

CERAN® Catering Cooktop Panels

Technical Delivery Specification TL 1 00 04 02 - 01

SCHOTT
CERAN®

Catering Cooktop Panels

SCHOTT AG

Home Tech
Hattenbergstrasse 10
D-55122 Mainz

Tel.: +49 (0) 6131/66-2701
Fax: +49 (0) 6131/66-2045
E-mail: info.ceran@schott.com
www.schott.com/hometech

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1. Introduction

1.1 Description

CERAN® catering cooktop panels consist of transparent glass ceramic dyed in the batch for cooking applications with extremely low thermal expansion.

1.2 Range of Application

This technical delivery specification applies to CERAN HIGHTRANS® eco cooktop panels (delivery form: flat panels, one side nubbed) with nominal thickness of 6.0 mm for use in the catering area in:

- Electric cooking appliances (radiation and/or halogen heating elements)
- Induction cooking appliances
- Gas cooking appliances

1.3 Range of Validity

This technical delivery specification applies to the commercial relationship between the Business Unit Home Tech and its customers.

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2. Technical Features

2.1 Optical Characteristics

Appearance:

Color viewed from top: black
Color looking through: orange-brown

The surface is slightly textured due to the production process.

2.2 Mechanical Characteristics

2.2.1 Impact Resistance

CERAN® catering cooktop panels must pass the following impact tests in the delivery state when properly installed:

2.2.1.1 Spring Hammer Test

Impact resistance test according to **EN 60335-1**

2.2.1.2 Pan Drop Test

Impact resistance test according to **EN 60335-2-36**

2.3 Thermal Characteristics

2.3.1 Coefficient of Mean Linear Expansion (DIN ISO 51045-1, DIN ISO 7991)

$\alpha_{(20; 700^{\circ}\text{C})}$ $0 \pm 0.20 \times 10^{-6} \text{ K}^{-1}$

2.3.2 Resistance to Temperature Differences (RTD)

For CERAN® Catering Cooktop Panels the maximum permissible temperature difference between the hot cooking zone with $T_{\text{upper max}}$ (Maximum temperature of the Cooktop Panel top side at the hottest point) $\leq 700^{\circ}\text{C}$ and the cold Cooktop Panel edge with room temperature has to be fulfilled. It must be ensured that this temperature difference is not exceeded during use, to prevent cracking due to thermal stress.

No cracking due to thermal stress at $T_{\text{upper max}}^1 \leq 700^{\circ}\text{C}$

¹⁾ $T_{\text{upper max}}$: Maximum temperature on the upper side at the hottest point

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2.3.3 Thermal Shock Resistance

Resistance of the cooktop panel to thermal shock when the hot cooktop panel is quenched with cold water (room temperature).

Requirements according to **EN 60335-2-36** are fulfilled.

2.4 Chemical Characteristics

2.4.1 Acid Resistance (DIN 12116)

S at least class S2

2.4.2 Alkaline Resistance (ISO 695)

A class A1

2.4.3 Hydrolytic Class (DIN ISO 719)

HGB class HGB 1

2.5 Electrical Characteristics

2.5.1 Specific Electric Resistance (DIN 52326)

$\log \rho_{(250^{\circ}\text{C})}$	$\geq 6.7 (\Omega \cdot \text{cm})$
$\log \rho_{(350^{\circ}\text{C})}$	$\geq 5.3 (\Omega \cdot \text{cm})$
t_{K100}	$\geq 170^{\circ}\text{C}$

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3. Surface Characteristics and Dimensional Tolerances

3.1 Surface Characteristics of Use Side

Visual inspection in the normal installation position without visual aids and illumination of > 500 Lux when viewed from a minimum distance of 80 cm. Flaws smaller than ≤ 0.7 mm are permissible (not if accumulated) if they are inconspicuous within a diameter of 100 mm. If the upper side of a cooktop panel has a number of defects which, taken together, impair the esthetic appearance, a quality meeting must be held between the customer and the supplier to decide on acceptance or rejection.

Characteristics / Area / Location	Permissible number / cooktop panel
3.1.1 Closed Bubbles, Stains, Low Spots, Decoration Voids Size B $B \leq 0.7$ mm 0.7 mm < $B \leq 1.5$ mm	permissible 3
3.1.2 Open Bubbles, Crystals, Solid Inclusions Size B $B \leq 0.7$ mm 0.7 mm < B	permissible not permissible
3.1.3 Edge Chipping/ Edge Breakage ≤ 0.7 mm > 0.7 mm	permissible not permissible
3.1.4 Scratches	In the delivery state no traces of handling (scratches) should be recognizable from a viewing distance of 80 cm.

