RODIN® 3D Resin

A **Pac-Dent** Brand

GLAZE N_2-Free

Universal Light-Curing Sealant for all Surfaces

Instruction For Use

Pac-Dent®
Passion for Excellence

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GLAZE N_2-FREE

1. Product Description

Glaze N_2-Free is a versatile intraoral and extraoral light-cure solution designed to enhance the durability and esthetics of dental restorations. It seals microfractures and pits, while simplifying post-processing workflows by eliminating the need for conventional polishing to achieve a radiant, high-shine finish. Tailored for 3D composite polymers and milled PMMA material systems, it is also compatible for use with pre-sintered zirconia and lithium disilicate products.

2. Material Composition

Glaze N_2-Free contains:

- Monomer
- Oligomer
- Photo Initiator
- Photo Inhibitor

3. Intended User

The product is exclusively intended for use by:

- Trained professional dentists
- Trained professional prosthodontists
- Dental Lab Technicians

Sales are restricted to:

- Dental supply dealers
- Teaching institutions
- Government dental facilities

4. Intended Use

Glaze N_2-Free is designed for:

1. Surface characterization of zirconia, lithium disilicate, PMMA, and 3D composite polymer material systems.
2. Sealant for PMMA and 3D composite polymer systems.
3. Esthetic enhancements for fixed and temporary hard splints, surgical guides, crowns, bridges, inlays, onlays, veneers, and partial/full denture arches.

5. Contraindications:

Methyl Methacrylate Allergy: Patients who have a known allergy to methyl methacrylate should not be prescribed products containing this compound. Methyl methacrylate is a common ingredient in dental resins and acrylics. Exposure to materials containing it can trigger allergic reactions in sensitized individuals. These reactions can range from mild (such as skin irritation or rash) to severe (such as anaphylaxis, which is a potentially life-threatening condition).

6. PPE Recommendations

Recommended personal protective equipment includes:

- Gloves
- Eye protection
- Lab coat
- Closed-toed shoes

Precautions

1. Avoid vigorous shaking of the bottle, as it may introduce microbubbles, distorting the high-shine glaze appearance.
2. Do not leave Glaze N_2-Free bottle cap ajar in clinical or laboratory environments, as the resin is sensitive to dust and ambient light contamination, which may adversely affect curing performance.
3. The dispensing tip should be kept clean. Wipe dispensing tip with a lint free towel after each use.
4. Ensure the cap is securely closed after each use.

7. Directions for use

Surface Preparation for 3D Composite Ceramic Systems:

1. Remove all remaining support tips and perform final contouring, contact adjustments, and occlusal refinements.

Note: Avoid sandblasting or using unvalidated solvents that could remove the oxygen inhibition layer (OIL). Aluminum oxide media may embed into the surface, causing discoloration and compromising the chemical bond with Glaze N_2-Free.

2. Remove residual debris using compressed air.

Note: Avoid steaming printed patterns before applying Glaze N_2-Free, as residual moisture may result in an undesirable textured surface after curing.

Surface Preparation for Zirconia, Lithium Disilicate, and PMMA Materials:

3. Perform final contact, contouring, and/or occlusal adjustments as needed.
4. Sandblast all cameo surfaces with aluminum oxide to enhance mechanical retention.
5. Remove residual debris and sandblasting media using a dental steam gun.
6. Thoroughly dry the restoration with compressed air before applying Glaze N_2-Free,

Note: Do not subject Glaze N_2-Free, restorations to furnace firing cycles, as the glaze will burn off. Ensure zirconia and lithium disilicate restorations are sintered and final adjustments are made before glaze application and light curing.

Glaze N_2-Free Application

1. Rinse target area and dry thoroughly with compressed air.
2. Roughen surface of target touchup area with a fine diamond bur.
3. Rinse target area to remove debris and thoroughly dry with compressed air.
4. Check occlusal clearance. Should have 0.1mm of occlusal clearance to compensate for reapplied glaze layer. Reduce restoration as needed.
5. Apply a thin coat of N2Free Glaze to the adjusted areas.
6. Cure glaze with an intraoral spot curing lamp (see section 8 for details)
7. Buff with a goat hair polishing wheel or cotton buff wheel if desired.
8. Check occlusal clearance. Follow steps 3-6 if occlusion is high.

Recommended Use

Extraoral Use (Preferred Method):

Glaze N_2-Free is primarily recommended for extraoral applications on 3D-printed veneers, crowns, and bridges prior to intraoral placement. This ensures optimal polymerization and minimizes potential intraoral sensitivity.

