



## Profile & Product Line Card



**Industrial MRO Products & Services** Flow Solutions Trading Co.



شركة الحلول المتدفقة التجارية ذ.م.م

**Flow Solutions Trading Co. L.L.C**

Suite No. 303 Shaikh Tower Adh Dahrn  
Street Building No. 2638 Al Khobar Ash  
Shamaliyah 6240 Postal Code: 34429  
Kingdom of Saudi Arabia

**[www.fstarabia.com](http://www.fstarabia.com)**

***Engineered Products to suite your project requirements.***

Supply, Install, Testing and Commissioning of Industrial Maintenance Repair and Operational products for Oil and Gas, Petrochemicals, Power and Water Utility Companies. General supplies of process line equipments, consumables and safety products for industries, infrastructure and civil projects.

توريد وتركيب واختبار والتكليف بإصلاح الصيانة الصناعية ومنتجات التشغيل لشركات النفط والغاز والبتروكيماويات والطاقة والمياه التوريدات العامة لمعدات خطوط المعالجة والمواد الاستهلاكية ومنتجات السلامة للصناعات والبنية التحتية والمشاريع المدنية

## *Introduction*

FST is a leading company with a well-knit entrepreneurial team having a deep vision and focus towards delivering innovative industrial support solutions for oil & gas, petrochemical, Mining, food processing, pharmaceutical, power and water utility companies.

Since its inception, FST has maintained a steady graph to stay a loyal and customer-centered organization. The company mentors have touched and felt the pulse of the actual requirements with their expertise in various fields.

FST with its head office at Al Khobar, in the Eastern Province of Saudi Arabia, the industrial hub of the Kingdom, is a company dedicated to the betterment of industrial development with innovative ideas.

We assure you immediate responses on all your material requirements/technical queries with competitive price quotes and technical support.

Please feel free to contact us in case you need to utilize any of the products and services that our company provides.

We guarantee you our full support on all your project requirements. Complete bidding packages are handled by our experienced team.

**A CTSP you can trust!**

# WHY CHOOSE FST? A CTSP you can trust!

## Critical Technologies Solution Provider:

FST is a critical technologies solution provider of Valves, instruments, subsystems, and process control that measure, control, monitor, analyze critical parameters of advanced manufacturing processes to improve process performance and productivity.

### Solution Experts in Flow/Level/ Pressure/ Temperature Measurement & Control:

Our solutions are derived from our competencies in measurement and control; flow measurement and control, level measurement and control, pressure/temperature measurement and control, gas delivery, gas composition analysis & gas leakage detectors.

### Solution Provider Advanced Sustainable passive fire suppression systems:

Microcapsule based fire extinguishing agent installed in Energy Storage Systems (Batteries), Electrical Panel and electrical appliances to extinguish fire at source. Preventing spread, and loss to life and valuable machineries.

### Solution Provider Workplace safety and accident prevention:

Be it work place, gaming arena, or any public place, safety of people and equipments are at foremost importance with dignified equal access for visually impaired or physically challenged.

### Industrial Specialists:-

Our primary served market include Oil & Gas, Water & Power, Hydro Carbon Processing, Manufacturing Industries, Food Processing Industries, Mining and Specialty Chemicals.



OIL & GAS



WATER



POWER



PETROCHEMICAL



RAIL



PHARMACEUTICALS



MINING &  
QUARRYING



FOOD &  
BEVERAGE



CONSTRUCTION



MANUFACTURING



SOLAR



WIND

## PRODUCTS YOU CAN COUNT ON US

Ongoing efforts to differentiate ourselves through high levels of service and customer satisfaction are a key corporate focus. These are the cornerstones to our success.

<https://www.fstarabia.com/products.html>



# Suppliers of Instrumentation Packages



Condensate / Seal Pots



Compression Fittings



Instrumentation Valves and Manifolds



Instrument Enclosures



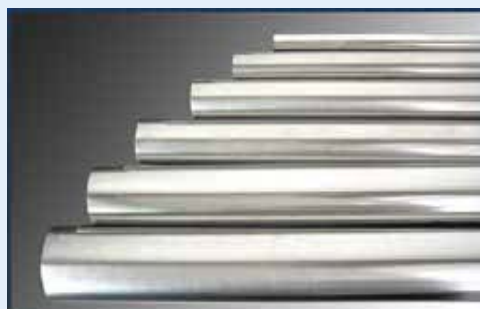
Pressure Relief Valves / Safety Valves



Ball Valves



Stainless Steel Flexible Hoses



Tube and Pipe



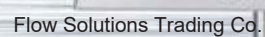
Globe Valves / Gate Valves / Check Valves



Flow Solutions Trading Co.

Strainers & Steam Traps





# Fuses and Switches

Fuses & Switches provides immediate shipment of power Fuses & Switches from extensive inventory.

Clients can access more than 14,000 power fuse solutions provided from a stock of 100,000+ Fuses & Switches, eliminate long factory lead times, and supply real time solutions for urgent fuse challenges in utility, industrial, institutional and commercial applications.



Specializing in both current limiting and expulsion Medium Voltage Fuses & Switches from 2.4kV to 138kV, Fuses & Switches also stocks critical 600V and below Low Voltage power and semiconductor Fuses & Switches.

# Fire Retardant Safety Sheets/Roll

Concept of Fire Retardant Sheet

Forming agent coated sheet on the inorganic glass cloth

In order to protect the power/communication cables in the event of fire, short-circuit or overheating FRS forms the "char" on the surface of the sheet which prevents transfer of heat to the cable. The "char" blocks supply of oxygen and thus prevent spreading of fire.

Through punched hole, the high heat from cable is released. (High voltage cable damages itself by overheating)



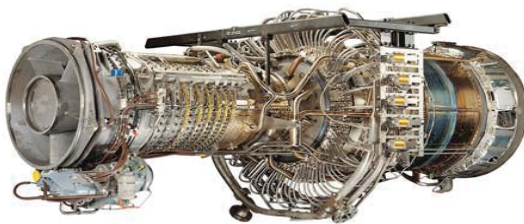


# Gas Turbine Parts

FST offers a truly comprehensive range of products for various renowned heavy duty gas & steam turbine manufacturers. Our product lines cater directly to the latest style parts for both generative drive and mechanical drive turbines, including an optional up-rated kit with its combustion parts.

The Service Life Plus package, engineered and manufactured includes newly designed combustion parts with improved life cycle.

Custom manufacturers of turbine parts. Pressure Vessels, horizontal blenders, agitators, dispersers, process tanks, heat exchangers, autoclaves & quick opening closures.



