{-6} K^{-1}$
11	Crazing resistance	ČSN EN ISO 10545-11	no visible changes
12	Lead and cadmium given off	ČSN EN ISO 10545 – 15	volume Pb : max. 0,8 mg/dm ² volume Cd : max. 0,07 mg/dm ²
13	Slipperiness	ČSN P CEN/TS 16165	according to the declaration and use
14	Radioactivity	—	regulation SÚJB 307/2002 Coll. as amended the weight activity index 1,0

3 Manufacturing Management System Assurance

The requirements for the manufacturing management system are specified in Annexe 3 to Government Regulation No. 163/2002 Coll., as amended by Government Regulation No. 312/2005 Coll.

4 Materials Submitted by Applicant

—

5 Survey of Applied Technical Regulations, Technical Standards and Other Documents

- ◆ ČSN EN ISO 10545-2 Ceramic tiles. Part 2: Determination of dimensions and surface quality,
- ◆ ČSN EN ISO 10545-3 Ceramic tiles. Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density,
- ◆ ČSN EN ISO 10545-6 Ceramic tiles. Part 6: Determination of resistance to surface abrasion for unglazed tiles,
- ◆ ČSN EN ISO 10545-8 Ceramic tiles. Part 8: Determination of linear thermal expansion
- ◆ ČSN EN ISO 10545-9 Ceramic tiles. Part 9: Determination of resistance to thermal shock
- ◆ ČSN EN ISO 10545-13 Ceramic tiles. Part 13: Determination of chemical resistance,
- ◆ ČSN EN ISO 10545-14 Ceramic tiles. Part 14: Determination of resistance to stains,
- ◆ ČSN EN ISO 10545-11 Ceramic tiles. Part 11: Determination of crazing resistance for glaze tiles,
- ◆ ČSN EN ISO 10 545 – 15 Ceramic tiles. Part 15: Determination of lead and cadmium given off by glazed tiles,
- ◆ ČSN P CEN/TS 16165 Determination of slip resistance of pedestrian surfaces – Methods of evaluation
- ◆ Protocol of content of natural radioactive nuclides in construction prepared by association Nuklid, Kralovická 59, 323 00 Plzeň



6 Verification Tests

For issuing technical building approval validation tests have been performed.

7 Detailed Requirements for Conformity Assessment

The product is classified in Annexe 2, product group 11, seq. 1, 4 of Government Regulation No. 163/2002 Coll., as amended by Act. No. 312/2005 Coll.