Table 3.1: Permissible number of voids

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3.2 Dimensional Tolerances

Characteristics / Areas / Location	Tolerance
3.2.1 Edge Length I $I \leq 600 \text{ mm}$ $600 \text{ mm} < I$ Thickness Nub Height	$\pm 1.5 \text{ mm}$ $\pm 2.0 \text{ mm}$ $\pm 0.3 \text{ mm}$ 40 μm to 200 μm
3.2.2 Squareness (ISO 1101) (depending on the edge length I ¹⁾ $I \leq 600 \text{ mm}$ $600 \text{ mm} < I$	$\leq 1.5 \text{ mm}$ $\leq 2.0 \text{ mm}$
3.2.3 Flatness of cooktop panel along the diagonal D (depending on the edge length I ¹⁾ $I \leq 600 \text{ mm}$ $600 \text{ mm} < I$ The flatness deviation is to be measured using a tripod straight edge and a feeler gauge.	$\leq 0.8 \text{ mm}$ max. $0.12\% \times D$
3.2.4 Radii Corner radius r	$\pm 1.0 \text{ mm}$
3.2.5 Decoration Position²⁾ Position of decoration pattern Parallel deviation	$\pm 1.5 \text{ mm}$ $\leq 2.0 \text{ mm}$

¹⁾ The edge length I corresponds here to the maximum value of the two edge lengths of the cooktop panel.

²⁾ The decoration position is dictated by the center axes of the decoration and the CERAN® cooktop panel. All dimensions refer to the center axes of the decoration and the center axes of the CERAN® cooktop panel.

Table 3.2: Dimensional tolerances

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4. Transport, Storage and Handling

To avoid damage, it is necessary for the panels to be handled properly as well as transported and stored only vertically secured, and protected against touching each other by suitable intermediate layers (paper, cardboard, cork or PE foamfoils).

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5. Installation Guidelines

The same conditions apply to the installation of CERAN® catering cooktop panels as are generally valid for handling glass and glass ceramic parts.

When handling the cooktop panels, observe the following:

- Do **not damage** the bottom side and edges of the cooktop panels.
- Avoid contact between the surface and hard objects during installation.
- Ensure that the cooktop panel is installed in such a manner that it is **not distorted**.
- It is necessary to use a sufficiently **low distortion frame construction**.
- A **permanently resilient, temperature stable** connection must be created between the frame and cooktop panel (glue, rubber sealing channel).
- The **contact pressure** of the frame (for clamped connections) must be applied **uniformly** over the entire edge of the cooktop panel (pressure at points is not permissible).
- The flexibility of the cooktop panel with regard to impact loads must be preserved to the maximum extent after installation in the cooking appliance.
- **Hard** design elements (contact terminals, etc.) must have a **minimum distance of 3 mm** from the bottom side of the cooktop panel.
- Other moving elements must be at least 1 mm away from the bottom side of the cooktop panel.
- The **contact pressure per heating element** must not exceed **40 N**.
- **The width of the glued joint should be ≥ 3 mm** and the **distance** between the bottom of the glass ceramic and the frame support **should be ≥ 2 mm**.
- The **minimum overlap** of the hole edge for gas burners and shaft passages should be **≥ 4 mm**.
- CERAN® catering cooktop panels should be protected from subsequent damage to the edges by a surrounding frame.
- **Borehole grommets have to seal** the borehole in order to avoid leakage.

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6. Procedures if Deviations Occur

6.1 Basic Action

Deviations should be handled in the most cost-effective manner for both partners.

6.2 Obligation of Recipient to Provide Information

SCHOTT requires the following data for reporting, testing and evaluating deviations:

- SCHOTT order number
- Pallet slip with production order number, warehouse unit number
- Delivery quantity affected
- Type of defects complained about
- Complaint quantity
- Results of random sample tests

6.3 Recipient's Storage Obligation

All parts with characteristic values deviating from the specifications and complained about by the recipient must be stored by the recipient until final clarification of the facts and made available to SCHOTT upon request. If such parts are scrapped by the recipient without written authorization from SCHOTT or if they are no longer available for other reasons, all warranty rights regarding such parts shall be null and void.

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