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HUAGE FRITS



PRODUCT

HIGH MEDIUM LOW
3 TEMPERATURE RANGES

ENGOBE FRITS
GLAZE FRITS
OTHER FRITS

HIGH, MEDIUM, LOW
3 EXPANSION COEFFICIENT OPTIONS



FOSHAN HUAGE CERAMICS CO., LTD.

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ABOUT Huage

01

Foshan Huage Ceramics Co., Ltd., founded in 2007, is a professional enterprise focusing on the R&D and production of ceramic frits. Its main products include engobe, glazes for rustic tiles, fully polished glazes frits, and glazes for exterior wall tiles.

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 WONDERFUL 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

Huage Ceramics Frits holds a leading position in the industry, with 31 years of industry experience and an annual output of 30,000 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

HUAGE 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. Engobe Frits

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. Glaze Frits

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.



02

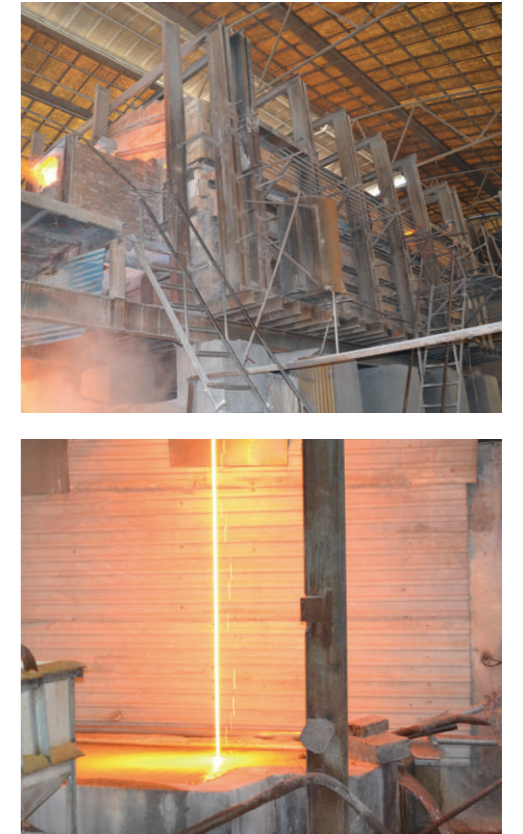


TECHNOLOGY

Expert in China's Frit Production Sector

03

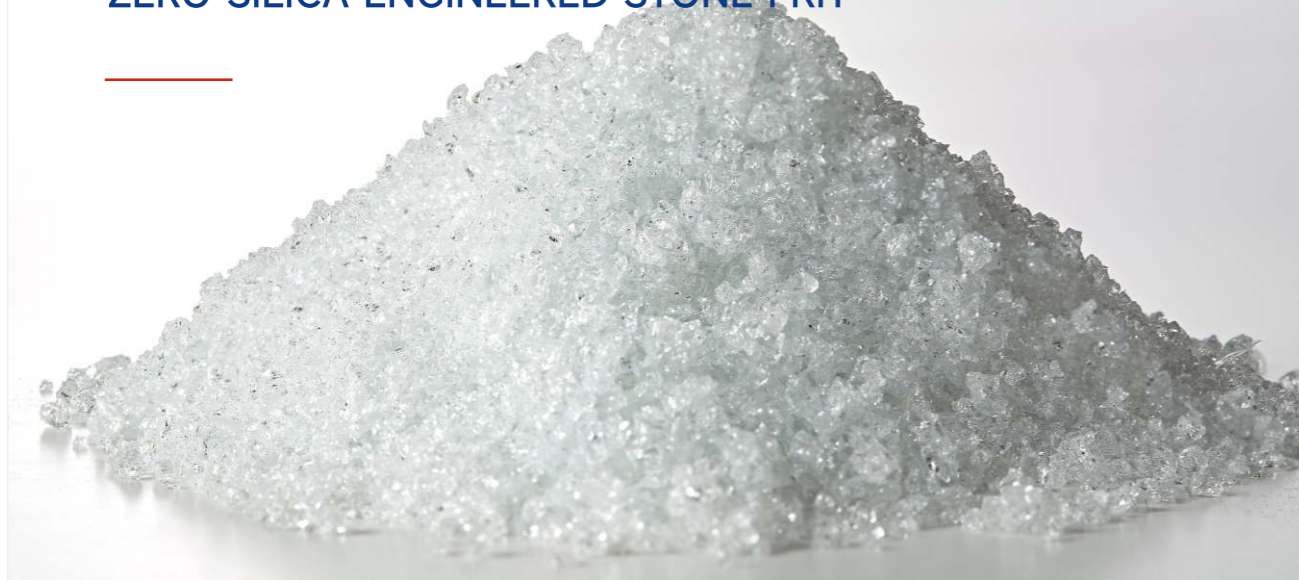
HUAGE FRITS possesses extensive professional expertise and abundant raw material resources. With its own frit production bases in Liling, Zhuzhou City (Hunan Province) and Shandong Province, the company ensures controlling over the production source of raw materials and reducing costs associated with 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.



