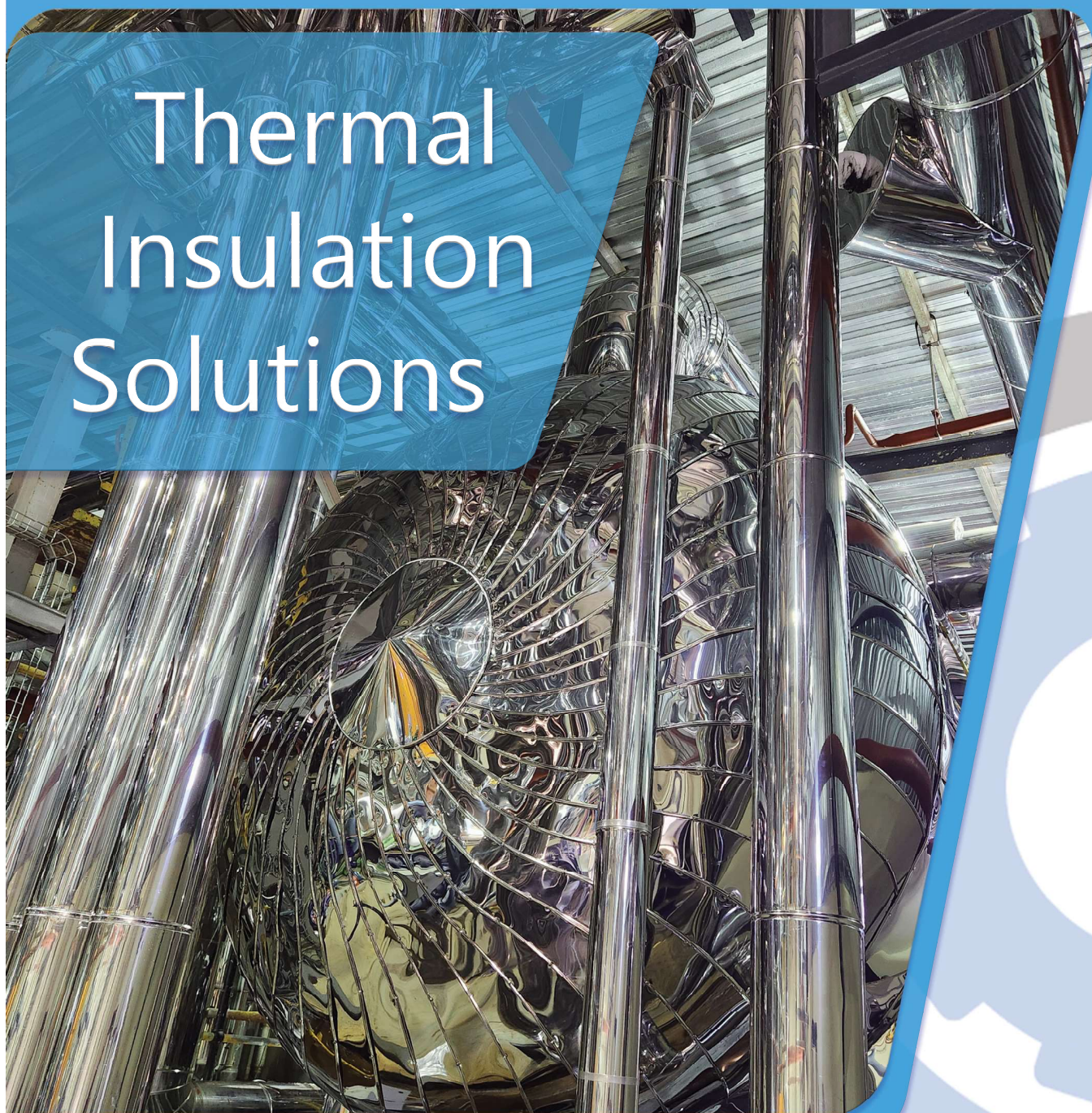




Company Profile

Thermal
Insulation
Solutions



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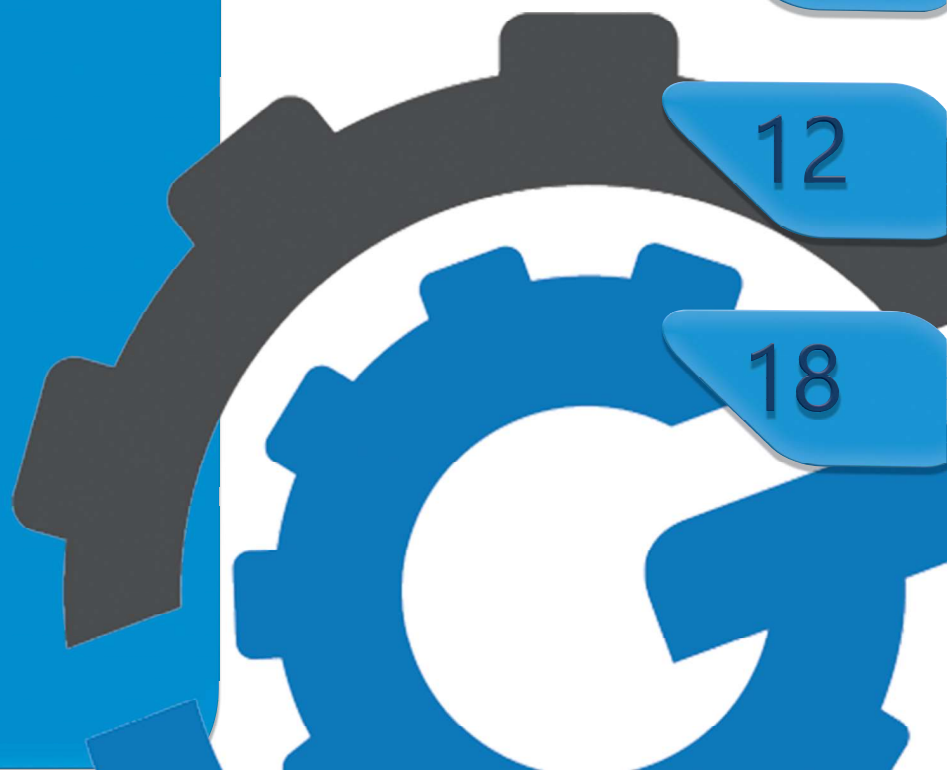
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INTRODUCTION

At Kuagiza, we specialize in providing advanced thermal and industrial solutions tailored to meet the unique needs of diverse industries. Leveraging years of expertise, we offer a comprehensive range of products including Fabric Expansion Joints, Removable Insulation Covers, and Metal Expansion Joints. Our innovative offerings extend to Heat Shields, Furnace Curtains, Extreme Work Pads, and Firesleeving.

With a dedicated team of sheet-metal fabrication artisans, we pride ourselves on delivering turn-key solutions for any thermal insulation project, ensuring bespoke cladding solutions that adhere to the highest specifications.

From tackling specific challenges in steel production plants to ensuring energy efficiency in hospitality settings, our commitment is to offer specifically designed solutions for specific problems, emphasizing efficiency, safety, and unparalleled quality.

A background image of an industrial facility with complex piping, valves, and machinery. A large blue semi-transparent shape is overlaid on the left side, containing the text. A thick black diagonal line is positioned to the right of the text.

“Sealing in the
heat,
Locking out the
losses”

INDUSTRIES WE SERVE

Our solutions cater to a wide spectrum of industries, including but not limited to:

- ⚙ Metallurgical and Steel Production
- ⚙ Food and Beverage Processing
- ⚙ Petrochemical and Refineries
- ⚙ Pharmaceuticals
- ⚙ Power Generation
- ⚙ Chemical Manufacturing
- ⚙ Pulp and Paper
- ⚙ Cement Production
- ⚙ Textile Manufacturing
- ⚙ Marine and Shipbuilding



At Kuagiza, we are not just service providers; we are your partners in progress. With our thermal insulation solutions, we not only promise operational enhancements but also contribute to the broader goals of energy conservation and environmental sustainability.



