



Your Reliable Partner for Safety

# GUJU

TECHNOLOGY



# Your Reliable Partner for Safety GUJU TECHNOLOGY

Our mission is to enhance safety, reliability, and efficiency  
for generation and distribution of electricity  
by achieving operational excellence, customer satisfaction,  
and industry leading product quality.

02

## 1990-2005

**1992. 07**  
Establishment of GUJU Technology Service INC.

**1993. 11**  
Establishment of GUJU Technology INC.

**1998. 08**  
Contract agreement as the exclusive agent in Korea with Curtiss-Wright Flow Control Corporation of USA

**2003. 09**  
Completion of GUJU Chung-ju factory for Polymer Insulators and Power Protection Devices

**2003. 10**  
Obtained ISO 9001 Certificate by BSi-Korea

**2004. 05**  
Establishment of R&D Institute (Chung-ju)

**2004. 06**  
Development of Polymer Long Rod Insulator for Railway (Type T-M)

**2004. 07**  
Development of Polymer Suspension Insulators for power distribution line (Type A-36kV, B-25kV, C-15kV)

**2005. 03**  
Development of Polymer Long Rod Insulator for Railway (Type N-a)

**2005. 04**  
Development of Polymer Bushing for Pole Transformer

**2005. 06**  
Development of Polymer Arcing Horn for power distribution line

## 2006-2009

**2006. 01**  
Development of Polymer Suspension Insulators for power transmission line (Type 115kV, 135kV)

**2006. 03**  
Development of Polymer Suspension Insulators for Railway (Type 69kV, T-S#1, #2, #3)

**2006. 07**  
Granted designation of a part-material specializing company

**2006. 10**  
Development of Polymer LP Insulators for power distribution line (Type 25kV, 35kV)

**2007. 03**  
Granted designation of a part-material specializing company

**2007. 04**  
Granted designation of Innovative Management Small and medium business

**2007. 06**  
Promising small & medium export company / Small and Medium Business Export Center of Chungbuk.

**2007. 07**  
Construction contract with KHNP for KRN 1 opening seal

**2007. 08**  
Construction contract with Hyundai E&C, DAELIM, and SK E&C for SKN 1&2 opening seal

**2009. 04**  
Korea's first KRC certificate of Long Rod Insulator for subway / KORAIL

## 2010-2013

**2010. 01**  
Registration on KHNP as a qualified supplier of maintenance construction

**2010. 05**  
Inspection Service contract with Kocen for HUN 3&4 Firewall penetration seal

**2010. 07**  
ISO 14001:2004 / BSI (British Standard institution)

**2010. 08**  
Certificate of One-KEPCO export company

**2010. 09**  
Brand Registration (GEOSEAL, GEOGROUT, GEOCOAT-GTI) / KIPO

**2012. 08**  
Contract with KEPCO for UAE BARAKAH J239 SOV (TargetRock)

**2013. 01**  
Registration on KHNP as a qualified supplier of Inspection service on firewall penetration & detailed design for construction of firewall penetration

**2013. 02**  
Contract with KEPCO for UAE BARAKAH E248 Prefabricated Cable Assemblies(QualTech NP)

**2013. 04**  
MAIN-BIZ certificate / Small and Medium Business Administration

## 2014-2015

**2014. 04**  
Business Registration in Engineering for Electricity and Industrial machinery) / KENCA

**2014. 09**  
Development of Excellent Goods (Polymer-Insulator for High-Speed Railways) / Commendation from the Minister of Trade

**2015. 03**  
OHSAS 18001:2007 Certification acquisition / BSI

**2015. 04**  
Nuclear Technology Award Winner / Minister of Science, ICT and Future Planning  
**2015. 06.** Contract of UAE BARAKAH NPP Units 1 & 2

**2015. 07**  
Supply Contract with Daewoo Engineering & Construction Co., Ltd. JORDAN RESEARCH & TRAINING REACTOR PROJECT

**2015. 08**  
Contract for the performance improvement of penetrations sealing of Hanul NPP Units 1 & 2/ KHNP

**2015. 09**  
Contract for the performance improvement of penetrations sealing of Hanul NPP Units 1 & 2/ KHNP

**2015. 11**  
Supply contract for high-density silicon (GEOSEAL150) and low-density silicon (GEOSEAL80) for Hanbit NPP Units 1 & 2