# Custom Fabrication

*Quality, value, and timely delivery—that's what our Custom Metal Fabrication is all about. Our goal is and always will be to provide our clients with superior metal products made and finished to their exact specifications and delivered on schedule and at a fair price. Our skilled staff, network of suppliers and wide inventory makes for a reliable solution for carbon steel, stainless steel, aluminum, and metal alloy fabrications.*



## SERVICES OFFERED

**MACHINING CAPABILITIES THAT INCLUDE TURNING, MILLING, WITH MULTI AXIS CAPABILITIES ALONG WITH ABILITY TO PERFORM COMPLETE INSPECTIONS.**



**OUR CNC PROGRAMMERS ARE EXPERIENCED AND SKILLED WITH THE LATEST IN TECHNOLOGIES TO MACHINE THE EXACT GEOMETRICAL FEATURES REQUIRED FOR THE MARKET TODAY.**

**WE HAVE SYSTEMS IN PLACE TO ENSURE WE BUILD QUALITY INTO OUR COMPONENTS AND PROVIDE SERVICES THAT MEET OUR CUSTOMER REQUIREMENTS.**

# Molding & Casting

- Rubber
- Polyurethane
- Plastics
- Teflon
- Steel
- Aluminium
- Bronze





# ROTATING EQUIPMENTS

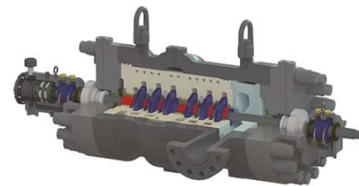
We work with leading rotating equipment supplier in the industry and carry top-rated brands of pumps you can trust to keep your business running.

We also extend maintenance services on all rotating equipments.



## PWA ANSI/ASME Process pump

These pumps are pressure producing devices and are used to move low viscosity fluids for any application and for any market. Big and small, frame mounted or close coupled, radially or axially split, sealed or sealless, metallic or non-metallic, single or multistage, horizontal or vertical configured, radial flow, mixed flow, and axial flow designs... we have multiple options to offer our customers.



## API 610

Centrifugal pumps, single stage and multistage, horizontal and vertical, radially split and axially split designed in strict compliance with API-610 and ISO 13709 specifications, without any exceptions to specification and 100% Made in America for applications including petroleum refining, gas processing, oil processing, petrochemical, hydrocarbon and crude oil pipeline, offshore (platform) installations and aviation jet fueling.



## Sealless Pumps

Sealless centrifugal pumps are designed in both horizontal and vertical configurations and are built using various non-metallic and metallic materials. Sealless pumps are preferred when absolutely no leakage or emissions can be tolerated, or to replace expensive double mechanical seals and seal support systems, or to eliminate costly mechanical seal repair and maintenance expense. Ultimately, sealless pumps can result in lower risks for personnel and the environment while also increasing productivity by eliminating costly downtime.



## Self-Priming Pumps

Self-Priming pumps are typically horizontal end suction pumps with an attached or integral priming chamber allowing the pump to use an air/water mixture to reach a fully primed pumping condition. Self-priming pumps are applied when a pump needs to evacuate air in the suction pipe and lift fluid into the pump from a source below the centerline of the pump. Self-priming pumps are used for a wide range of industrial and municipal applications, are either engine or motor driven and also used when a vertical sump pump is not practical or preferred.

## Horizontal Pumping System

Horizontal Pumping Systems (HPS) are multistage, diffuser type, centrifugal pumps with heavy duty thrust chambers of various size and API-685 seal chambers. HPS are capable of a wide range of flows and pressures and are typically used in the oil fields for fluid transfer, measurement, salt water disposal, high pressure injection, gas processing, pipeline booster and water flooding applications. Typical fluids pumped include water and oil, saltwater, amine, glycol, condensate and liquid natural gas.



## Fire Pump Packages

Custom designed and built, fire pump packages are UL listed, FM approved and built in accordance with NFPA 20. Systems integrate pumps, using end suction, inline, horizontal split case and vertical turbine models, either diesel engine or motor driven, and includes controls, inlet and outlet piping, valves and fittings per NFPA 20. Prefabricated and house units, as well as computer and CAD designs are available.



## Vertical Turbine Pumps

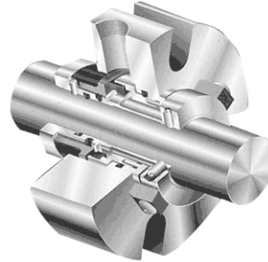
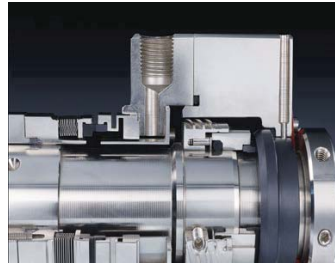
Vertical deep well (borehole), canned lineshaft and submersible turbine pumps built for API-610, industrial, offshore (platform), residential and agricultural applications. Mixed and axial flow, vertical and horizontal designs, are also available. Flows to 200,000 GPM and multiple material options.



Flow Solutions Trading Co.

# Mechanical Seals

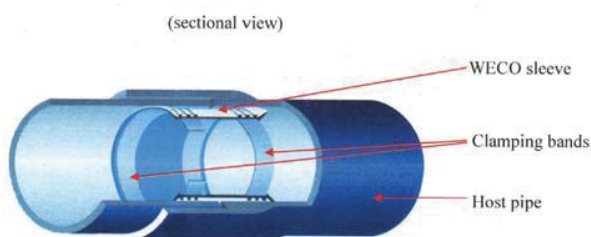
We also offer products and services to a wide range of mechanical seal users across the nation. We supply electric motor and pump repair shops, HVAC contractors, municipalities, utility companies (electric power and water) and a variety of other distributors. Our prices are competitive and because ..... we source from the largest stocking distributors across the globe, we are able to carry the many types of mechanical seals you might need. We also carry U.S. Seal, Advanced Sealing International and Utex products. Our large volume of stock also allows us to pass savings on to you.



# Internal Pipe Seals



WECO internal seals for pipes



World renowned WECO internal pipe seals have been used since the 60s of the last century for sealing of pipelines and sewage tunnels as a permanent solution for leakage.

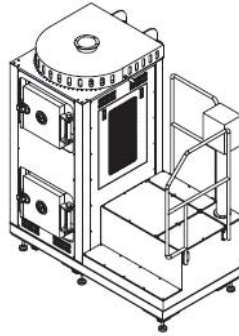
The internal pipe seals are widely used in energy and water resource engineering.



Their wide application range includes, among others, piping systems for the following: drinking water, waste water, water for industrial use (e.g. in the chemical industry, in cooling water pipes in power plants), fuels, gas, ...