CONTRACTING

In the world of thermal insulation, precision, expertise, and adaptability are paramount. Our insulation installation team stands as a beacon of all three. Bolstered by a group of adept sheet-metal fabrication artisans, we are well-positioned to offer comprehensive, turn-key solutions tailored to any thermal insulation requirement.

Our distinct advantage lies in our ability to blend innovation with craftsmanship. Every project is approached with a commitment to delivering bespoke cladding solutions, crafted meticulously to match the highest of specifications.

Tailored to perfection.
Trusted for performance.

On-Site Fabrication and Installation:


Our team's prowess doesn't end at crafting impeccable insulation solutions. We understand the dynamics of various industries and the need for efficiency. Hence, our installation teams are equipped and trained to fabricate and install directly on-site. This ensures not only a perfect fit but also minimizes downtime, thereby driving operational efficiency.



CONTRACTING

Diverse Cladding Specializations Include:

- ⚙️ Steam Pipe Cladding: Designed to handle the intensity and ensure energy conservation.
- ⚙️ Boiler Cladding: Tailored to withstand and maintain the heat, maximizing efficiency.
- ⚙️ Ammonia Pipes: Ensuring safety and performance in the most challenging environments.
- ⚙️ Water Lines: Enhancing longevity and maintaining temperature integrity.
- ⚙️ Tanks: Custom solutions that fit every shape, size, and purpose.
- ⚙️ Ducting - HVAC: Delivering optimal airflow and energy conservation in heating, ventilation, and air conditioning systems.
- ⚙️ Heat Exchangers: Precision cladding to ensure the best in heat transfer and system efficiency.
- ⚙️ Refrigeration Systems: Keeping coolants/refrigerants at their desired temperatures, irrespective of external conditions.
- ⚙️ Vessels: Guaranteeing consistent temperature maintenance ensuring quality and safety.
- ⚙️ Traced Lines: Enhancing the performance of temperature sensitive lines.
- ⚙️ Product Lines: Assuring that products maintain their ideal temperatures during processing or transportation.
- ⚙️ Autoclaves: Ensuring the most effective sterilisation processes with optimal thermal regulation.
- ⚙️ Kilns: Achieving uniform temperature distribution for optimal production outputs.



At the core of our services lies an unwavering commitment to excellence, a promise to deliver beyond expectations, and a drive to continuously innovate. Our insulation installation team isn't just a service provider; they are partners in ensuring your operations are efficient, safe, and sustainable.

CONTRACTING

Our portfolio showcases a diverse range of successfully completed projects, demonstrating our versatility and expertise across various industries. From effluent treatment plants for steel producers to specialized HVAC systems in prestigious hotels and hospitals, our breadth of work stands testament to our commitment to quality and precision. Whether implementing cold insulation in bottling plants or crafting bespoke protection sleeves for overhead cranes, each project underscores our unwavering dedication to meeting the unique needs of our clients. Explore our detailed list to witness the depth of our experience and the breadth of our capabilities.