## 2016-2017

**2016. 07**  
Development of aluminum cable terminating material (assembly type) and support (NSP-40)

**2017. 01**  
Contract for the Performance Improvement of Penetrations Sealing of Wolsong NPP Units 2, 3 & 4 / KHNP

**2017. 03**  
CEO changed to Choi, Jae Rim, the vice president

**2017. 04**  
Construction Contract for CCW Sealings Repair Works of Hanbit NPP Units 3 & 4

**2017. 06**  
Contract of UAE BARAKAH NPP Units 3 & 4

**2017. 08**  
ISO 9001&14001 Certification Conversion to 2015 Edition

**2017. 12**  
Contract for Opening and Penetrations Sealing of UAE BARAKAH NPP Units 3 & 4

**2017. 12**  
Development of Aluminum Cable Straight Connectors (Self Shrinkage Type)

**2017. 12**  
Achievement of \$49 million in annual orders / Curtiss-Wright

**2018. 03**  
Contract for the construction of hydrogen monitoring facility and penetrations sealing of SFP room

## 2018-2019

**2018. 07**  
Selected as the best supplier in quality for Connectors / KEPCO

**2018. 11**  
Resistration in qualified suppliers of KHNP – On-site Investigation and Inspection Service of Firewall Penetrations / Detailed Design Service for Seal Construction

**2018. 12**  
Resistration in firewall penetrations sealing construction

**2018. 12**  
Achievement of \$22 million in annual orders / Curtiss-Wright

**2019. 02**  
Registration for Plant Relocation to Naju

**2019. 03**  
ISO 45001 : 2018 Certification acquisition

**2019. 04**  
Change Registration of Qualified Supplier in KHNP – Plant Relocation to Naju

**2019. 04**  
Registered as supplier of Opening & Penetration Seals in Shin-Kori Units 5 & 6

**2019. 04**  
Development of Straight joint Material of Aluminum Cable (Self Shrinkage Type)

**2019. 07**  
Approval for railway type (High Speed Rail, 9 kinds of General Railways)

**2019. 07**  
Development of High Efficiency of pole transformer

**2019. 08**  
Newly registered as qualified suppliers – Register Q grade suppliers for Firewall Penetration Seal Construction /KHNP

03

GUJU TECHNOLOGY

## Nuclear Power Products & Services

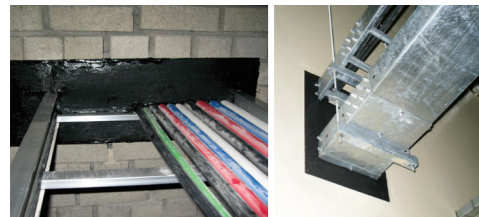
### Fire stop Materials

- 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

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



### Agency

Agent for Nuclear Power Products & Services

- Sciencetech
- 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



# GEO

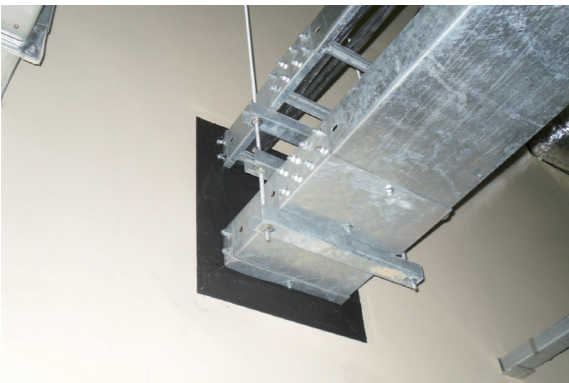
## *Guju FireStop System Product*

As there is a growing concern on protecting buildings from disastrous fires, there is an increasing demand to use anti-fire materials for large buildings such as hotels, department stores, all types of power plants, chemical plants, and oil refineries in order to minimize damage during a fire by preventing propagation of fires. It is customary for buildings to be constructed with fire barriers rated from 1 to 4 hours among different fire zones of the building to completely protect cables, pipe-lines, and ducts against fire. If penetration openings are not sealed, fire and hazardous gases will propagate very rapidly through any vertical and/or horizontal openings in the fire barriers, potentially resulting in personal injury and extensive property damage. Fire Stop Silicone seal is used to effectively seal openings that cable, pipe-line, duct, and curtain wall penetrate, thus keep fires, radioactive radiation, and hazardous gases from propagating into other zones.