# Multi-Layer Air jet Curtain incinerator

How to use	
Ignition	Fire to woods
Pre-heat 30min	Input wastes that easy to burn
Continue	Blower switch - on
Finish	Switch off
Clean inside	Ash



Ceramic Jacket Characteristic	
Max Temp.	1,800°C
Characteristic	High temp , High strength

Incinerator inner-temp Test



Inner-Temp : 925°C

AJ-500 Type	Air Jet Type	Others
Power	2P / 220V	3P / 380V
Operating	1.2kw x 8hrs	3kw x 8hrs
Extra fuel	No need	LPG
maintenance	Air-Pipe ( 1 year )	A/S parts
Inside Jacket	Castable Ceramic	Refractory brick
Operating	Simple ( on/off )	Complicacy
Quantity	500kg / 8hrs	100kg / 8hrs
Temperature	950°C ~ 1,000°C	500°C
Incineration	PET, Vinyl, Tire	
Warranty	1 year	



- Perfect combustion system
- Can be used for most kind of garbage
- Minimize odor or smog.

- Less remains
- Continuous operation
- Minimize exhaust of contaminants

- Patented Air-jet nozzle
- Block heat conducting by insulator
- High quality FIR castable parts.

- Already proved technologies
- Protect operators
- Easy to A/S of parts.

Multi-Layer Cyclone incinerator is only one that can be operated in opening a inlet that developed by technologies obtained in semiconductor equipment production. Flow Solutions Trading Co.

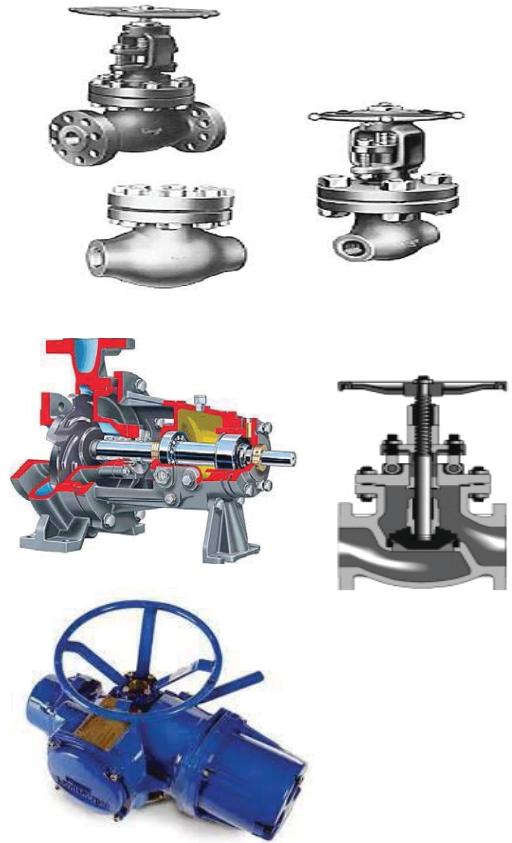


# Industrial Mechanical Valves

FST Arabia is committed to providing the highest quality valves for longer service life which is recognized around the world for the most robust valves on the market.

Providing 100% testing, rather than random testing, sets us apart. All valves are tested in accordance to the American Water Works Standards. Our Valve strives to provide superior customer service and to provide quality products at competitive prices. FST Arabia is committed to complete customer satisfaction.

Currently, our offered Valve offers AWWA C509, & C515 Resilient Seated Gate Valves through 108", AWWA C500 Metal Seated Solid Wedge Gate Valves through 108", AWWA C508 Metal and Resilient Seated Swing Check Valves through 48", HedFlex Duckbill Rubber Check Valves, Dry/Wet Barrel Fire Hydrant Protector Series 5000, Commercial Wafer/Lug Butterfly Valves, and Metal Seated Control Valves through 108".



# Frisch Engineered Products INC

In Partnership with Canadian Engineering Company we provide;

1. Custom Design and Fabrication to meet every clients individual requirements
2. Focus is on Critical or Severe Service Applications
3. Flexible Manufacturing Ability
4. Diverse Metallurgical Expertise
5. Great Products
6. The latest Material Requirement Planning (MRP)
7. Stringently enforced quality control program in conformance with the Latest ISO Requirements



Since 1960s the Frisch name has been synonymous with great quality, innovative design, & timely customer service. Frisch's new ownership created a cohesive management team in 1998 comprised of leaders from the valve industry in management, marketing, engineering, and manufacturing. Our Team merged the best of innovative ideas with a wealth of valve industry experience to create a powerful impetus moving the company forward.

The wide range of products offered at Frisch speak for themselves. Custom engineered to meet each client's individual needs, Frisch stays on the leading edge to ensure every client is completely satisfied with the product they receive.

## Industries Served

### Cement /Lime Plants

Secondary Air to Calcinor  
Tertiary Air Isolation or Control  
Pre-Heat Gas Duct Isolation  
SK Pump Isolation  
Kiln feed isolation or control  
Klinker Silo Isolation  
Bag House Isolation

### Steel Mills & Smelters

Waste Heat Boiler Isolation  
Blast Furnace Gases Isolation  
Sinter Ash Dump Valves  
Bottom Ash dump valves  
Emission Control System Isolation  
Flue Gas Isolation & Control

### Sour Gas Processing

Bypass Air to SO<sub>2</sub> Converter  
Waste Heat Isolation  
Sulphreen Train Switching  
Reaction Furnace Hot Gas  
Bypass Temperature Control  
Liquid Sulphur Feed Isolation

### Power Plants/Co-Gen Plants

Waste Heat Boiler Isolation  
Dry Scrubber Isolation  
Fly Ash Isolation  
Bottom Ash dump valves  
NO Emission Control System Isolation  
Flue Gas Isolation & Control

### Sulphuric Acid Plants

Bypass Air to SO<sub>2</sub> Converter  
Waste Heat Isolation  
Main Blower Discharge Isolation  
Hot Gas Bypass Temperature Control  
Phosphoric Acid Slurry Isolation  
Pre-Heat Duct Isolation for Start-up

### Oil Refineries

SRU  
Waste Heat Boiler Isolation  
Reaction Furnace Hot Gas  
Bypass Temperature Control  
Turbo Expander Inlet Control  
& Bypass Isolation  
Coker Dump Valve  
CO Boiler Isolation  
RCCU/FCCU Isolation Valves





## Frisch Products Product Line

Products Include but not limited to;

### Gate Valve sizes 4" to 120"

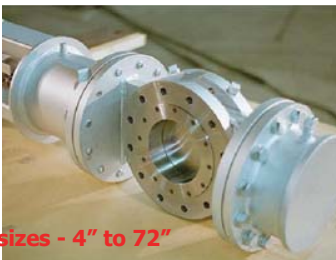
#### Rolling Slide Gate Valves



#### Double Disc Gate Valves



#### Guillotine Damper sizes - 12" to 144"



#### O Port Slide Gate Valves sizes - 4" to 72"

## Butterfly Valves & Dampers sizes - 12" to 144"

#### Refractory Lined Butterfly Valves Service Temperatures to 2300°F



#### Butterfly Dampers Service Temperatures to 1800°F sizes - 4" to 144"

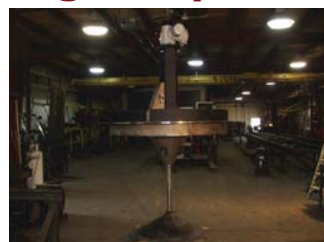


#### O-Ring Disc Edge Service Temperatures to -320 to +250°F sizes - 12" to 108"



#### Resilient Disc Edge BFV Service Temperatures to -320 to +250°F sizes - 2" to 108"

## Jug Dampers sizes - 12" to 96"



#### Motor Operated Jug Control Valve 2100F 8 Psig



## Louwer Dampers sizes - 12" to 172"



# Industrial Filtration Products

We provide cost effective solutions for difficult filtration applications.