Industrial Plants & Producers:

- Effluent Treatment Plant for a Steel Producer
- Furnace Ducting for Steel Producers
- Oxygen Piping for Lead Recycler
- Furnace Ducting for a Cement Plant
- Exhaust Ducting for Foundries

Food & Beverage Facilities:

- Abattoirs: Piping and Tanks
- Breweries: Pipes and Tanks
- Bottling Plants: Cold Insulation

Smelting & Refining:

- Smoke Hoods for a Ferro-Silicone Smelter
- Protection Pads for a Ferro-Chrome Smelter
- Firesleeving for the Smelting Industry

Commercial & Healthcare:

- HVAC Ducting: Hotels and Hospitals

Specialized Solutions:

- Bespoke Protection Sleeves for Overhead Cranes



PROJECT PORTFOLIO

Project Name:	Client:	Type:	Value (ZAR)	Completion
Eskort Heidelberg	PH Energy Systems	Ammonia and Glycol Refrigeration New Build Vessel and +- 5500m of piping	R 7 500 000	Sep-23
Mpact – Springs Mill	MPACT	Boiler Repairs and Maintenance	R950 000	Ongoing Maintenance
Kingsley Beverages – Midrand	PH Energy Systems	Glycol Refrigeration	R250 000	Jan-23
Lancewood Cheese (George)	Libstar Holdings	Glycol Refrigeration	R 1 750 000	Nov-22
SAB Ibhayi	Lehui	Hot Insulation/Steam	R 500 000 (Labour Only)	Aug-23
SAB Rosslyn	Colin Brown Engineering	Hot Insulation	R1 000 000	Ongoing Maintenance/Projects
Various	John Thompson	Boiler Repairs and Maintenance	R 1 000 000	Ongoing Maintenance/Projects
Motolube	Motolube	Hot Insulation	R800 000	Oct-22
UNIQUE Dairy	PH Energy Systems	Cold Insulation	R250 000	Ongoing Maintenance/Projects
Chubby Chick	PH Energy Systems	Cold Insulation	R150 000	Ongoing Maintenance/Projects
SASKO Clayville	PH Energy Systems	Hot and Cold Insulation	R100 000	Ongoing Maintenance/Projects
Columbus ETP	Columbus Stainless	New ETP Boiler and Piping	R350 000	Jul-22

TAILORED SOLUTIONS

In the complex landscape of industrial needs, a one-size-fits-all approach simply won't do. Every challenge is unique, demanding a solution that's precisely tuned to its intricacies. Why settle for a generic fix when the specifics of your issue call for a meticulously tailored solution?

With our deep expertise and a commitment to understanding the nuances of each client's needs, we craft solutions that are not just effective, but perfectly aligned to address your distinct challenges.

Choose precision, choose customization, choose the best fit for your specific problem.

Choose our tailored solutions.

- ⚙️ Fabric Expansion Joints,
- ⚙️ Removable Insulation Covers
- ⚙️ Metal Expansion Joints
- ⚙️ Heat Shields:
 - ⚙️ Furnace Curtains
 - ⚙️ Extreme Application Shields
 - ⚙️ Firesleeving and Hose Protection

"Why settle for a generic fix when the specifics of your issue call for a meticulously tailored solution? "

All our products encapsulate our commitment to quality, innovation, and the bespoke needs of our clients, ensuring optimal functionality and longevity. Trust in our solutions to provide the reliability and precision your operations demand.

FABRIC EXPANSION JOINTS

Fabric expansion joints, also known as compensators, are essential in many industrial settings, being incorporated in duct and piping systems to manage thermal expansion, vibration, and misalignment. The appropriate selection ensures minimal disruptions and gas leakages, bolstering reliable plant operations up to scheduled maintenance intervals.



Common Uses:

- ⚙ Power plants
- ⚙ Metal smelters
- ⚙ Sugar and cement plants
- ⚙ Pulp/paper mills
- ⚙ Food processing
- ⚙ Petrochemical sector.

- ⚙ Accommodate multi-directional movements.
- ⚙ Impose low reactive forces on ductwork.
- ⚙ Offer superior heat retention, with outer surfaces kept at lower temperatures for personnel safety.
- ⚙ Suitable for confined spaces.
- ⚙ Transport and installation-friendly.
- ⚙ Crafted using diverse materials with optimal thermal, chemical, mechanical resistance, and fatigue/stress properties, they provide both technical and financial efficiency.

