

## Remitite Co., Ltd. www.remitite.com

#### Main Office & Plants

965-1 Yongdoek-ri, Hallim-myeon, Gimhae, Gyeongsangnam-do 621-872 Korea Tel: +82-55-336-9273-4 Fax: +82-55-336-9275 E-mail: help@remitite.com

#### **Busan Office**

llkyung Bldg. 11th Fl., Daechungro155beon-gil, Jung-gu, Busan 600-814 Korea Tel: +82-51-205-9262 Fax: +82-51-205-9263

## Next Generation Advanced Polymeric Materials















## CEO's Greetings

## Welcome to Remitite Co., Ltd.

Challenge, Innovation, Integrity! These are the core values of our company.

Remitite Incorporate promises we will continually research, develop and produce the world's best products by constantly meeting challenges and creatively innovating in the fine chemical industry. We also have put our great effort into being a trusted company, which provides top quality products and solutions to our customers.

To continually develop and strengthen the core values of our company, all Remitite family members persistently strive for cooperative spirits and perfection. In doing so, we are creating a community with mutual trust and uncompromising excellence.

We follow domestic and international laws and regulations and do our best to bear social responsibility and live in harmony with nature.

We appreciate any comments and suggestions so that we may improve our services to you. We will continue to do our best in order to be recognized as one of the most innovative and trusted companies in the industry.

Thank you.



#### **Information**

Established: 1975

CEO: Gwangmyeong Park Initial Capital: 460 Million Won

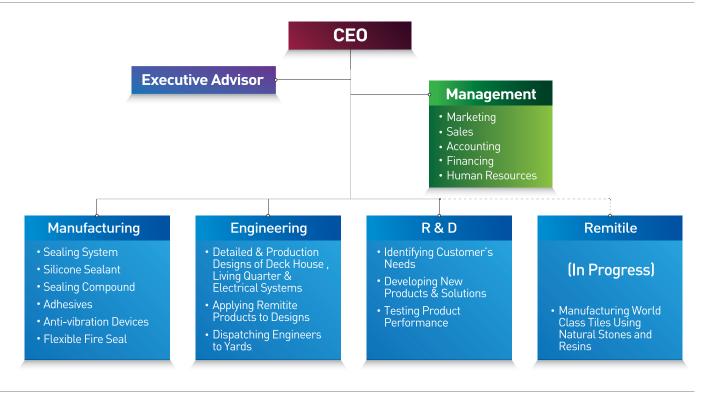
Production Capacity: 2,000 Tons/year

Annual Sales: 10 Billion Won (Expected in 2013)

#### **Main Products & Solutions**

- Flexible fire seal
- Cable & pipe penetration sealing system
- Putty type sealing compound
- Fire-retardant silicone sealants
- Fire-retardant & nontoxic adhesives
- Fire-retardant, anti-noise & anti-vibration devices

## Organization





## **Products & Solutions**





#### Flexible Fire Seal

## Remitite EDT-629







Remite EDT-629 is flame-resistant, nonflammable, and made with a mixture of components as a flexible fire material, applying in vessels, offshore and land plants, and other power and generating plants. The flexibility of the seal allows movements between the bulkheads and the deck pipes. This excellent resistance to and performance in and against seawater are especially valuable qualities for use on offshore plants and vessels.

#### **Features**

- · Approved and certified by ABS for J-90 first post-blast of 4.5 bar
- · Approved and certified by ABS, BV, and DNV for H-120
- · Resistant to jet-fire, hydrocarbon-fire
- · Weather resistant
- · Seawater resistant
- · Shock resistant
- · Blast resistant
- Excellent vibration durability and high tension tolerance
- · Abrasion/friction/corrosion resistance in seawater
- · Strong resistance to hydrocarbon splash, seawater, processed liquids, UV light, and ozone
- · Can be designed and supplied to fit each installation and to satisfy all customer requirements.
- · Low maintenance

## **Applications**

- Shipbuildings
- · Offshore oil and gas plants
- · Onshore plants
- Power facilities