Our principals provide fast turnaround on special size filters and has created some unique filtration products for exceptional environments.

FST offers the most complete range of Filters. Choosing the right filter for your application is of utmost importance. FST has been supplying all major brands of Hydraulic Oil Filters, Air Filter / Dust Filter, Oil & Gas Filters, Air Compressor Filter, Water Treatment Filters for commercial end-users and provide filtering solutions for companies of all sizes: from small, local companies to industrial accounts.

We also procure cartridges, housings, panels, and many more!

We carry filters from brands.

AAF, American Filtration, Baldwin Filters, Carlson Filter, Donaldson Filter, Eaton Filter, Palls Filter, Hillard, Moog, Asco, Cater- line, Hydac, Purafil etc.

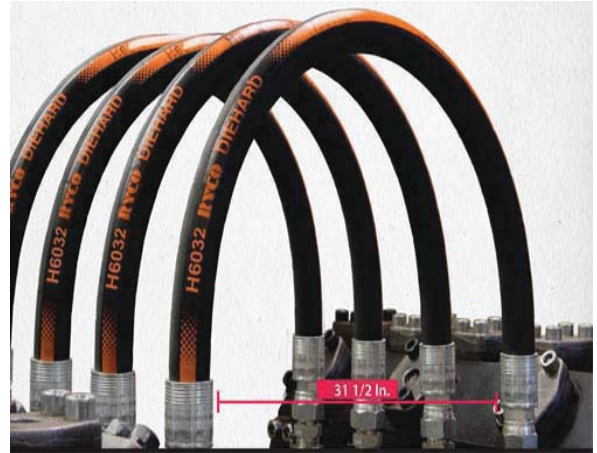


# Hydraulic Flexible Hoses

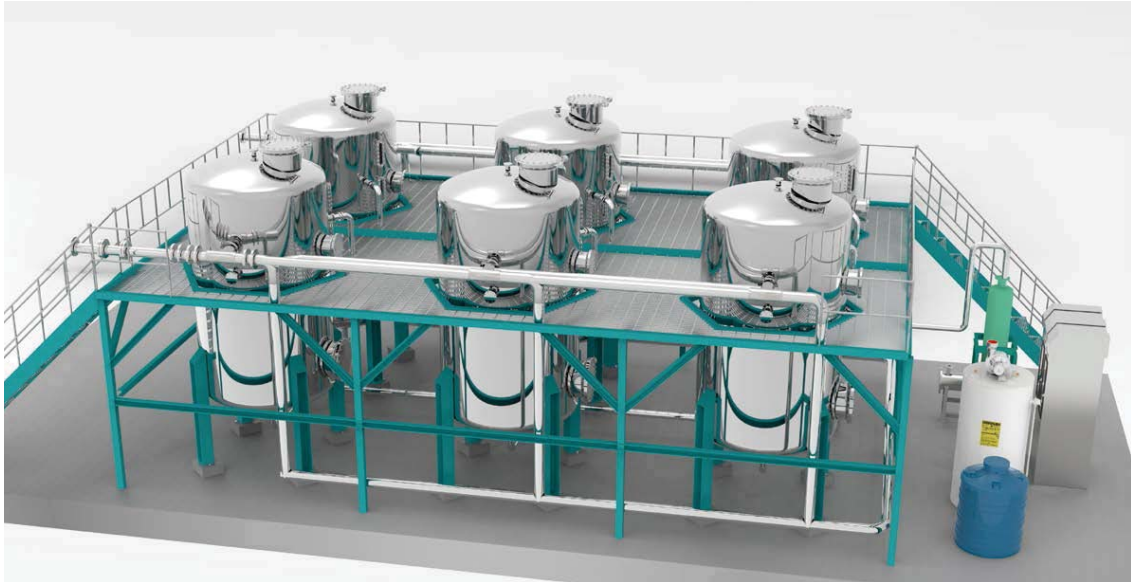
We introduced all of the major innovations in PTFE hose product design and manufacturing technologies.

From process fluid transfer lines in Power generation, Petro-chemicals, pharmaceutical plants to turbo-generator oil transfer lines in automobiles, we have developed flexible hose solutions which satisfy customers' specialist requirements in these and many more industrial applications.

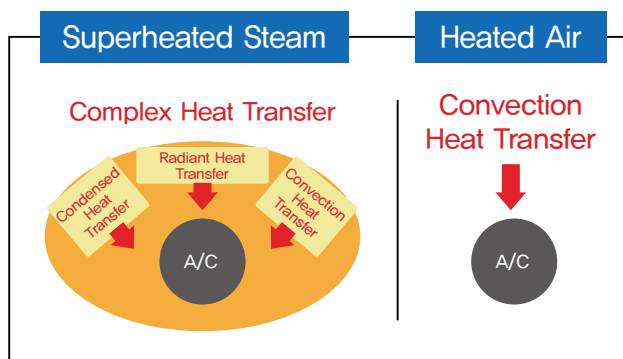
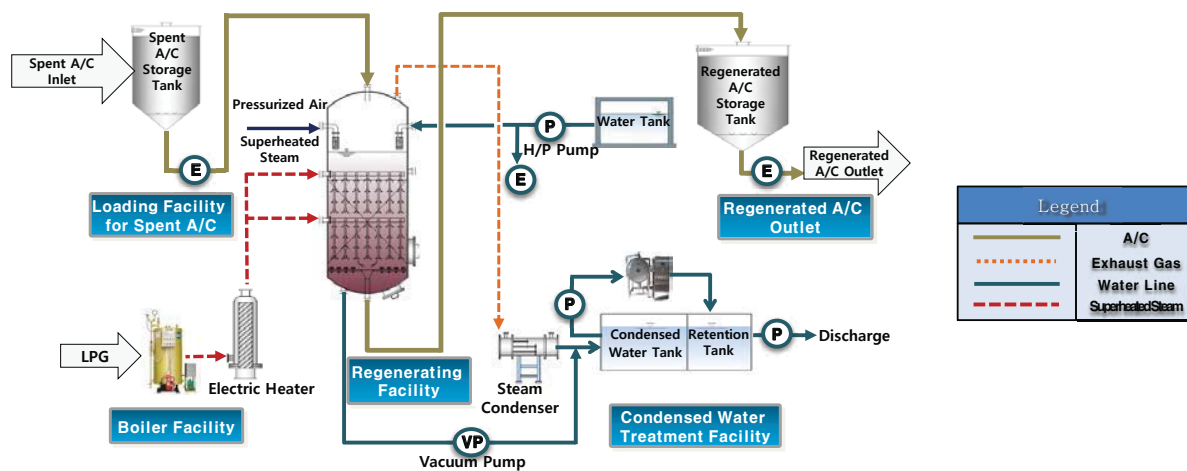
FST have worked to continually expand its product offering in an effort to become a complete supplier of fluid conveyance products. In this effort we have added a number of different product lines including: formed tubing, hydraulic hose, PTFE hose, industrial hose, and HVAC products as well