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	1X10 <sup>6</sup> 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 <sup>15</sup> 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°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.

\*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	2~3hours (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 <sup>6</sup> 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 <sup>12</sup> 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 minute Pouring, then remove dam and finish surfaces after 24 hours
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.

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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 <sup>6</sup> 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 opening & penetration for Tray, Conduit and pipe
- 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.



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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	4~4.6l / 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 2.15
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 (4~4.6l/bag) for more than 2 min±10sec

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.



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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	≤0.01gallon/min (21.7psi)
Compartment Pressurization Seal	≤0.001cfm/ft · psid(5/10, 24/48psid, 360°F)
Ventilation Seal	Yes
Radiation Resistance	1X10 <sup>6</sup> 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)
Packing	0.9m X 30m / roll (27m <sup>2</sup> )
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

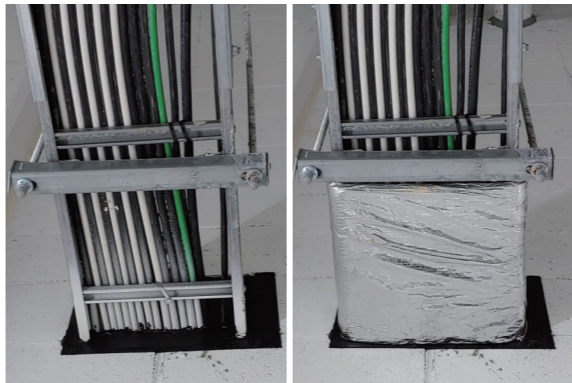
Uses	Sealing opening with movement for Piping, Duct.
Installation	Clean and dry the penetration surfaces. Design and cut the boot. Fix the boot with steel plate, screw, clamp, sealant. * In case of nuclear power plant, inner sleeve, ceramic fiber, and high density grout are required as per detailed installation 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.

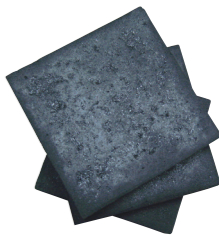


PRODUCT PERFORMANCE

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	1X10 <sup>5</sup> 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	1.00×10 <sup>15</sup> Ω·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 GOESEAL80 RTV FOAM PAD for general fireproof structure.  
In addition, it is qualified for Fire and Ventilation seals for nuclear power plant



## PRODUCT PERFORMANCE

Classification	Feature
Fire Seal	3 hours (ASTM E814)
Ventilation Seal	Yes
Radiation Resistance	1X10 <sup>5</sup> 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 (I), Height (I)
Specific Gravity	1.45 ~1.52
Halogen	Free
Asbestos	Free



## PROPERTIES

Uses	Joint sealing for GEOSEAL80 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.