#### **Specifications**

· Color	Black
· Capacity	Piece (each)
· Service life	More than 40 years
· Service temp.	-60°C ~ 250°C
· Specific gravity	1.5 ~ 1.7 g/cm <sup>3</sup>
· Compressive strength	0.27 ~ 0.64 MPa (25%)
· Elongation	150 ~ 250%
· Hardness	44 ~ 55 shore A
· Elasticity	55%
· Storage temp.	Room temperature
· UV Test	Grade $5 (40 \pm 1)^{\circ}$ C, 24 hours
· Cold shock	(-55 ± 1)°C

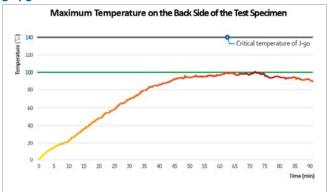
## **Remitite EDT-629 Fire and Explosion Protection**

Flexible Fire Seal EDT-629 J-90 has met the strict standards of test ISO 22899-1: 2007 and performed under direct supervision of the inspectors from LR, DNV, and ABS, and verified by the KOMERI on the 28th of June 2013.

Flexible Fire Seal EDT-629 H-120 12 mm in thickness has been tested for its fire resistance following the standards of the IMO: resolution A. 754 (18): 1993. The test was approved by ABS, BV, and DNV, and conducted at the KOMERI in Busan Korea on the 16th of September 2011.

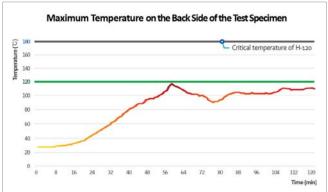
Remitite performed the EDT-629 explosion test at the company's site on the 5th of September 2013. EDT-629 endured over 4.5 bar of instantaneous explosive pressure and verified the best fireproof material protection in the vent of a high pressure explosion and fire.

#### J-90



On cessation of the jet fire after 90 minutes, the maximum temperature rise recorded in the test specimen was confirmed as  $101\,^{\circ}\mathrm{C}$ .

#### H-120



The highest temperature on the back of the test specimen during the 120 minute test was 117  $^{\circ}$ C. The highest average temperature on the back of the test specimen was 72  $^{\circ}$ C.

## **Products**

#### **Escape Tunnel Seal**



- ·Allows flexible connections between structures or between metal sections
- Protects sealed door frame connections for fire safe escape route
- ·Absorbs misalignments, angle deviations, and dynamic loads
- · Easily customized to fit unique structures and facilities
- Moisture resistant, pressure tolerant, and vibration absorbing properties within structures

#### Flexible Seal



- ·Allows sealed connections between various metal sections
- ·Can be used to connect modules and protect them against explosion and fire
- Facilitates free movement and tolerates misalignment and angle deviations
- Eliminates pressure spikes, decreases vibration, and absorbs dynamic force loading
- ·Can easily be installed on a wide range of structures
- ·Well suited for us in modification of metal work
- ·Designed for ease of installation

#### Pipe Penetration Seal



- •Diameters of the pipe measuring up to 1,016 mm
- ·Can be used on the side of the division exposed to blast

#### **Drainway Seal**



- •Connects decks flexibly and absorbs & tolerates working stresses between decks
- •Enables natural drainage from decks, semi-permanent, easily installed

■ In addition, EDT-629 can be supplied in forms listed below:

(The following products are available for various fields such as shipbuilding, offshore oil & gas plants, and onshore plants.)

- ·Various-sized pipe penetration seals
- ·Linear skirt seals
- ·Expansion tolerant materials
- ·HVAC connectors
- ·Hatch seals
- ·Tank seals
- ·Insulation jackets



















### Cable & Pipe Penetration Sealing System

## 



















RS-105 and RRS-15 are superb for sealing cables and pipes in penetration by finishing the outside with Remitite Silicone Sealant 105 after protecting the inside with RRS-15 sleeves. RS-105 and RRS-15 Cable & Pipe Penetration Sealing System is rated in classes A-60 and H-120 and shows excellent fire-resistance, expandability and endothermic performance.