# Superheated Steam Activated Carbon Regeneration System (W-SCRS)





## ● Superheated Steam A/C Regeneration System Process



- Heat transfer for heated air is only by convection heat transfer. However, superheated steam which is complex heat transfer including condensed, radiant and convection heat transfer is excellent thermal efficiency.
- Superheated steam with an oxygen-free condition suppresses oxidation and combustion of A/C



# Comparison of Regeneration Facility

Item	W-SCRS	Multiple Hearth Furnace
Figure		
Process Summary	<ul style="list-style-type: none"> <li>Operating using superheated steam under low temp. (500~700°C) pyrolysis with normal pressure (0.1 bar)</li> </ul>	<ul style="list-style-type: none"> <li>Operating using heated air by LPG heating combustion under high temp. (800~950°C) oxidation with atmospheric pressure</li> </ul>
Regeneration Process	<div> <p>Superheated steam pyrolysis</p> <pre> graph TD     A[Dry] --&gt; B[Pyrolysis/Carbonization]     B --&gt; C[Activation]     C --&gt; D[Exhaust Steam/Gas Condensation]             </pre> <p>500~700°C</p> </div> <ul style="list-style-type: none"> <li>Dehydration by air pressure or vacuum → Energy Usage Reduction</li> <li>Superheated steam anoxic pyrolysis → Maintenance of micro pore condition and preventing physical properties change</li> <li>Low temp.'s activation → Long time under low temp. : Maintaining specific surface area → Optimize for batch type regeneration facility</li> </ul>	<div> <p>Heated air by LPG heating combustion (Oxidation)</p> <pre> graph TD     A["Dry (200~300°C)"] --&gt; B[Carbonization]     B --&gt; C["Activation (800~950°C)"]     C --&gt; D[Gasification (Post Furnace)]             </pre> <p>Supply Steam</p> </div> <ul style="list-style-type: none"> <li>Releasing A/C's water content by combustion → Over use of fuel</li> <li>Oxidation and carbonization by high temp. → Physical properties change and hardness reduction</li> <li>High temp.'s activation → Short time under high temp. : Changing physical properties → Over use of energy</li> </ul>
Average Regenerated Yield	Over 92%	Below 85%
Eco-Friendly	<ul style="list-style-type: none"> <li>No exhaust gas → No need exhaust gas treatment facility</li> </ul>	<ul style="list-style-type: none"> <li>Producing exhaust gas → Need exhaust gas treatment facility</li> </ul>
Certification and Intellectual Property	<ul style="list-style-type: none"> <li>NET, K-water new technology, Green technology certification, Excellent performance certification, three(3) patent registration</li> </ul>	<ul style="list-style-type: none"> <li>Existing multiple hearth furnace's patent</li> </ul>
Advantage and Disadvantage	<ul style="list-style-type: none"> <li>Superheated steam even distribution by steam distributor's design using CFD (Big capacity treatment ability)</li> <li>Applying material for heat Resistance and corrosion resistance</li> <li>No fire hazard by regenerating under anoxic pyrolysis and normal pressure</li> <li>Compact facility → easy maintenance</li> <li>Minimize of A/C property changing → Minimize weight loss</li> </ul>	<ul style="list-style-type: none"> <li>High boiling point organic decomposition possible</li> <li>Easy to control reacting temp. condition and steam capacity</li> <li>A lot of reference with general purpose facilities</li> <li>Change of physical properties by A/C ignition during carbonization process</li> <li>Degradation of efficiency and regeneration yield due to micro pore breakage</li> </ul>

# Residual Gas Analysis & Mass Spectrometers

*FST is a leading provider of innovative instrumentation, critical sensor technologies, and advanced process control software that enhance productivity and quality in sophisticated industrial vacuum processes. These analyses, measurement and control products are essential for gas leak detection in air conditioning/refrigeration and automotive manufacturing.*



*They are vital to equipment manufacturers and end-users in the complex fabrication of semiconductors and thin film coatings for optics, flat panel displays, solar cells and industrial vacuum coating applications. Other users of our vacuum-based processes include the life sciences, research, aerospace, packaging, heat treatment, laser cutting and many other industrial processes.*



*We also leverage our expertise in vacuum technology to provide unique, toxic chemical analysis products for emergency response, security, and environmental health and safety.*

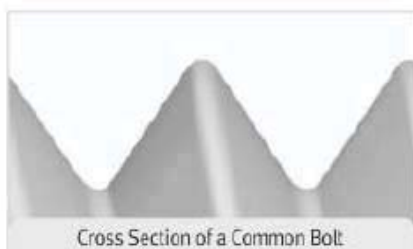
# V-LOCK SYSTEM

Anti-Loosening Bolts and Nuts

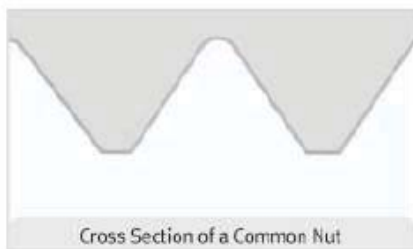
Innovation of  
Anti-Loosening Screw Thread

