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RENOVA FRITS

RENOVA INDUSTRIAL & TRADING CO., LTD.



ABOUT
RENOVA

RENOVA INDUSTRIAL & TRADING CO., LTD. is the international trade division of Foshan Huage Ceramics Co., Ltd. Established in 2007, Foshan Huage Ceramics Co., Ltd. specializes in the R&D and manufacturing of ceramic frits. Its main products include impermeable engobe frits, antique tile glazes, full-polishing glazes, and exterior wall tile glazes.

Core Strengths

01. 31 Years of Technical Expertise and Continuous Innovation
The team of the company has accumulated a total of 31 years of technical experience in ceramic glazes, and has long been engaged in the frontline of the industry, enabling continuous product optimization and technological innovation in response to market changes and customer demands.

The company maintains continuous investment and uninterrupted iteration in technological R&D:
- In 2009, it launched the R&D of engobe titanium frits for ceramic tiles.
- In 2011, it developed four major series of titanium frits, covering most mainstream demands of the market.
- In 2012, it provided customized development for MARCO POLO CERAMICS, launching low-temperature matte frits for ceramic tiles and high-temperature wear-resistant frits for polished glazes.

In terms of production, to improve product stability and supply capacity:
- In 2017, it built two proprietary frit production lines in Liling, Zhuzhou City, Hunan Province, covering product ranges of titanium frits, matte frits and polished glaze series.

In terms of product application expansion:
- In 2024, it launched a new low-temperature frit series for functional applications such as low-temperature inks and glass coatings
- It has established a comprehensive capability for continuous innovation spanning R&D, mass production, and application expansion

02. Own Manufacturing Facilities Ensure Stable Supply
With own independent production facilities and a well-established supply chain, the company maintains full control over the entire process—from raw materials to production—ensuring consistent product quality and reliable supply.

03. Comprehensive Customer Service and Long-Term Technical Support
Adhering to a customer-centric approach, the company establishes long-term and stable partnerships with clients. Based on their specific production requirements, it provides tailored technical solutions, and offers to dispatch experienced technical personnel for on-site support, ensuring consistent product quality.

INDUSTRY EXPERIENCE and CLIENT BASE

Our company's Frits holds a leading position in the industry, with 31 years of industry experience and an annual output of 30,000 metric tons. Its client portfolio includes well-known domestic enterprises such as PUJING CERAMICS, ARROW, LUOSF CERAMICS, MARCO POLO, GUANGFU CERAMICS, and SANDELI CHINAWARE.
With its professional, efficient and reliable products and services, the company facilitates the upgrading of China's ceramic industry, while actively expanding overseas markets to serve customers worldwide.

PRODUCT APPLICATIONS

Our company's Frits is primarily applicable to:
- Engobe and matte glazes for ceramic interior wall tiles
- Underglazes and glazes for exterior wall tiles and floor tiles

PRODUCT FEATURES

A. Frits for engobe

1. Available in 3 expansion coefficients—high, medium, and low—to adapt to the requirements of different body types and raw material systems.
2. Available in 3 firing temperatures—high, medium, and low—to meet the firing conditions of different kilns.
3. Excellent thermal shock resistance: No cracking after three cycles at 190°C (outperforming the industry standard of 180°C), effectively preventing post-firing cracking issues.

B. Frits for glazes

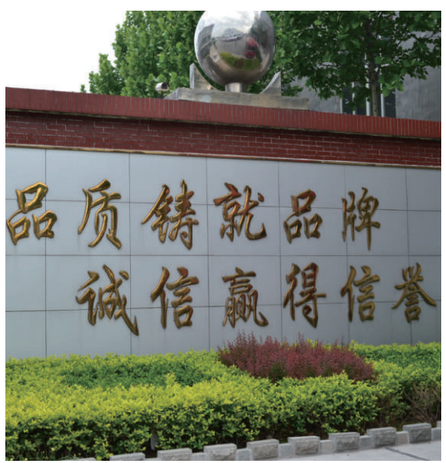
1. High-temperature, medium-expansion matte frits: Suitable for rustic tiles, fully polished glazed tiles, and exterior wall tiles
2. Low-temperature, medium-expansion matte frits: Suitable for interior wall tiles, featuring excellent thermal shock resistance, strong stain resistance, good wear resistance, stable color development, and high whiteness

C. Customized Services

The company can provide targeted R&D and offer customized frit solutions in accordance with customers' specific production process conditions, including kiln temperature, expansion coefficient, impermeability performance, glaze performance, etc.