Intraoral Use (If Necessary):

If intraoral curing is required, the following strict protocols must be followed to minimize potential irritation:

Precautionary Measures:

- Use of dental dam and cotton rolles to prevent liquid resin from making contact with gingiva or mucusa tissues.
- Monitor patient comfort during and after curing.
- Avoid prolonged or excessive curing in one location to minimize heat build up.
- If discomfort occurs, immediately discontinue and evaluate tissue response.

Curing Light Specifications:

- Use a light with 385nm–515nm wavelength.
- Minimum intensity of 1500 mW/cm (for 5 seconds, repeated twice) OR 2500 mW/cm (for 3 seconds, repeated twice).
- Maintain a minimum curing distance of 5mm from the tooth surface.

Clinical Considerations

Contraindications: Patients with sensitivity to light-curable materials or a history of intraoral irritation should be advised accordingly.

User Responsibility: Dental professionals should ensure adherence to these guidelines to avoid potential irritation.

8. Validated Glaze N_2-Free Minimum Curing Parameters

DEVICES	SETTINGS
NK-Optik Otoflash	2,000 flash cycles (without nitrogen)
Ackuretta Curie+ Plus	5 minutes, power level 9, duty cycle 20%, BL On
Formlabs Form Cure	5 minutes, 40°C
LuxCreo iLuxCure Dental	P1-615, P2-20, P3-3 minutes
Nexa3D xCure	405nm, 3 minutes, PWM 20%
Shining3D FabCure2	5 minutes, 40°C
Phrozen Wash and Cure	7 minutes
Handheld Spot Curing Lamp with Radiation Power around 1200 mW/cm²	**Curing time:** 10 seconds (3-4 cycles), take 1-2 second break between each cycle to avoid excess heat built up. **Wavelength:** 385-515nm, Distance: 0.5-inch.
Handheld Spot Curing Lamp with Radiation Power around 2000 mW/cm²	**Curing time:** 3 seconds (4-5 cycles), take 1-2 second break between each cycle to avoid excess heat built up. **Wavelength:** 385-515nm, Distance: 0.5-inch.

Disclaimer: distance mentioned in suggested for optimal results, other distances used may affect results.

Note- Ensure to follow minimum curing settings for underlying 3D printed substrates for best performance.

9. Chairside Adjustments

- Make necessary final contour, occlusal, or contact adjustments.
- Rinse and thoroughly dry adjusted area using compressed air.
- Remove restoration or prosthesis from patients' mouth and apply a thin coat of Glaze N_2-Free to adjusted area and cure with validated desktop curing devices. If the restoration is cemented in place, reapply a thin coat of Glaze N_2-Free
- Glaze N_2-Free to adjusted areas and cure with appropriate handheld curing unit following recommended curing protocol (see section 8).

10. Storage

Light Protection: Store Rodin N2-Free Glaze in a dark place, away from direct sunlight and bright artificial light, to prevent inadvertent curing performance.

Dust-Free: Ensure the storage area is clean and free from dust. Dust particles can contaminate the resin, affecting curing performance.

Temperature Control: Store resins at a consistent, moderate temperature, away from extremes of heat or cold. Extreme temperatures can affect the viscosity and curing properties of the resin.

Shelf Life: 24 months when stored as directed.

11. Classification of Waste:

Regulatory Compliance: Familiarize yourself with and comply with all applicable federal, state, and local regulations concerning hazardous waste disposal.

Hazardous Waste Identification: Consult the US EPA guidelines and other relevant sources to accurately classify whether the waste you're disposing of is considered hazardous.

Disposal of Liquid Resin:

Curing Before Disposal: Never dispose of liquid resin directly into the trash or down the drain. Uncured resin should be fully cured before disposal.

Sunlight Curing: Pour the liquid resin into a clear container and expose it to direct sunlight. UV light will cure the resin. Alternatively, use a UV lamp if sunlight is not sufficient.

Solidification: Once the resin is fully cured and solidified, it can generally be disposed of as regular trash. However, always verify with local regulations, as there may be specific guidelines for cured resins.

Solid Resin Waste:

Glazed Objects: Ensure uncured resin is fully cured prior to disposal.

Containment: Place the cured resin waste in a sealed bag or container to prevent any potential exposure or reaction.

Maintain Records: Keep records of your waste disposal practices, especially for any waste that may be classified as hazardous. This can help demonstrate compliance with regulations.

Regular Review and Training:

Stay Informed: Regularly review disposal practices and stay informed of any changes in regulations.

Staff Training: Ensure all staff members are trained in proper disposal procedures to maintain a safe and compliant workplace.

By adhering to these disposal recommendations, dental practices and laboratories can minimize their environmental impact and ensure they are in full compliance with waste disposal regulations. Responsible disposal is an essential aspect of 3D printing operations in the dental industry.

Order Information:

24031 Glaze N_2-Free, 5mL
24015 Glaze N_2-Free, 15mL

Legal Disclaimer

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