04

PRODUCT

ZERO-SILICA ENGINEERED STONE FRIT



This product is a high-performance, silica-free frit specifically designed to replace traditional quartz-based raw materials in the production of artificial marble slabs. 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.

Crucially, this frit employs a zero-silica formulation that is completely free of free silica dioxide, complying with strict restrictions on free silica content in slabs imposed by countries such as Australia. This enables smooth export to international markets such as the U.S. that impose restrictions on quartz-based materials.

The product is primarily targeted at quartz slab manufacturers. It is compatible with their existing production lines and requires no significant process adjustments, making it an ideal raw material solution that balances environmental compliance, aesthetic appeal, and processing efficiency.



> BORON FRIT

Application Range: 600°C – 900°C

Suitable for ultra-low temperatures ranging from 600°C to 900°C, this product can be used for grinding wheels, low-temperature coatings, glass coatings, etc.



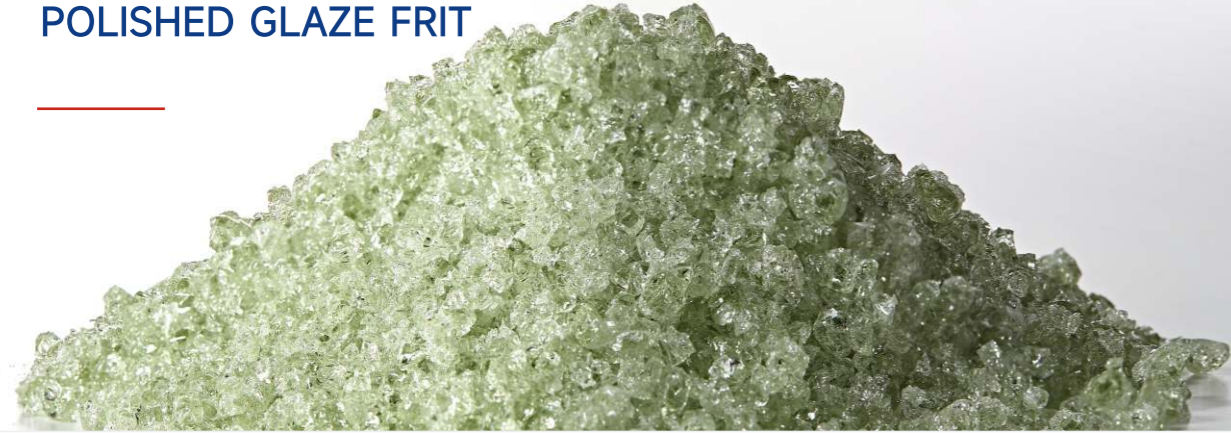
> HIGH-LEAD FRIT

Application Range: 500°C – 800°C

Suitable for ultra-low temperatures ranging from 500°C to 800°C, this product can be used to formulate low-temperature colored glazes, high-gloss glazes, and solar cells.