TECHNOLOGY

Expert in China's Frit Production Sector

Our company possesses extensive professional expertise and abundant raw material resources. With its own frit production bases in Liling, Zhuzhou City (Hunan Province) and Shandong Province, the company ensures controlling over the production source of raw materials and reducing costs associated with intermediate processes. This guarantees the impermeability and color development performance of the glazes. Leveraging a mature R&D team, the company has developed and continues to innovate a series of engobe frits and glaze frits.















PRODUCT
T8 Titanium Frit



T8-9HL Titanium Frit

Key Features: High Temperature + Low Expansion
Firing Temperature: 1080–1180°C
Thermal Expansion Coefficient: 180
Titanium Content: Approximately 9%

This frit belongs to the titanium frit series and offers excellent thermal stability and good elasticity. It is suitable for high-end ceramic tiles. With excellent whiteness and vivid background color development, it enhances the overall appearance and premium look of ceramic products.

Applications:
Waterproof engobe formulations for single-fired ceramic tiles, double-fired ceramic tiles, and floor tiles.



T8-7LL Titanium Frit

Key Features: Low Temperature + Low Expansion
Firing Temperature: 1050–1100°C
Thermal Expansion Coefficient: 220
Titanium Content: Approximately 7%

This frit belongs to the titanium frit series and features a low firing temperature and a moderate thermal expansion coefficient. It is suitable for ceramic tile bodies with a low thermal expansion coefficient and offers good thermal stability and elasticity.

Applications:
Mainly used in waterproof engobe formulations for double-fired ceramic tiles. It is a key product for this application.



T8-7HL Titanium Frit

Key Features: High Temperature + Low Expansion
Firing Temperature: 1080–1180°C
Thermal Expansion Coefficient: 180
Titanium Content: Approximately 7%

This frit belongs to the titanium frit series and features a high firing temperature and a low thermal expansion coefficient. It is suitable for ceramic tile bodies with a low thermal expansion coefficient.
It is mainly used to adjust firing temperature and thermal expansion. When the firing temperature of your production line is relatively high, this frit can be used in combination with low-temperature titanium frit.

Applications:
Engobe formulations for double-fired ceramic tiles, single-fired ceramic tiles, and floor tiles.



T8-7HH Titanium Frit

Key Features: High Temperature + High Expansion
Firing Temperature: 1080–1180°C
Thermal Expansion Coefficient: 290
Titanium Content: Approximately 7%

This frit belongs to the titanium frit series and features a high firing temperature and a high thermal expansion coefficient. It is suitable for ceramic tile bodies with a high thermal expansion coefficient and offers good thermal stability and elasticity.
It is also suitable for high-end ceramic tiles. With excellent whiteness and vivid background color development, it enhances the overall appearance and premium look of ceramic products.

Applications:
Waterproof engobe formulations for single-fired ceramic tiles, double-fired ceramic tiles, and floor tiles.

PRODUCT
Engineered Stone Frit



ES-01 Zero-Silica Engineered Stone Frit

Product Type: Crystalline Silica-Free Glass Aggregate for Engineered Stone

This product is a high-performance, silica-free glass frit developed as a crystalline silica-free industrial aggregate for engineered stone slab manufacturing. It is designed to replace traditional quartz-based raw materials in the production of engineered stone slabs, providing an alternative material solution for manufacturers seeking to reduce crystalline silica content in their products.
Its notable advantages include exceptional light transmittance and a soft, natural color tone, effectively replicating the visual texture of natural stone. Additionally, it features low oil absorption, which helps reduce resin consumption, enhance slab density, and optimize production costs.
The product is formulated without crystalline silica and is intended for applications where strict requirements on crystalline silica content apply, including markets such as Australia. Its material positioning is consistent with the industry concept of crystalline silica-free industrial aggregate, a term used by Breton to describe industrial raw materials developed to replace natural quartz in engineered stone slab manufacturing.

Applications:
The product is primarily targeted at engineered stone and quartz slab manufacturers. It is designed for use as an alternative to traditional quartz-based raw materials and is compatible with existing production lines, requiring no significant process adjustments. It provides a raw material solution that balances crystalline silica requirements, aesthetic performance, and processing efficiency.