# V-LOCK

Anti-loosening bolts and nuts



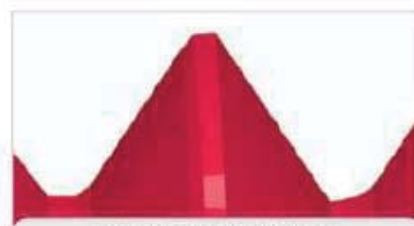
Cross Section of a Common Bolt



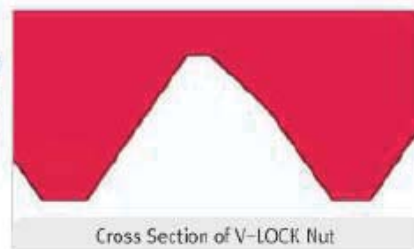
Cross Section of a Common Nut



Screw Thread  
Modification  
Technology  
Application



Cross Section of V-LOCK Bolt

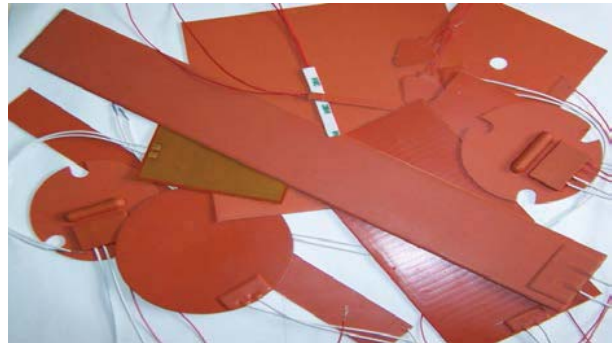


Cross Section of V-LOCK Nut



# Thermal Products

**FST** has reliable stockists and distributors for Heat Exchangers, Basco, Ketema, ITT, Thermal Transfer, American Industrial and Plate & Frame Heat Exchangers with quick ship capabilities. we are ready with any thermal products to assist you with all your heat transfer needs. Whatever the application; Air-Coolers, Plate and Frame, Welded Plate, Shell and Tube, Heat Transfer Coil, Direct Steam Injection, Evaporators, Condensers, Electric Heaters, Chillers, Cooling Towers, Pumps, Fans, we can engineer a product to fit your specific application.



## Insulation Jackets



Our Insulation Systems offer a broad base of superior, energy-saving solutions that conserve energy, preserve process temperatures and improve workplace safety.

Insulation Systems are used on various applications within the process industry where heat conservation and process temperature are concerns.

# Insulation Just Got Better

## ArmaGel HT

### *Flexible aerogel blanket for high-temperature applications*

- // ASTM C1728 compliant
- // Hot conditions up to 650 °C (1200 °F)
- // More choice: 5, 10, 15 and 20mm thicknesses
- // Up to five times better thermal performance than competing insulation materials
- // Mitigates the risk of corrosion under insulation (CUI)

#### ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. The company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology

#### ArmaGel HT is Flexible Aerogel Blanket Insulation

- Material Type : Silica aerogel
- Colour : Grey
- Service Temp Range : -40 to 650 °C
- Approval Compliance : ASTM C1728, Type III Grade 1A
- Density : 160 to 240 kg/m<sup>3</sup>
- Thickness : 5, 10, 15, 20 mm
- Product Form : Sheets in rolls



High-temperature



Flexible



Hydrophobic



Flow Solutions Trading Co.

# Ultraviolet Curing FRP Laminates

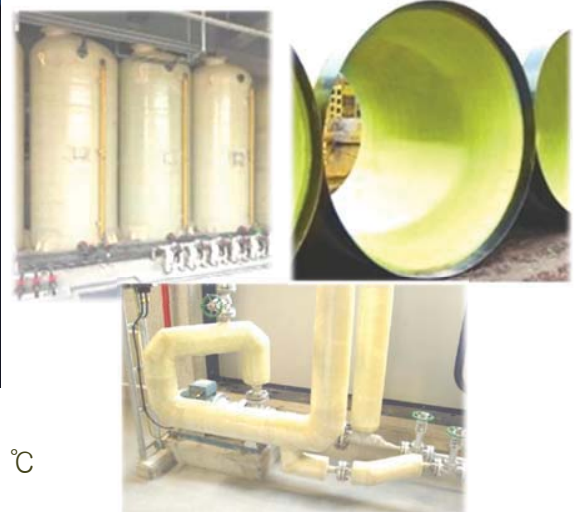
UV(Ultraviolet) activated/  
cured GFRP (glass fiber-  
reinforced plastics)

- More Easy
- More Quickly

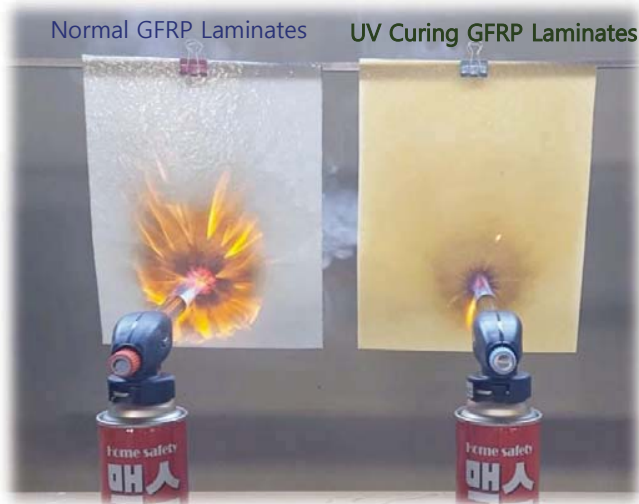
UV(Ultraviolet) or sunlight activated/cured  
GFRP(glass fiber-reinforced plastics)  
Self adhesive  
Very flexible before curing by UV lamp or sunlight.  
Extremely durable after UV curing  
(curing time : 1 ~ 2 minutes under sunlight or UV lamp)  
Fire retardant, Low smoke & Zero halogen(LSZH)  
Providing a simple, fast and effective installation

- ✓ Heat & Cold insulation material cover
- ✓ Fire Protection wrap / bandage
- ✓ Anti-corrosion laminates
- ✓ High voltage electrical insulation accessories
- ✓ Building / Construction repair & maintenance
- ✓ Alternative solution against the traditional

Hand Lay-Up GFRP process.



