

Add: Room 204, Building 1, Jiatai Health Industrial Park, No.1 Industrial Zone,
Tangwei Community, Fuhai Subdistrict, Bao'an District, Shenzhen City
Tel: +86 15959299121 | Web: www.zonmedtech.com | E-mail: info@zonmedtech.com

TECHNICAL DATA SHEET

Firing Paste (Dental Ceramic Sintering Paste)

Model: PRS-P-SP Series

Brand: ZonMed PRS Ecosystem

Product: Dental Ceramic Sintering Auxiliary Paste

Spec: 14 g per syringe / piece

Compatible Materials: All CAD/CAM ceramic blocks (Lithium Disilicate, Zirconia, Feldspathic, Hybrid Ceramics)

Compatible Equipment: Standard dental crystallization/sintering furnaces

1. Product Overview

ZonMed Firing Paste is a specialized water-based auxiliary material formulated for the dental ceramic sintering process. It is designed to securely position and stabilize CAD/CAM-milled ceramic restorations on crystallization disks, sintering plates, or crystallization needles during the high-temperature firing cycle. After sintering is complete, the paste converts to a white, fluffy residue that is easily removed without damaging the restoration surface. This product is compatible with all major dental ceramic materials including lithium disilicate, zirconia, feldspathic porcelain, and hybrid ceramics.

2. Key Features

- **Secure Positioning** — Provides stable support for ceramic restorations during the entire firing cycle, preventing movement or deformation.
- **Clean Burnout** — Converts to a white, fluffy, non-contaminating residue after sintering; easily removed without residue on the restoration surface.
- **Broad Compatibility** — Suitable for use with crystallization disks, sintering plates, and metal crystallization needles across all major furnace brands.
- **Easy Application** — Ready-to-use paste consistency; extrude from syringe and apply directly to the support surface.
- **No Discoloration** — Does not cause staining, discoloration, or visible foreign matter on the fired ceramic restoration.
- **Optimal Load Capacity** — Precisely filled at 14 g $\pm$ 1 g per syringe for consistent, waste-free dispensing.
- **Stable Storage** — Water-based formula with excellent shelf stability; 3-year shelf life under recommended conditions.

3. Technical Specifications

Property	Specification	Test Method
Product Type	Water-based ceramic sintering auxiliary paste	Visual / QC Inspection
Appearance	White to milky white smooth paste	Visual Inspection at 20–25°C
Composition	Alumina (Al ₂ O ₃), Quartz (SiO ₂), Hydroxyethyl Cellulose, Polyethylene Glycol, Distilled Water	FTIR + TGA
Net Content	14 g $\pm$ 1 g per syringe	Gravimetric
Sintering Performance	Converts to white, fluffy residue; no discoloration or visible foreign matter on restoration	Firing test at 850–950°C
Load Capacity Accuracy	$\pm$ 1 g of labeled amount	Gravimetric QC

pH (aqueous dispersion)	6.0–8.0 (neutral)	pH meter
Odor	Odorless to very faint characteristic odor	Olfactory
Sterility	Non-sterile; for dental laboratory use only	N/A

4. Main Constituents

Component	Function	CAS No.
Alumina (Al₂O₃)	High-temperature refractory filler; provides structural integrity during firing	1344-28-1
Quartz / Silica (SiO₂)	Refractory support material; thermal stability at sintering temperatures	14808-60-7
Hydroxyethyl Cellulose	Water-soluble thickener and binder; provides paste consistency	9004-62-0
Polyethylene Glycol (PEG)	Humectant and plasticizer; prevents premature drying	25322-68-3
Distilled Water	Solvent and carrier medium	7732-18-5

5. Scope of Application

- CAD/CAM-milled ceramic block restorations requiring stable positioning during crystallization/sintering.
- Restoration placement on crystallization disks or crystallization needles during the firing process.
- Protection of ceramic restorations placed on metal support needles/pins during firing.
- All types of dental ceramic restorations: crowns, bridges, inlays, onlays, veneers.
- Compatible with lithium disilicate, zirconia, feldspathic, leucite-reinforced, and hybrid ceramics.

6. Usage Instructions (IFU Summary)

Method A — Crown Connection (Needle Support)

- Step 1** — Select the appropriate crystallization needle according to the size of the restoration.
- Step 2** — Fill the interior cavity of the needle support with Firing Paste until it reaches the edge.
- Step 3** — Carefully place the ceramic restoration onto the filled needle, ensuring stable contact.
- Step 4** — Allow the paste to set slightly before transferring the assembly to the furnace.
- Step 5** — After the firing cycle is complete, remove the white sintered residue from the restoration.

Method B — Surface Embedding (Plate/Disk Support)

- Step 1** — Apply Firing Paste onto the crystallization disk or sintering plate in the desired position.
- Step 2** — Fill until the paste forms a stable support bed for the restoration.
- Step 3** — Place the ceramic restoration onto the paste bed, pressing gently for secure contact.
- Step 4** — Proceed with the standard firing cycle as per the ceramic manufacturer's instructions.
- Step 5** — After sintering, remove any residual white paste from the restoration surface.

7. Precautions & Best Practices

- Immediately seal the syringe cap after each use to prevent moisture evaporation and drying.
- Store in a dark, cool location; keep container tightly closed when not in use.
- Apply only the necessary amount to avoid waste; excess paste does not improve performance.
- After sintering, the paste appears as a white, fluffy mass. Remove any residue from the restoration promptly.

- Ensure the paste does not contact the upper porcelain surface or glaze layer of the restoration.
- Use an appropriate amount inside the restoration cavity — overfilling may cause contact with aesthetic surfaces.
- Do not reuse paste that has been exposed to ambient air for extended periods; use fresh paste for each application.

8. Storage, Shelf Life & Transportation

Parameter	Specification
Storage Temperature	Room temperature (5–30°C / 41–86°F)
Storage Conditions	Dry environment; sealed original packaging; protected from direct sunlight
Shelf Life	3 years from date of manufacture (refer to product label for specific date)
After Opening	Seal immediately after use; store upright with cap tightly closed
Transportation	Avoid severe compression, vibration, and collision with hard objects
Disposal	Can be treated as general non-hazardous waste along with packaging after use

9. Limitation of Liability

Except to the extent prohibited by applicable law, Shenzhen Zhongchuang 3D Technology Co., Ltd. shall not be liable for any direct, indirect, special, incidental, or consequential losses or damages arising out of the use of this product, regardless of the legal theory asserted. Users are responsible for verifying product suitability for their specific application and following all instructions for use.

Shenzhen Zhongchuang 3D Technology Co., Ltd. | www.zonmedtech.com | info@zonmedtech.com

Rev: 2025-06-14 | Initial Compilation: 2024-11-07 | Product: PRS-P-SP Series | For Professional Dental Lab Use Only