



Your Reliable Partner for Safety

GUJU

TECHNOLOGY





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GEO

Guju Penetration Seal System Product

Guju Technology's Penetration Seal System is a high-performance, silicone-based compound engineered to effectively seal penetrations and openings that could serve as flame spread paths.

Designed for critical safety, this advanced system is both fire retardant and radiation resistant, making it the trusted choice for nuclear power plants, as well as commercial buildings, substations, and large industrial facilities.

Backed by over 30 years of proven expertise, Guju Technology designs, manufactures, and installs these systems under rigorous Nuclear Quality Assurance (QA) program, delivering products and services that meet the highest standards of safety, reliability, and regulatory compliance demanded by the nuclear and high-risk industrial sectors.

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GUJU TECHNOLOGY



1992~2009

1992. 07
GUJU Technology Inc. founded

1998. 04.
Became an exclusive agent for Curtiss-Wright Corp.
(Nuclear Industry)

2003. 09.
Built a factory in Chungju, Korea

2003. 10.
ISO 9001:2000 Certificate / BSI

2004. 05.
Established research and development center

2009. 04.
Nation's first KRC Certificate for long rod
insulators for railways

2009. 09.
Acquired specialty contractor license
(Specialty painting construction)

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2010 ~ 2014

2010. 01.
Registered as a subcontractor of Korea Hydro &
Nuclear Power [KHNP]

2010. 07.
ISO 14001:2004 Certificate / BSI

2010. 09.
Brand registration (GEOSEAL, GEOGROUT, GEOCOAT-GTI)

2011. 01.
Registered as an opening & penetration seal contractor of
KHNP

2013. 01.
Registered as an opening & penetration seal detailed
design and inspection service provider of KHNP

2014. 04.
Registered engineering business (Electric, Machinery) /
KENCA

2014. 09.
Received the Minister Award
(Polymer Insulators for High-speed Railways) /
Ministry of Trade, Industry and Energy



2015 ~ 2019

2015. 03.
OHSAS 18001:2007 Certificate / BSI

2015. 04.
Received the Nuclear Technology Award / Ministry of
Science, ICT and Future Planning

2015. 06.
Contract for UAE Barakah Nuclear Plant
#1, #2 penetration seal (Material and Construction)

2016. 10.
Established PT. Gunabangsa Teknik Industri
(Factory near Jakarta, Indonesia)

2016. 12.
Contract for UAE Barakah Nuclear Plant
#3, #4 Penetration Seal (Material and Construction)

2018. 07.
Received Best Quality Award (Elbow Connector for
Switchgear) from
Korea Electric Power Corp. (KEPCO)

2019. 06.
Acquired Jinkwang ENC. (Switchgear)



2020 ~ 2024

2020. 02.
Built a factory in Naju, Korea near KEPCO's HQ

2021. 03.
Contract for Saeul Nuclear Plant #3,
#4 Penetration Seal / KHPN (Material and Construction)

2022. 10.
Awarded 'Excellent Subcontractor' /
KHPN (two years in a row)

2023. 09.
Developed Poll mounted and Pad mounted Transformers /
KEPCO registered

2024. 09.
Expanded the Naju Factory

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GUJU TECHNOLOGY

Nuclear Power Products & Services

Penetration Seal System

- Silicone based fire protection seal system for opening and penetration
- High density non-shrink grout qualified for fire, ventilation, flood, compartment pressurization, and radiation seals.



Engineering for Nuclear Power Plant

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- Engineering and On-Site Evaluation for the Opening & Penetration Seal
- Detailed Design and Inspection of Painting



Sales Rep. for Curtiss-Wright

- Scientech
- Target rock
- Enertech
- Rizzo International, Inc

**CURTISS -
WRIGHT**

RIZZO
INTERNATIONAL, INC.

Power Distribution Products

Switch Gears

- Cubicle Type Switchgear
- Load Break Switch
- Recloser / Sectionalizer



Transformer

- High-efficient Pole Transformer
- Pad Mounted Transformer
- Amorphous Transformer
- Distribution Transformer



Power Distribution Products

- Insulators for Distribution
- Insulators for Railways & High-speed train
- Lightning arresters & Cut out switches
- Cable connectors
- Metal Accessories



Low Density Silicone

GEOSEAL80 consists of two-component low density silicone foam and is a sponge type with elasticity after curing. It is qualified for Fire and Ventilation seals for nuclear power plant.



PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	2-3 hours (ASTM E814, UL1479)
Ventilation Seal	Yes
Radiation Resistance	1×10^5 Gy
Surface Burning Characteristics	Class 'A' (NFPA/IBC)

STANDARD

Classification	Feature
Color	'A' : Black, 'B' : Off White
Main Component	Silicone
Package	A : 20kg, B : 20kg (40kg/SET)
Mixing Ratio	1:1 (A&B)
Expansion rate	200 ~ 300%
Pot time	1~3min
Curing time	24 hours
Specific Gravity (after curing)	0.224~0.448
Service Temperature	400°F (204°C)
Shelf life	12 months
Limiting Oxygen Index	39 (KS M ISO 4589-2)
Thermal conductivity	0.081W/(m.K) (ASTM C518)
Volume Resistance	1.00×10^{15} Ω·cm (ASTM D257)
Dielectric Breakdown Strength	3.9 kV/mm (ASTM D149)
Flame Resistance Test	V-0 (UL94)
Halogen	Free
Asbestos	Free



PROPERTIES

Uses	Sealing opening & penetration for Tray, Conduit, Electrical Bus Duct
Installation	Store the material at room temperature for 12 hours before work (Recommendation) Clean surface of opening & penetration Install Dam First Mixing : Mix the material in each package of A & B for more than 3 minutes Second Mixing: Mix the materials of A & B together after first mixing for less than 1 minute Pouring, then remove dam and finish surfaces after 24 hours
Storage	Avoid direct sunlight and store it in the range of 5°C to 60°C at a well-ventilated dry place
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands Non-reusable products after opening.

*The data is for information purposes only, not available for design data.

High Density Silicone

GEOSEAL150 consists of two-component high density silicone.

It is qualified for Fire, Ventilation, Flood, Compartment Pressurization, and Radiation seals for nuclear power plant.



PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	2-3 hours (ASTM E814, UL1479)
Flood Seal	≤ 0.01 gallon/min (21.7psi)
Compartment Pressurization Seal	≤ 0.001 cfm/ft · psid (5/10, 24/48psid, 360°F)
Ventilation Seal	Yes
Radiation Seal	1×10^6 Gy
Surface Burning Characteristics	Class 'A' (NFPA/IBC)

STANDARD

Classification	Feature
Color	A : Grey, B : Off White
Main Component	Silicone
Packing	A:20kg,B:20kg (40kg/SET)
Mixing Ratio	1:1 (A&B)
Pot time	30 minutes
Curing Time	24 hours
Specific Gravity (after curing)	Above 2.24
Service Temperature	400°F (204°C)
Shelf life	12 months
Limiting Oxygen Index	57 (KS M ISO 4589-2)
Thermal conductivity	1.05W/(m.K) (ASTM C1113)
Volume Resistance	1.98×10^{12} Ω·cm (ASTM D257)
Dielectric Breakdown Strength	3.1 kV/mm (ASTM D149)
Flame Resistance Test	V-0 (UL94)
Halogen	Free
Asbestos	Free

PROPERTIES

Uses	Sealing opening & penetration for Tray, Conduit, Electrical Bus Duct, and Pipe
Installation	Store the material at room temperature for 12 hours before work (Recommendation) Clean surface of opening & penetration Install Dam First Mixing : Mix the material in each package of A & B for more than 5 minutes Second Mixing: Mix the materials of A & B together after first mixing for more than 3 minutes Pouring, then remove dam and finish surfaces after 24 hours
Storage	Avoid direct sunlight and store it in the range of 5°C to 60°C at a well-ventilated dry place
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands Non-reusable products after opening.

*The data is for information purposes only, not available for design data.



I High Density Grout

GEOGROUT150 is a pre-mixed high density non-shrink grout that can be used mixing with only water in the field. It is qualified for Fire, Ventilation, Flood, Compartment Pressurization, and Radiation seals for nuclear power plant.



PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	2-3 hours (ASTM E814, UL1479)
Flood Seal	≤0.01gallon/min (21.7psi)
Compartment Pressurization Seal	≤0.001cfm/ft · psid(5/10, 24/48psid, 360°F)
Ventilation Seal	Yes
Radiation Seal	1X10 ⁶ Gy
Surface Burning Characteristics	Class 'A'(NFPA/IBC)

STANDARD

Classification	Feature
Color	Indian Red
Main Component	Cement
Packing	25kg/bag
Mixing ratio with water	4~4.6 l/bag
Mixing Temperature range	20±3°C
Liquidity	10 ~ 30 sec (ASTM C939)
Bleeding	No visible (ASTM C940)
Pot time	30 min
Curing Time	7 days
Expansion / Shrinkage rate	below0.3% / None Shrinkage (ASTM C1090)
Specific Gravity (After curing)	above 2.24
Compressive Strength	above 4,000psi (28days)
Service Temperature	200°F(93°C)
Shelf life	Valid for LOT period
Thermal conductivity	0.92W/(m.K) (ASTM C1113)
Halogen	Free
Asbestos	Free

PROPERTIES

Uses	Sealing of openings & penetrations for Conduits and pipes
Installation	Clean the opening & penetration surfaces Install Dam Mix the product with water [4~4.6l/bag] for more than 2 min±10sec Pouring, Remove Dam after 1 to 5 curing days and surface cleaning
Storage	Avoid direct sunlight and store it in the range of 5°Cto 60°C at a well-ventilated dry place
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands Non-reusable products after opening.



I Non-Shrink Grout

GEOGROUT120 is a pre-mixed non-shrink grout that can be used mixing with only water in the field. It is qualified for Fire, Ventilation seals for nuclear power plant.



PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	3 hours (ASTM E814)
Ventilation Seal	Yes
Surface Burning Characteristics	Class 'A'(NFPA/IBC)

STANDARD

Classification	Feature
Color	Grey
Main Component	Cement
Packing	25kg/bag
Mixing ratio with water	4.6l/bag
Mixing Temperature range	20±5°C
Liquidity	10 ~ 30 sec (ASTM C939)
Bleeding	No visible (ASTM C940)
Pot time	30 min
Curing Time	7 days
Expansion / Shrinkage rate	below0.3% / None Shrinkage (ASTM C1090)
Specific Gravity (After curing)	above 2.15
Compressive Strength	above 6,500psi (28days)
Service Temperature	300°F(149°C)
Shelf life	Valid for LOT period
Halogen	Satisfy for Reg. 1.36 (ASTM C795)
Asbestos	Free
Chloride	below 300ppm

PROPERTIES

Uses	Sealing opening for Conduit besides machinery foundation's substructure that receives high impact
Installation	Clean the opening & penetration surfaces Install Dam Mix the product with water [4.6l/bag] for 3 min Pouring, Remove Dam after 1 to 5 curing days and surface cleaning
Storage	Store above 5°C and below 60°C in a closed container and in cool, dry location.
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands Non-reusable products after opening.



Boot Fabric

GEOSEAL730 (Boot fabric) consists of reinforced glass fiber with silicone rubber and can be used for movement requirement of mechanical penetration items.

It is qualified for Ventilation, Flood, and Compartment Pressurization seals for nuclear power plant.



PRODUCT PERFORMANCE

Classification	Feature
Flood Seal	$\leq 0.01\text{gallon/min (21.7psi)}$
Compartment Pressurization Seal	$\leq 0.001\text{cfm/ft} \cdot \text{psid} (5/10, 24/48\text{psid}, 360^\circ\text{F})$
Ventilation Seal	Yes
Radiation Resistance	$1 \times 10^5\text{Gy}$
Surface Burning Characteristics	Class 'A' (NFPA/IBC)

STANDARD

Classification	Feature
Color	Dark Blue
Main Component	Reinforced glass fiber and Silicone
Thickness	0.031" (0.79mm) Min.
Packing	0.9m X 30m / roll (27m ²)
Service Temperature	400°F (204°C)
Shelf life	60 months
Dielectric Breakdown Strength	9.4 kV/mm (ASTM D149)
Thermal conductivity	0.171W/(m.K) (ASTM C518)
Halogen	Free
Asbestos	Free



PROPERTIES

Uses	Sealing opening with movement for Piping, Duct.
Installation	Clean and dry the penetration surfaces. Design and cut the boot. Fix the boot with steel plate, screw, clamp, sealant. * In case of nuclear power plant, inner sleeve, ceramic fiber, and high density grout are required as per detailed installation drawing.
Storage	Avoid direct sunlight and store it in the range of 5°C to 60°C at a well-ventilated dry place
Caution	Be careful not to be torn the product

*The data is for information purposes only, not available for design data.