Torch Temperature is over 950 °C



Fire Retardant

- Flame Spreading : ASTM E 84

Reference Video Clip

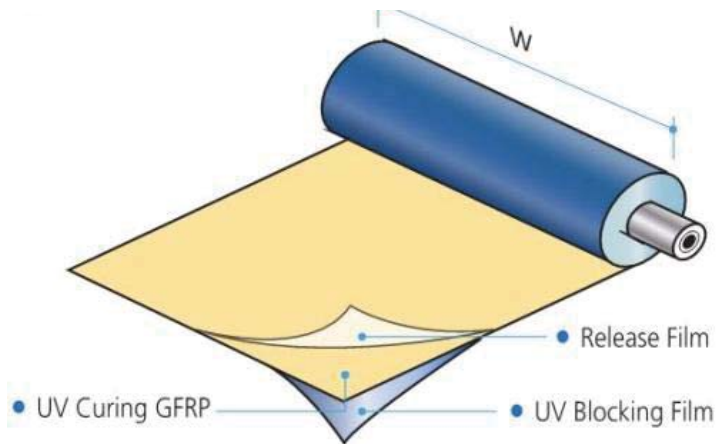
<https://youtu.be/KiegcYX1eyY>



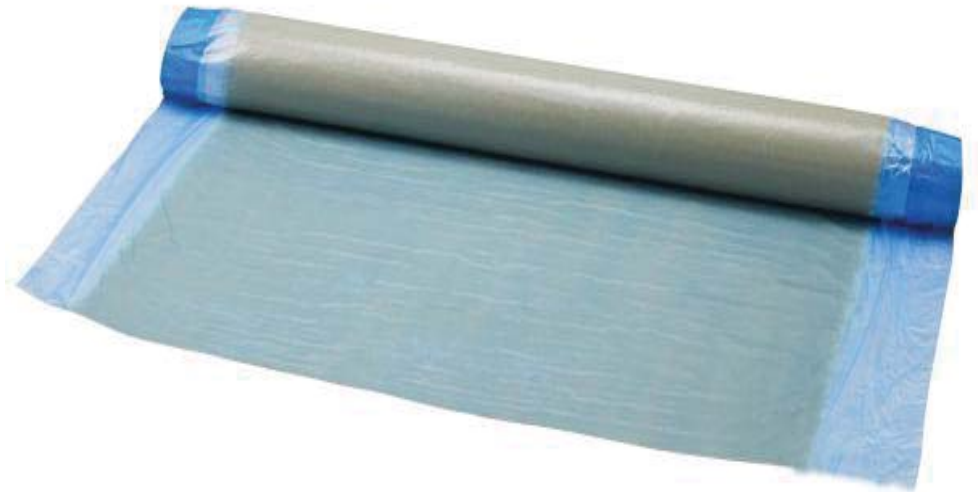
Low smoke & Zero halogen(LSZH) -

Smoke Density : ASTM E 662





- Width : ~ 1,200 mm
- Length : ~ 10 m
- Thickness : 1.2~ 4mm
- Color : Pale Yellow / Gray

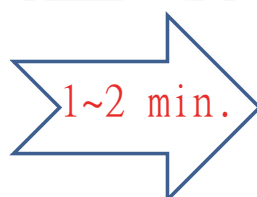
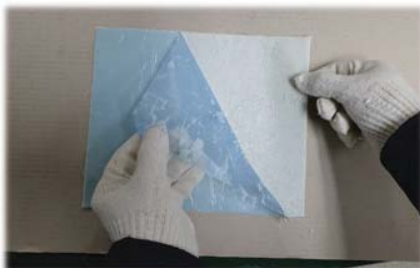


## How to use **UV Curing GFRP Laminates**

1. Remove release film

2. Stick it on the target surface

3. Applying UV lamp



**Curing complete**



Battery Service Life	7 years at 70% DoD
Solar Panel Service Life	20 years
LED Lifetime	153,135hrs/L70
IP Grade	IP66
CCT	2700~6500K
CRI	Ra>70
Operating Temperature	-20°C~60°C
Working Time	3~5days
Spigot Diameter	60/80mm
Typical Installation Height	3~8m



## TL-400

## Specifications

### TL-400

Height	64.5cm~220cm
Weight	10.4kg (Fitting only)
Power Supply	Battery / AC 100-277V
Lumens	0 - 15,000Lm
Run Times	> 10 hours (high output, 3 batteries)
Output(USB)	5V 2A (2 Dock)
Battery System	D24-100



### Battery (D24-100)

Rated Power	98Wh
Rated Voltage	24.5V
Rated Capacity	4.0Ah
Working Temperature	-10~50°C
Working Humidity	20~95%

# nuka

Innovative LED Light Manufacturer

Portable Area Lighting

Complete Range for all your work area lighting







MV01

Remote Area Light

### Certifications:

- ⦿ ATEX Marking:
  - ⦿ II 1G Ex ia IIC T4 Ga
- ⦿ IECEx Marking:
  - ⦿ Ex ia IIC T4 Ga
- ⦿ UL913 Marking (North American):
  - ⦿ Class I, Division 1, Groups A, B, C and D, T4
  - ⦿ Ex ia IIC T4 Ga
  - ⦿ Class I, Zone 0, AEx ia IIC T4 Ga
- ⦿ Housing : IP20  
Lamp head and power box: IP65



WATTAGE	30/50/80/100/150/200/240W 165LM/W±5%
LAMP LUMINOUS FLUX CRI	Ra>70/80
CCT	2700-6500K
RATED VOLTAGE POWER	AC 100-240V 277V~, 50/60Hz >0.95
FACTOR BEAM ANGLE	60°/90°/120°
IP GRADE	IP69K
OPERATING TEMP	-40 °C ~ 55 °C

Halo series LED highbay lights are developed to meet the needs of the food processing and pharmaceutical industries.

# CONSTRUCTION SAFETY RAPIDROLL™ THE PORTABLE SAFETY SOLUTION

SECUREMEN®



The bright orange fencing forms a continuous barrier, ensures high attention, and warns pedestrians and vehicles from a distance. The RapidRoll™ portable roll-up barrier is the ideal solution for securing construction sites. 15 meters of rolled fence make it possible to quickly and easily temporarily fence in a work area. Weighing 12.7 kg, the 3-leg RapidRoll™ system is easy to transport and can be efficiently assembled and disassembled by a single person in a matter of minutes thanks to a well thought-out design. Reusable, efficient, and transportable, this barrier solution can be used for a wide variety of areas.



All the benefits of RapidRoll™ at a glance:

- 15 meter fence system for construction site safety, rolled up in a compact form
- Easy to transport thanks to a weight of only 12.7 kg
- Efficient barrier through eye-catching fence
- Environmentally friendly construction site protection through reusable barriers
- Efficient system that can be assembled and disassembled by one person in a very short time
- Increased safety due to integrated reflectors and 1.60-m-high continuous barrier fence
- Space-saving storage and everything immediately at hand
- 2 versions: with steel base and orange housing or with mobile base and orange housing

## Trailer Stands – safety has a leg to stand on

Portable loading supports so that parked trailers do not collapse:  
Trailer stands are your secondary support system.



The trailer stands provide you with an efficient and cost-effective solution. SECUREMEN's transportable trailer supports can be easily placed on the front edge of the semitrailer. These additional supports stabilize the trailer and prevent it from tipping, as the weight of any payload is also supported in the suspension area.

All trailer supports from SECUREMEN have wheels so that staff can easily roll them under unsaddled trailers. This makes securing trailers not only fast but also possible with little effort. See for yourself of the advantages of Trailer Stands and ensure safety when loading and unloading truck trailers.

## Three Strong Options



The ultimate product benefits of trailer stands  
Stability when unloading the trailer even without the driver's cab  
Ergonomic and easy to use  
Easy to position  
Prevents the trailer from tipping over  
Prevents the collapse of the chassis





## SECUREMEN®

Best possible impact protection. Versatile areas of application. Easy construction.