PRODUCT
Specialty Glass Frits



SG-01 Lead-Free Functional Glass Frit

Our company's Lead-Free Functional Glass Frit is a specialty glass material designed for a range of industrial coating and electronic applications. With different grades available across melting temperature ranges from 330°C to 1,100°C, it can be selected for various formulation and processing requirements.
During heating, the frit melts to form a glassy phase that helps bind coating components and promotes bonding with suitable substrates. It can be incorporated into glass inks, glass enamels, heat-resistant metal coatings, industrial ceramic coatings, and materials for electronic sealing and hermetic packaging. Depending on the formulation and application, it can also be used in electronic insulation and dielectric materials.
Developed for applications requiring specific melting characteristics and material compatibility, RENOVA's functional glass frit provides a versatile material option for industrial coatings and advanced electronic applications.

Key Features:
-Lead-free formulation
-Multiple grades with different melting temperature ranges
-Suitable for glass inks and glass enamels
-Applicable to heat-resistant metal coatings and industrial ceramic coatings
-For electronic sealing, hermetic packaging, insulation, and dielectric applications

Applications:
Glass inks and enamels, heat-resistant metal coatings, industrial ceramic coatings, electronic sealing and hermetic packaging, and electronic insulation or dielectric materials.

PRODUCT
Ceramic Materials



CM-01 Boric Acid

Boric acid is a commonly used boron-based raw material. In the ceramics industry, it serves as an important source of boron oxide (B_2O_3) in frit and glaze formulations, helping lower melting temperatures and control melt flow and glaze gloss.

Applications in Ceramics:
Ceramic frit production and glazes for tiles, sanitaryware and tableware.



CM-02 Alumina

Alumina is a widely used inorganic raw material. In the ceramics industry, it is incorporated into bodies, glazes and frit formulations to control high-temperature melting behavior and surface finish. It can contribute to hardness and wear resistance when matched to the formulation and firing conditions. Suitable specifications can be selected according to the application and production process.

Applications in Ceramics:
Ceramic bodies, glazes and frit formulations for tiles, sanitaryware and tableware.



CM-03 Zirconium Silicate

Zirconium silicate has a high refractive index and good chemical stability. In the ceramics industry, it is widely used as an opacifying and whitening material to improve glaze whiteness and help mask the underlying body color.
We offer different grades and price options to meet varying requirements for opacity, whiteness and production cost. Grade selection can be based on the formulation, addition rate and fired results to balance performance and cost in use.

Applications in Ceramics:
Ceramic bodies, engobes and glazes for tiles, sanitaryware and tableware.

Product
Low-Temperature Frit



L-01 Boron Frit

Firing Temperature: 600–900°C

This frit is designed for ultra-low-temperature applications.

Applications:
Grinding wheels, low-temperature coatings, glass coatings, and other applications.



L-02 High-Lead Frit

Firing Temperature: 500–800°C

This frit is designed for ultra-low-temperature applications.

Applications:
Formulation of low-temperature color glazes and high-gloss glazes, as well as solar cell applications.

Product
Surface Frit



S-01 Polished Glaze Frit

Firing Temperature: 1150–1200°C

This frit is suitable for polished-glaze tiles and rustic tiles.



S-02 Wear-Resistant Frit

Firing Temperature: 1150–1200°C

This frit is mainly used in ceramic tile glaze formulations and provides excellent wear resistance.
After firing, it produces a smooth glaze surface with excellent wear resistance, making it suitable for ceramic products with high requirements for glaze durability.

Applications:
Glaze formulations for polished-glaze tiles, rustic tiles, and other ceramic products.



S-03 Velvet Matte Frit

Firing Temperature: 1150–1200°C
Gloss Level: Approximately 5–8 GU

Velvet Matte Frit provides a distinct velvety, fine-textured matte effect. The gloss level can be adjusted to approximately 5–8 GU while maintaining a fine and smooth glaze surface.

PRODUCT
Matte Frit



M-01 Ceramic Tile Matte Frit

Firing Temperature: 1050–1120°C

This matte frit is designed for ceramic tiles. It provides an excellent matte effect, a fine and smooth glaze surface, good color development, and excellent translucency.

Applications:
Matte glaze formulations for ceramic tiles, rustic glazes for floor tiles, and polished-glaze applications.



M-02 Floor Tile Matte Frit

Firing Temperature: 1100–1150°C

This matte frit is designed for floor tiles. It provides a fine matte effect and is mainly used in rustic glaze and polishing glaze formulations for floor tiles.
The frit has a high initial melting point and is less prone to blistering during firing.