RRS-15 expands up to 20 times its original volume when exposed to temperatures above 180°C. During this expansion process, a porous mass is formed, which has thermal insulation properties. Also, this expansion is not accompanied by the formation of large amounts of fumes. This system is proven as an ultraviolet radiation and ozone interceptor.











#### **Features**

- · Fire rating: A-60 & H-120 class
- · Excellent intumescences and heat absorption
- · High elasticity and high tensile strength
- · High bonding strength
- · Water and gas tightness
- · UV light and ozone resistance
- · Variety of sizes, which conform to all wiring standards
- · No negative changes in repelling cold and heat

### **Applications**

- · Fire-retardant sealant for cables
- · Fire-retardant sealant for PVC, PP-R and PB pipes
- · Water and gasproof sealing for electronic & wiring elements

Dark gray
120 hours
1 ~ 2 hours
12 months
More than 50 years
-55°C ~ 160°C
1.26 ± 0.03 g/cm <sup>3</sup>
8.15 kgf/cm³ (= 0.80 MPa)
80%
40 shore A
25%
Room temperature
Grade 5 $(40 \pm 1)$ °C, 24 hours
(-55 ± 1)°C

#### Silicone Sealant

## **RS-105**

Remittie Silicone Sealant 105 is a fire and water resistant sealant based on a single component compound. It is an adaptable and flexible product that can be used in many different applications, jointing between building elements and materials, especially in shipping and offshore plants.



#### Remitite Sleeve

## **RRS-15**

Remitite Sleeve RRS-15 is a fire-resistant, intumescent, and endothermic special rubber compound, creating value for customers in shipping and offshore plants. The extrudability of this product at high temperature and water-resistance is excellent.



#### Dimensional Data of RRS-15 (A&H-Type)

Туре	Cable Diameter	Leng	th (mm)	Wall Thickness
Туре	Cable Diameter	A-Class	H-Class	Wall HillChiless
12/6	5-7			3
14/8	7-9			3
16/10	9-11			3
18/12	11-13			3
20/14	13-15			3
22/16	15-17			3
27/19	17-21			4
31/23	21-25			4
35/27	25-29	140	210	4
39/31	29-33	140	210	4
46/36	33-39			5
52/42	39-45			5
58/48	45-51			5
64/54	51-57			5
70/60	57-63			5
M18/12	Multi-Type			3
M27/19	Multi-Type			3

Remitite Sleeve 15 is a special rubber compound, which is fire-resistant, intumescent and endothermic.

When Remitite Sleeve RRS-15 is exposed to temperature over 180°C, it expands up to 20 times its original volume. Carbonized mass is produced in the process, which creates excellent thermal insulation ability. Remitite Sleeve 18/12 and 27/19 can be supplied in nonsplit multi-units of 10 pieces bonded together.



## Putty Type Sealing Compound

# Remiseal FS-7200

Remiseal FS-7200 is a fire-resistant inorganic sealant for cables and pipe penetrations in offshore plants, shipbuilding, nuclear power plants, and similar projects. It is a lightweight, eco-friendly, and durable sealing compound with good workability and easy maintenance.























#### **Features**

- Fire rating: A-60 class
- · Eco-friendly
- · Easy installation and replacement
- · Excellent performance, durability
- · Ultralight weight

#### **Applications**

- ·Ships
- Marine plants
- · Nuclear power facilities
- $\cdot \, \mathsf{Specialized} \,\, \mathsf{building's} \, \mathsf{cables} \,\,$
- $\cdot$  Pipe penetration sealing
- $\cdot$  Repairing electronic & wiring elements

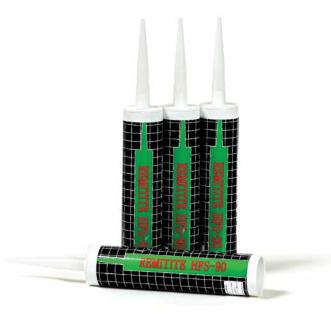
•	
·Color	Light gray
· Surface drying time	1 ~ 2 hours
· Capacity	10 kg (500 g x 20 Pack/ Box)
· Storage life	6 months
· IP Class	IP44
· Service temp.	-30°C ~ 450°C
· Specific gravity	1.1 g/cm <sup>3</sup>
· Hardness	90 shore A
· Storage temp.	Room temperature
• pH	12



#### Non-combustible Silicone Sealant

## **HFS-90**

Non combustible Silicone Sealant HFS-90 is a highly fire resistant and nonflammable single component compound. This sealant is halogen free, nontoxic and almost smokeless. This product has a remarkably high melting point and excellent adhesive properties.