REMOVABLE INSULATION COVERS

Removable insulation covers offer energy-saving solutions tailored to industrial insulation needs. Custom-made by experienced engineers and skilled artisans, these covers guarantee a perfect fit, allowing easy access to valves, pumps, and equipment. This design negates the need for frequent insulation removal, enabling swift cover removal and reinstallation in under 5 minutes. Various securement methods, from Velcro to lacing hooks, cater to diverse applications. Our team's expertise shines in crafting bespoke solutions for unique challenges.



- ⚙ Minimized maintenance downtime.
- ⚙ User-friendly application (minimal tools).
- ⚙ Cost-effective maintenance..
- ⚙ Enhanced personal safety.
- ⚙ Sound reduction and eco-friendly, asbestos-free materials.
- ⚙ Optimal radiant heat loss control.
- ⚙ Durability with features like weatherproofing, acid resistance, and corrosion prevention.
- ⚙ Energy efficiency and custom fitting.

METAL EXPANSION JOINTS

Kuagiza stands at the forefront of expansion joint technology, excelling in the design, production, and distribution of a diverse range of expansion joints, including those made of steel, stainless steel, composite fabric, PTFE, and rubber.

These flexible components, commonly referred to as bellows, play a crucial role in compensating for thermal expansion in piping and ducting systems and provide essential vibration dampening. Our products have become indispensable across various industries, such as cement, fertilizer, sugar, paper, petrochemical, and steel, and are widely employed in the mining, shipping, and energy sectors.

We take pride in our capability to produce sizes ranging from 15mm to over 6 meters in diameter, utilizing a wide array of stainless steel grades and high nickel alloy materials. Every metal bellow we produce adheres to the stringent EJMA standards, with welding processes that meet the ASME IX code.

Flexibility forged in steel



HEAT SHIELDS

Leveraging an innovative multi-layered design, our thermal shielding solutions are crafted with a unique combination of materials for superior protection. These include our proprietary S-TEX fabric, Vermiculite Coated Silica Cloth, NASA-grade Silica Knitted Blanket, and E-glass needle mat. This advanced composition has been pivotal in delivering exceptional thermal radiation protection for clients operating Electric Arc Furnaces, Argon Oxygen Decarburization (AOD) Converters, and similar high-temperature environments. Our solutions are specifically designed to safeguard hoses, sensors, and critical structures under challenging operating conditions, ensuring safety and efficiency in these demanding settings.



Furnace Curtains

Designed to withstand intense heat and offer enhanced protection in industrial settings. Perfectly tailored for furnaces, these curtains not only protect equipment but also significantly reduce heat loss, ensuring energy efficiency.

Firesleeving & Hose Protection

An essential component in many industries, our firesleeving offers an added layer of protection against flame and extreme heat. Made with precision, it acts as a shield, safeguarding hoses, cables, and wires from potential fire hazards, ensuring continuity of operations and peace of mind.

Extreme Work Pads:

For work environments that demand added resilience, our Extreme Work Pads are the answer. These pads have been engineered to provide a safe working surface, even under the most challenging conditions. Whether it's for maintenance tasks or routine checks, these pads elevate the safety standard.

PRODUCT PORTFOLIO

We've dedicated ourselves to providing comprehensive thermal insulation solutions that not only meet but exceed the unique demands of varied industries. Our selection of top-tier insulation materials is a testament to our commitment to quality, innovation, and sustainability.

Here's a snapshot of our esteemed product range:

Lavaguard

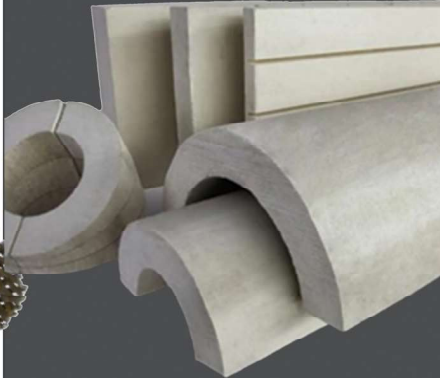


Application: This phenomenal product has proven to be a firm favourite amongst our steel producing clients.