Applications:
Rustic glazes and polishing glazes for floor tiles.

PRODUCT
Transparent Frit



TR-01 Transparent Frit

Firing Temperature: 1060–1130°C

Transparent frit is mainly used in surface glazes for single-fired and double-fired ceramic wall tiles. It provides high transparency, excellent gloss, and a smooth, even glaze surface, together with good stain resistance, corrosion resistance, and wear resistance.

Applications:
Suitable for low-temperature fast firing and surface glaze applications for ceramic wall tiles.



TR-02 Semi-White Frit For Interior Wall Tiles

Firing Temperature: 1080–1120°C

This frit is part of our glaze series for ceramic tiles, providing excellent surface smoothness, with a brightness comparatively lower than that of crystal frits. It offers good opacity, while its firing temperature range is narrower compared to inkjet frits. As a semi-white frit, it is sensitive to temperature fluctuations. Manufacturers must strictly control kiln temperature and firing duration within the recommended range.

Applications:
Suitable for ceramic tile glaze applications requiring excellent surface smoothness and good opacity, with strict control of kiln temperature and firing duration.

PRODUCT
Ceramic Glazes



CG-01 Exterior Wall Tile Glaze

Firing Temperature: 1150–1200°C

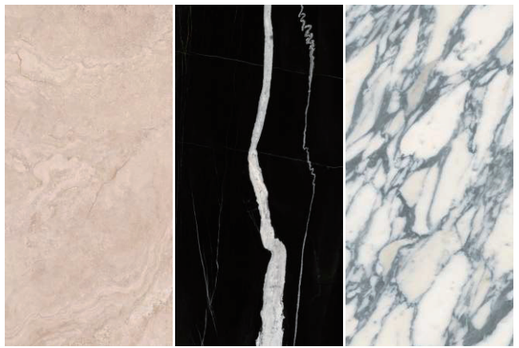
Exterior wall tile glaze is mainly used for exterior ceramic wall tiles in various sizes. It provides good wear resistance, thermal shock resistance, and stain resistance, making it suitable for both white and colored exterior wall tiles.
It offers good color development and high whiteness.



CG-02 Full-Polishing Glaze

Firing Temperature: 1150–1200°C

Full-polishing glaze is mainly used for polished-glaze tiles in sizes such as 600 × 600 mm, 800 × 800 mm, and 1000 × 1000 mm.
It provides slip resistance, stain resistance, and excellent wear resistance. After polishing, the glaze surface achieves very high gloss and an exceptionally smooth, mirror-like finish.
It provides vivid color development without dulling or muting printed colors, making it suitable for digital inkjet printing, screen printing, and other decoration processes.



POLISHED GLAZE PRODUCTS

This product employes frits from our polished glaze series, delivering vibrant color development, high translucency, and superior glossy finish.



RUSTIC TILES

This product employes our frits for rustic tiles, delivering vibrant color development, high translucency, fine-textured glaze, and excellent wear resistance.



INTERIOR WALL CERAMIC TILES

This product employs frits from our titanium series, offering high whiteness, vivid colors consistent tones, and minimal color variation.

STRATEGY

KEY PARTNERS

汉景达陶瓷
HANJINGDA CERAMICS

HANJINGDA Ceramics Co., Ltd. sources engobe frits from our company for interior wall tiles, which exhibit complete impermeability, smooth glaze surface, excellent whiteness, absence of pinholes, vibrant coloration, and resistance to thermal shock with no cracking after 3 cycles at 190°C.

MARCO POLO®

Guangdong Marco Polo Ceramics Co., Ltd. (Case)

Marco Polo tiles is a flagship product of Guangdong Jiamei Ceramics Co., Ltd. Founded in 1988 and headquartered in Dongguan—a renowned hub for modern manufacturing—the company ranks among China's largest manufacturers and distributors of architectural ceramics.

MARCO POLO sources frits from our company for interior wall tiles and rustic tiles.
Interior Wall Tiles: These tiles feature a flat glaze surface, high whiteness, and absolute impermeability. The application rate of the engobe is approximately 10% lower than that of other industry counterparts.

Rustic Tiles: Characterized by a high incipient melting point, superior texture, vivid coloration, and exceptional flatness, these tiles ensure enhanced stability when installed on walls.

WELCOME

CONTACT US

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