#### **Features**

- · Strong adhesion
- · Halogen free
- · Nontoxic and almost smokeless
- · High temperature service compound
- · Highest level of fire-resistance

### **Applications**

· Sealing high temperature elements

	Б
· Color	Dark gray
· Surface drying time	2 ~ 3 hours
· Capacity	Cartridge (310 ml)
· Storage life	12 months
· Service life	More than 50 years
· Service temp.	-40°C ~ 400°C
· Specific gravity	1.7 ~ 2.1 g/cm <sup>3</sup>
· Hardness	40 shore A
· Storage temp.	Room temperature
· Cold shock	(-55 ± 1)°C
· Main ingr.	Silicone
· Solid	Over 98%



#### Fire-retardant Silicone Sealant

## Si-701

Fire-retardant Silicone Sealant Si-701 is a neutral, eco-friendly, anti-bacterial, noncorrosive, and vulcanizing silicone sealant. Si-701 contains no solvent or acetic acid; it is odorless and harmless. Custom-made batches are also available in a variety of colors.









## **Applications**

- ·Ships
- · General industry
- · Cars
- · Advanced construction

#### **Features**

- · Strong adhesion
- · Fire-retardant
- · Nontoxic and almost smokeless
- Excellent elasticity and high tensile strength
- · Anti-bacterial
- · Water resistant
- · Electric transmission resistant
- · UV light and ozone resistant

· Color	Matched at customer's request
· Surface drying tim	ne 2 ~ 3 hours
· Capacity	Cartridge (310 ml)
· Storage life	12 months
· Service life	More than 50 years
· Service temp.	-40°C ~ 250°C
· Specific gravity	1.05 g/cm³ (1.05 g/ml)
· Tensile strength	21.4 kgf/cm² (2.1 N/mm²)
· Adhesive strength	588 N (20 mm), 755 N (25 mm),
	1372 N (40 mm), 1488 N (45 mm), 1646 N (50 mm)
· Tensile failure	410%
· Hardness	35 shore A (= 22°)
· Shrinkage	3%
· Viscosity	Nonslump paste
· Elasticity	0.8 N/mm² (The modulus of elasticity)
· Storage temp.	Room temperature
· UV Test	Grade 5 (40 ± 1)°C, 24 hours
• pH	Neutral
· Main ingr.	Silicone
· Solid	Over 98%



## Vinyl Sheet & Carpet Adhesive

## RF-7077

Remititie RF-7077 is a strong adhesive product used for initial adhesion of carpets and soft PVC pipes. It is water-soluble, non combustible and nontoxic. Also, adhesion and bonding strength of this product remains consistent and also increases over a period of time.









#### **Features**

- · Fire-resistant, nontoxic and almost smokeless
- · High tensile strength
- · Strong adhesion to vinyl sheets and carpets
- Excellent usability

## **Applications**

- ·Carpets
- · Soft PVC

·Color	Yellow (After drying: light brown)
· Capacity	8 kg plastic container
· Storage life	6 months
· Service temp.	-20°C ~ 60°C
· Specific gravity	1.12 g/cm³
·Viscosity	100,000 ~ 110,000 cps (20°C)
· Storage temp.	Room temperature
• pH	9.8
· Main ingr. Synthetic	resins modified acrylic copolymer
· Solid	69 ~ 71%



### Fire-retardant & Anti-noise, Anti-vibration Devices

FS-X1







Remitite FS-X1 is a remarkable anti-vibration and fire-resistant device. It performs well for protecting metallic components from vibration and in fire-resistant and fire prevention applications. FS-X1 is available in a range of forms, each having passed durability tests as well as the stringent regulations of the International Maritime Organization.