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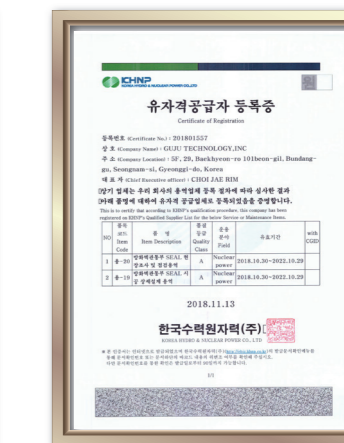
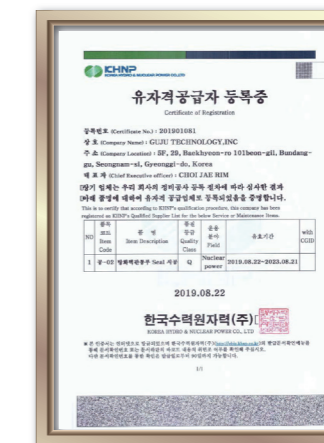
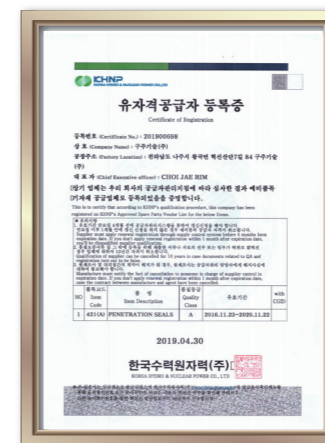
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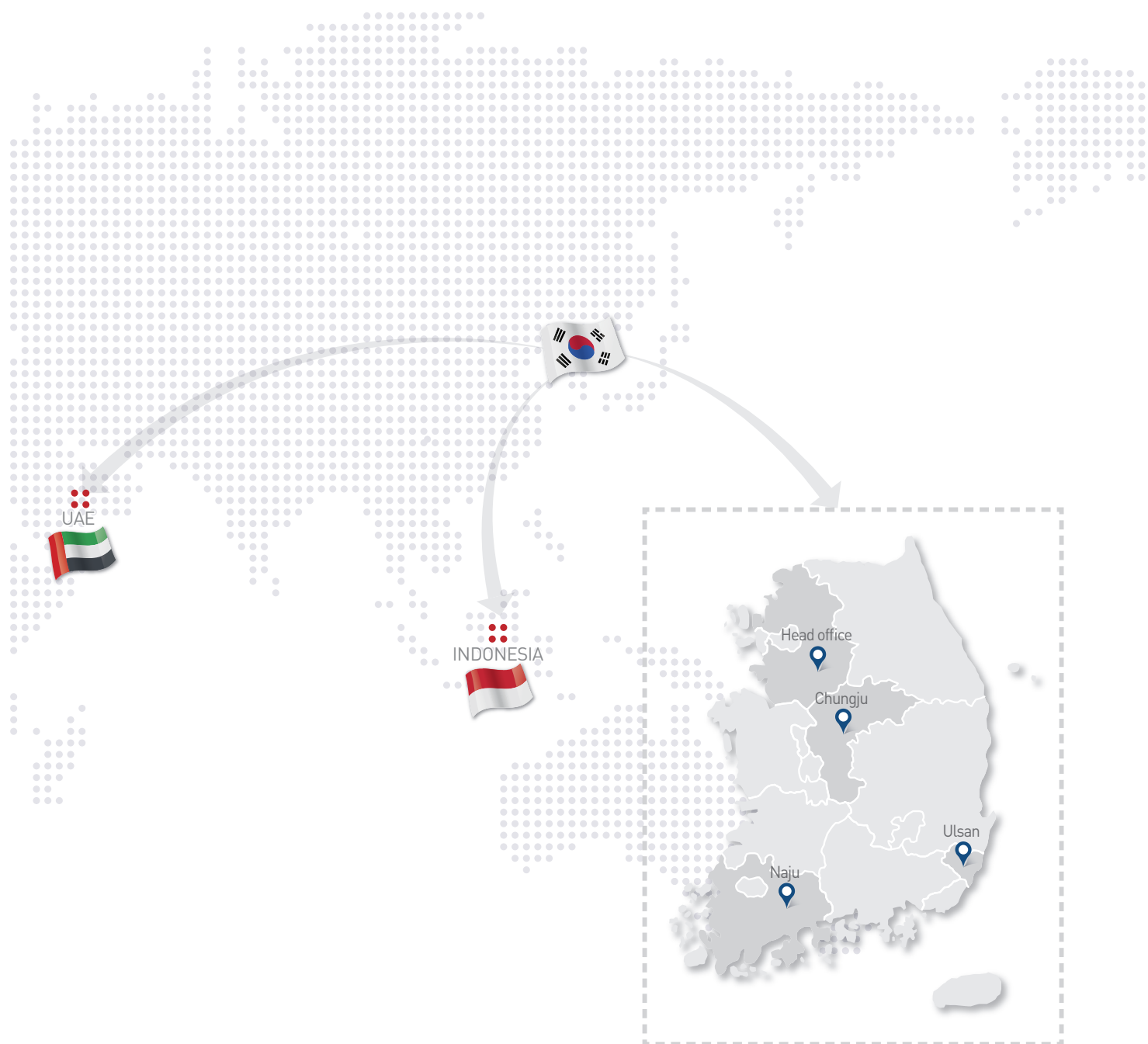


ISO 14001



ISO 45001





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