Range: -260°C to 800°C (with an intermittent resistance of up to 1 300°C)

Our flagship product for hose and cable protection manufactured from woven basalt fibre, industry proven and versatile.

Calcium Silicate



Application: Predominantly for high-temperature pipe and equipment insulation. Lauded for its strength and rigidity, it's a stalwart in the insulation domain.

Range: Ambient to 650°C

Mineral wool (Rockwool)



Application: A versatile choice, mineral wool is trusted across numerous setups including pipes, vessels, and equipment, offering unmatched thermal properties.

Range: Ambient to 982°C

PRODUCT PORTFOLIO

From kilns to coolers,
we've got you covered!

Fibreglass



Application: Its adaptability in form—from flexible blankets to rigid boards—makes fiberglass a popular choice for diverse high-temperature applications.

Range: Ambient to 538°C

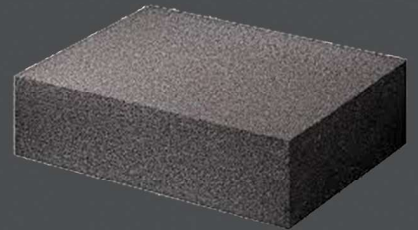
Ceramic Fiber



Application: For extreme environments, like furnaces and kilns, ceramic fiber provides the necessary resilience and efficiency.

Range: Ambient to 1 260°C

Cellular Glass



Application: With its innate resistance to moisture and adaptability to both cold and hot environments, cellular glass is a holistic insulation choice.

Range: -268°C to 427°C

PRODUCT PORTFOLIO

Diverse offerings,
dedicated solutions

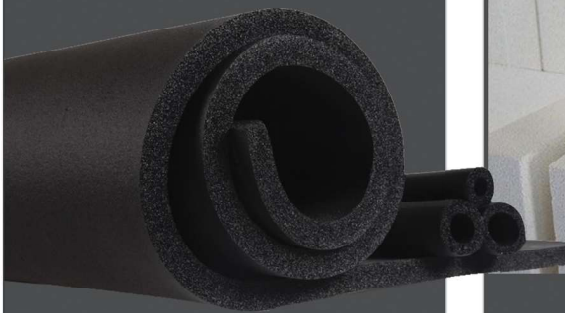
Aerogel Blankets



Application: Where space is at a premium, these blankets with their slender profiles and unparalleled thermal conductivity come into play.

Range: Ambient to 815°C

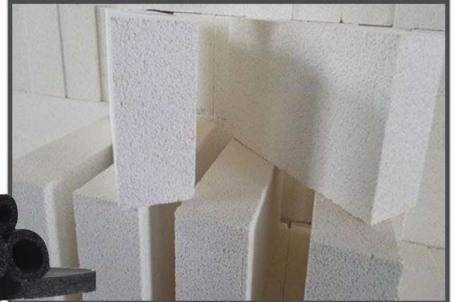
Flexible Elastomeric Foams



Application: Though predominantly recognized for cold applications, they're adept for mild heat insulation too.

Range: -183°C to 104°C

Insulating Firebricks



Application: With their lightweight build, they're the cornerstone of insulation for kilns, furnaces, and other high-temp operations.

Range: Ambient to 1 760°C

PRODUCT PORTFOLIO

From vast variety

to tailored touches

Rigid Foam Boards



Application: An all-rounder, these boards, especially polyisocyanurate variants, are trusted for a broad spectrum of industrial insulation needs.

Range: Ambient to 149°C

Molded Insulation



Application: Custom-crafted insulation to seamlessly align with specific equipment or components, maximizing efficiency and fit.

Coatings & Mastics



Application: Beyond primary insulation, these protective solutions are layered to guard against environmental adversities and mechanical damages while amplifying heat retention.