#### **Features**

- · Fire-resistant, nontoxic and almost smokeless
- · High tensile strength
- · High durability

· Standard or matched at customer's request (Anti-vibration mount, support, mat)



### **Specifications**

-	
· Color	Dark grey
· Service life	More than 40 years
· Service temp.	-60°C ~ 250°C
· Specific gravity	1.6 ~ 1.8 g/cm
· Compressive strength	0.27 ~ 0.64 MPa (25%)
· Hardness	25 ~ 70 shore A
· Storage temp.	Room temperature
· Cold shock	(-55 ± 1)°C

## **Products**

## **Anti-vibration Hanger Hooks**

Protects metallic components from vibration with rubber-coated hanger hooks on contact points between components.





### **Applications**

- · Ceiling and wall panels of ships or marine structures
- · Hooks for fixing ceiling panel channels
- U-bolts for fixing pipes
- ·Clamps

#### **Anti-vibration Pads**

Available in many sizes and different thickness for insulation against vibration and shock. These pads are also seawater resistant.



## **Applications**

- · Foundation and profiles of machinery
- · Wrapping cables
- · Sealing gaps

#### **Fire-retardant Back Boxes**

Because of its fire-resistant and fire preventive properties, Fire-retardant Back Box is highly effective in protecting electrical switches and equipment from fire. It is also helpful in preventing fire from spreading to other areas through the holes.



## **Applications**

Switches

- · Electric equipment
- $\cdot \, \mathsf{Receptacles}$
- · R/TV Outlets

## **Anti-vibration Mountings for Lighting & Equipment**

Anti-vibration supports are available in many different sizes to protect the foundations of driving machines, electrical equipment, and switchboards and lamps mounted aboard ship using certified resilient rubber to minimize vibration.

## **Applications**

- · Foundations of fans
- Foundations of air handing units
- Foundations of auxiliary machine units
- · Foundations of electrical consoles
- · Foundations of electrical switchboards
- $\cdot \ \, \text{Foundations of supports}$

## **O-ring for Plank Seal**

O-rings are fire-resistant and are very useful for plank sealing for offshore helideck. They are used to absorb vibrations and shocks.



## **Anti-vibration Mountings for Wall & Ceiling Panels**

The anti-vibration support for ceilings and wall panels of ships or marine structure, which minimizes vibration in combinations with certified fire-retardant rubber.



· Ceiling and wall panels of ships or marine structures

**Applications** 



#### Ceramic Tile Adhesive

## **GME-90**

Remitite GME-90 contains epoxy resin and amine in an organic compound and adheres to steel, aluminum, ceramic tiles, fireproof materials and wood. This product has excellent tensile strength, chemical resistance, and heat-resistance with no heat distortion.

GME-90 is a superb product for substances which cause problems including ceramic tiles, marbles, aluminum, metal and wood. The product can also be combined with water and white sand for special uses. Even after long periods, there is no odor of decomposition from GME-90.



#### **Features**

- · Strong adhesion
- · Fire-resistant, nontoxic and almost smokeless
- · High tensile strength
- · Chemical, weather and water resistant
- · High durability
- · Shock resistant
- · No heat distortion
- · Does not drip or run down metal walls during application

#### **Applications**

·Iron

· Aluminium

· Ceramic tiles

· Fireproof material

·Wood

· Color	Ivory, white
· Drying time	150 minutes (20°C, 200 g)
· Capacity	5 kg plastic container
· Storage life	12 months
· Pot life	120 minutes (20°C)
· Service temp.	-20°C ~ 80°C
· Specific gravity	1.13 g/cm³
· Tensile strength	390 kgf/cm³ (390 kg/cm³)
· Compressive stren	igth 580 kg/cm²
· Adhesive strength	105 kg/cm²
· Shrinkage	0.50%
· Viscosity	Epoxy resin : 200,000 ~ 250,000 cps,
special	ty organic chemical : 250,000 ~ 300,000 cps (20°C)
· Storage temp.	Room temperature
· Main ingr.	Epoxy resin, specialty organic chemical
· Solid	Over 95%

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