PRODUCT

POLISHED GLAZE FRIT



	PY01	PY02	PY03	PY05	PY06	PY08	PY09
A12O3	20	19.5	19.26	27.67	29.57	26.7	19.21
SiO2	—	45.5	46.33	42.13	41.59	43.5	49.22
CaO	—	14.3	11.7	8.31	7.01	11.4	18.68
MgO	—	7	2.23	0.42	0.45	0.2	4.17
K2O	—	4.13	3.13	5.67	4.38	4.3	4.85
Na2O	—	2.14	2.14	13.89	13.78	7.1	1.39
BaO	5	8.86	10.42	—	0.42	—	1.47
ZnO	—	—	3.29	—	—	—	—
ZrO	—	—	—	—	2.07	5.9	—
B2O3	—	—	—	—	—	—	—

Composition and Characteristics

Suitable for temperatures ranging from 1150°C to 1200°C, this product can be used for polished glazed tiles and rustic tiles.

> T89 FRIT



Features: High Temperature + High Expansion

Expansion Coefficient: 290 Firing Temperature: 1080-1180°C

This frit is part of our titanium frit series, featuring high firing temperature and high expansion coefficient. It contains approximately 7% titanium and is suitable for green bodies requiring a high expansion coefficient. It offers excellent thermal stability and elasticity, ideal for high-end ceramic tiles. Due to its excellent whiteness and vibrant base color, it significantly enhances the quality and appearance of ceramic products.

It is applicable to engobe for single-fired tiles, double-fired tiles, and floor tiles.

> T8 FRIT



Features: High Temperature + Low Expansion

Expansion Coefficient: 180 Firing Temperature: 1080°C – 1180°C

This frit is part of our titanium frit series, featuring high firing temperature and low expansion coefficient. It contains approximately 7% titanium and is suitable for green bodies requiring a low expansion coefficient. This frit is primarily used to adjust temperature and coefficient of expansion; if your facility operates at higher firing temperatures, it can be used in combination with low-temperature titanium frits.

It is applicable to engobe for double-fired tiles, single-fired tiles, and engobe floor tiles.



> 8063 FRIT

Features: High Temperature + Low Expansion

Expansion Coefficient: 180 Firing Temperature: 1080°C – 1180°C

This frit is part of our titanium frit series, with a titanium content of approximately 9%. It offers excellent thermal stability and elasticity, making it ideal for high-end ceramic tiles. Due to its excellent whiteness and vibrant base color, it significantly enhances the quality and appearance of ceramic products.

It is applicable to engobe for single-fired tiles, double-fired tiles, and floor tiles.



> 301 FRIT

Features: Low Temperature + Low Expansion

Expansion Coefficient: 220 Firing Temperature: 1050–1100°C

This frit is part of our titanium frit series, featuring a low firing temperature and medium expansion coefficient, with a titanium content of around 7%. It is suitable for green bodies requiring low expansion coefficients, offering good thermal stability and excellent elasticity.

This frit is primarily applicable to engobe in double-fired tiles and serves as a flagship product in this application.



> T9 FRIT

Features: Medium Temperature + High Expansion

Expansion Coefficient: 320 Firing Temperature: 1050–1120°C

This frit is part of our titanium frit series, exhibiting a high expansion coefficient and a titanium content of approximately 7%, which is suitable for green bodies requiring a high coefficient of expansion, ideal for high-end ceramic tiles. Due to its excellent whiteness and vibrant base color, it significantly enhances the perceived quality of ceramic products.

It is applicable to engobe for both double-fired tiles and floor tiles.



> SEMI-WHITE FRIT FOR INTERIOR WALL TILES

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 of approximately 1080–1120°C.



> POLISHED GLAZE PRODUCTS

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



> INTERIOR WALL CERAMIC TILES

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



> RUSTIC TILES

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

STRATEGY

KEY PARTNERS



Hubei Hangrui Ceramics Science and Technology Co., Ltd. sources engobe frits from HUAGE 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.



GUANGDONG MARCO POLO CERAMICS CO., LTD. (CASE)

Marco Polo tiles is a flagship product of Dongguan City Wonderful Ceramics Industrial Part 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 HUAGE 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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