RTV Foam Pad (Joint Filler)

GEOSEAL80 RTV Foam Pad is a pre-expanded low density silicone like sponge pad.

It can be used for sealing in high-rise buildings, power plants, chemical plants and oil refineries as a fire resistance penetration sealing system.



PRODUCT PERFORMANCE

Classification	Feature
Fire Resistance	2 hours (Vertical and Horizontal) Regulation by MOLIT of Korea government
	KS F ISO 10295-1, KS F 2257-1
Radiation Resistance	$1 \times 10^5\text{Gy}$
Surface Burning Characteristics	Class 'A' (NFPA/IBC)

STANDARD

Classification	Feature
Color	BLACK
Size	500W X 500H X 30, 50, 75T
Main Component	Silicone
Specific Gravity	0.224~0.448
Service Temperature	400°F (204°C)
Limiting Oxygen Index	39 (KS M ISO 4589-2)
Thermal Conductivity	0.081W / (m.K) (ASTM C518)
Volume Resistance	$1.00 \times 10^{15}\Omega\text{-cm}$ (ASTMD257)
Dielectric Breakdown Strength	3.9 kV/mm (ASTM D149)
Flame Resistance Test	V-0 (UL94)
Halogen	Free
Asbestos	Free



PROPERTIES

Uses	Sealing opening & penetration of Tray.
Installation	Clean the opening & penetration surface. Cut Foam Pad to fit the opening size and install. Caulk GEOSEAL100 to all of joints. Fix insulation material according to the specified length on a cable tray
Storage	Avoid direct sunlight and store it in the range of 5°C to 60°C at a well-ventilated dry place
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands

*The data is for information purposes only, not available for design data.

Fire-Proof Sealant

GEOSEAL100 is one-component fire stop sealant that can be used in combination with GOSEAL80 RTV FOAM PAD for general fireproof structure.

In addition, it is qualified for Fire and Ventilation seals for nuclear power plant



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PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	3 hours [ASTM E814]
Ventilation Seal	Yes
Radiation Resistance	1×10^5 Gy

STANDARD

Classification	Feature
Color	Black
Main Component	Silicone
Packing	300ml/ctg
Service Temperature	200°F (93°C)
Shelf life	1 year
Curing time	Surface curing : within 15min full curing: 7~15days
Thermal Conductivity	0.26W / (m.K) [ASTM C518]
Slump	Width (0), Height (0)
Specific Gravity	1.45 ~ 1.52
Halogen	Free
Asbestos	Free



PROPERTIES

Uses	Joint sealing for GOSEAL80 RTV Foam Pad for cable tray. Fire and Ventilation sealing for penetration of conduit in nuclear power plant
Installation	Clean and dry the penetration surface. Recommend masking tape working. Remove masking tape after sealing and tooling working. In case of nuclear power plant, sealing inside of conduits as per detailed installation drawing.
Storage	Avoid direct sunlight and store it in the range of 5°C to 60°C at a well-ventilated dry place
Caution	If it gets into your eyes, wash it with water immediately Be careful not to touch children's hands Non-reusable products after opening.

*The data is for information purposes only, not available for design data.



ISO 9001



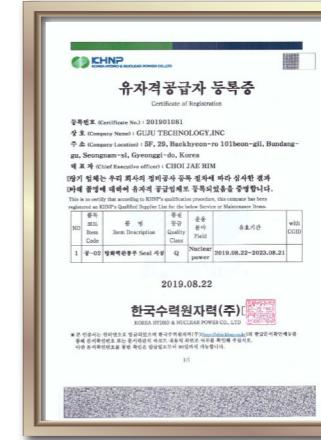
ISO 14001



ISO 45001



2018.08.22



2018.08.22



2018.11.13



2018.09.26



2018.09.26



2018.11.21

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GUU TECHNOLOGY