PRODUCT PORTFOLIO

PTFE Coated Silica Cloth

Supersil Silicone
Coated E-Glass ClothS-TEX Vermiculite
Coated Silica Cloth

S-TEX Silica Fabrics are made from 6-micron silica fibre filimanet yarns

- 🔥 Max Working Temperature 550°C
- 🔥 Short Term Exposure: 750°C
- 🔥 High Temperature Stability
- 🔥 Excellent Thermal Shock Resistance
- 🔥 Extremely Low Thermal Conductivity 0,03-0,0038 (w/m-K)
- 🔥 High Chemical Resistance
- 🔥 Incombustible to standard DIN 4102 A2
- 🔥 High Mechanical Strength
- 🔥 Excellent Electrical and Di-Electric Properties

No Chemical Binders, No Irritation!

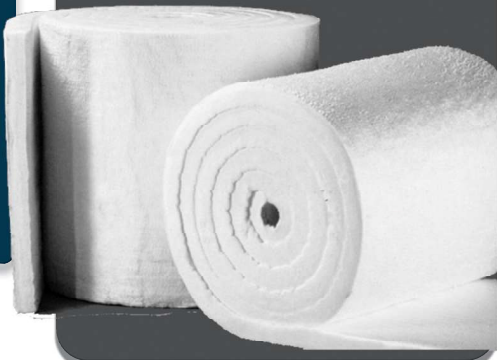
- 🔥 Max Working Temperature 250°C
- 🔥 Short Term Exposure: 550°C
- 🔥 Non-Halogenic
- 🔥 Excellent Molten Splash Protection
- 🔥 Water Repellent
- 🔥 Incombustible to standard DIN 4102 A2
- 🔥 High Mechanical Strength
- 🔥 Excellent for Welding Curtains
- 🔥 Excellent Electrical Insulation and Di-Electric Properties

- 🔥 Max Working Temperature 1100°C
- 🔥 Short Term Exposure: 1400°C
- 🔥 High Temperature Stability
- 🔥 Excellent Thermal Shock Resistance
- 🔥 Extremely Low Thermal Conductivity 0,03-0,0038 (w/m-K)
- 🔥 High Chemical Resistance
- 🔥 Incombustible to standard DIN 4102 A2
- 🔥 High Mechanical Strength

Vermiculite Coatings for Molten Splash Protection

PRODUCT PORTFOLIO

Ceramic Fibre Blanket



PTFE Coated Glass Cloth



S-TEX Knitted Blanket



🔥 Max Working Temperature
1 315°C

- 🔥 Low thermal conductivity
- 🔥 Very low heat storage with high tensile strength
- 🔥 Provides both thermal shock resistance and sound absorption
- 🔥 Quick repairs. Should lining damage occur, furnace can be cooled quickly
- 🔥 Contains no binder, no fumes or furnace atmosphere contamination
- 🔥 Contains no asbestos
- 🔥 No curing or dry out time. Lining can be fired to operating temperature immediately

🔥 Max Working Temperature 500°C

- 🔥 Short Term Exposure: 550°C
- 🔥 Non-Halogenic
- 🔥 Excellent Molten Splash Protection
- 🔥 Water Repellent
- 🔥 Incombustible to standard DIN 4102 A2
- 🔥 High Mechanical Strength
- 🔥 Excellent for Welding Curtains
- 🔥 Excellent Electrical Insulation and Di-Electric Properties

🔥 Max Working Temperature 1100°C

- 🔥 Short Term Exposure: 1400°C
- 🔥 High Temperature Stability
- 🔥 Excellent Thermal Shock Resistance
- 🔥 Extremely Low Thermal Conductivity 0,03-0,0038 (w/m-K)
- 🔥 High Chemical Resistance
- 🔥 Incombustible to standard DIN 4102 A2
- 🔥 High Mechanical Strength

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