Thanks to the patented manufacturing process, KNUFFI® warning and protective profiles are indestructible even under heavy use and offer effective shock protection for people, machines and inventory.

The variety of different profile types is ideal for covering all types of dangerous areas, whether on built-in structures, wall projections, walls or smooth surfaces, whether indoors or outdoors.

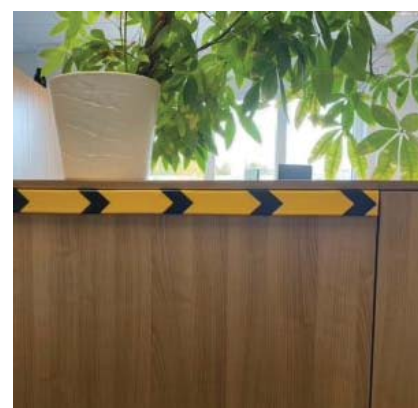
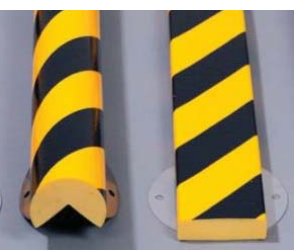
Assembly is extremely easy – even without prior knowledge.

The particularly resistant and at the same time flexible polyurethane foam is also suitable for easy attachment to curves and curved surfaces without having to forego high impact resistance.

Durable. Durable. Without color abrasion.

Reliably prevent injuries and property damage – with the high-quality KNUFFI® warning and protection profiles.

Also available in custom colour, length dimensions.



**PERMALIGHT® – Convincing quality. Permanent visibility. Easy construction.**

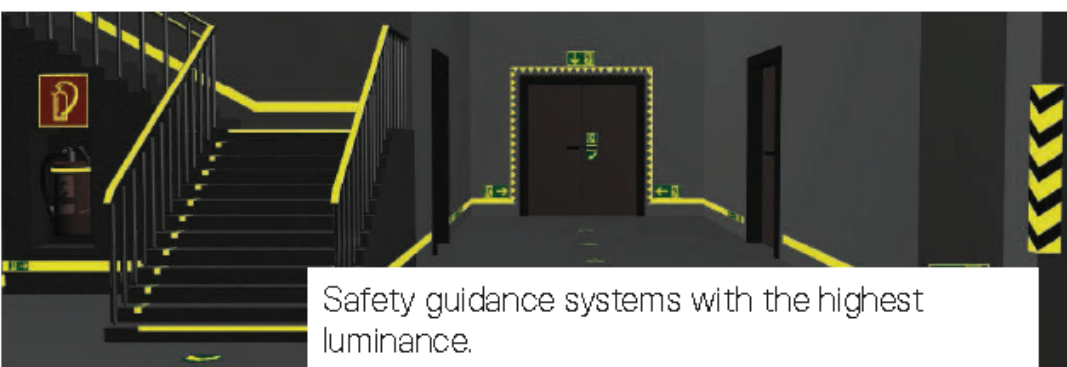
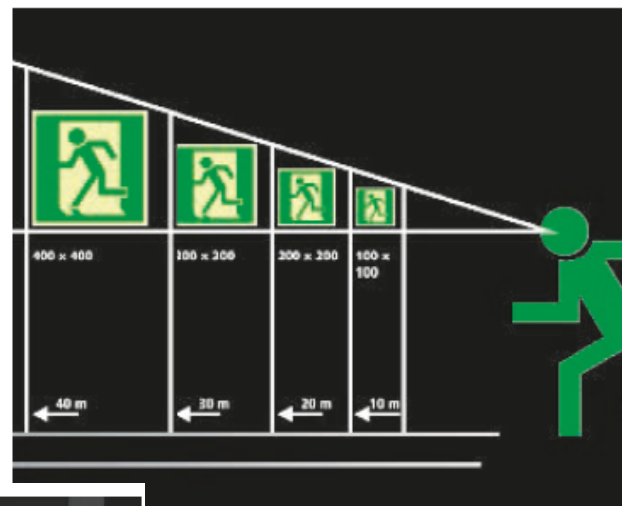
**SECUREMEN®**

The PERMALIGHT® range provides you with a large variety of standard-compliant safety signs with the best workmanship. They form an important and indispensable basis for accident prevention and health protection in the workplace and in publicly accessible buildings.

The very high-quality processing of photoluminescent pigments guarantees good visibility and lasting luminosity of the safety marking in the dark and in the event of a power failure.

Based on more than 40 years of development experience, PERMALIGHT® offers a variety of photoluminescent marking products that are ideal for integration into photoluminescent safety guidance systems in accordance with ASR A3.4/7.

For high visibility and lasting luminosity.



Safety guidance systems with the highest luminance.



Guidance Lines for Walls:  
Best visibility in heavy smoke!





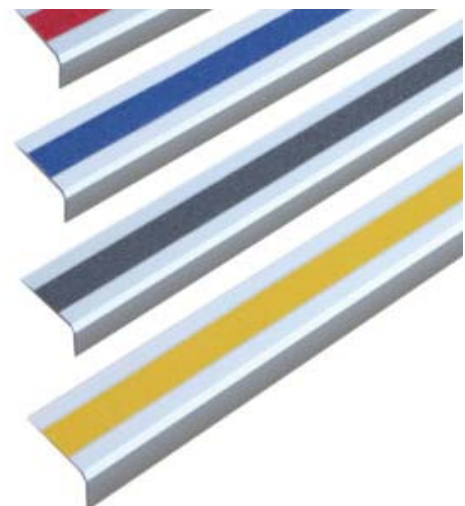
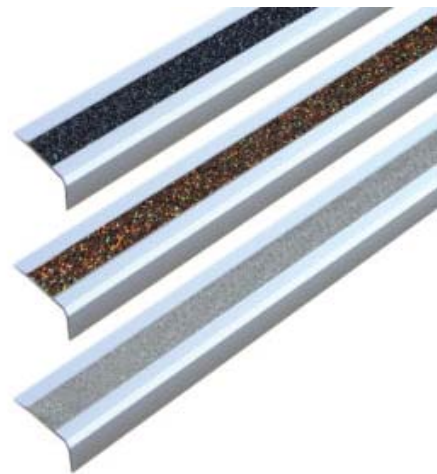
## m2 anti-slip surface TM – secure grip with every step

Slipping and tripping accidents are among the most common causes of injuries at the workplace, in office buildings, workshops, production halls or public facilities.

With the help of high-quality anti-slip products, you can prevent the majority of these accidents, make the working environment in your company safer and at the same time comply with important occupational safety regulations. Responsible and reliable.

The extensive range of anti-slip floor coverings, anti-slip profiles and anti-slip mats impresses with its wide range of materials and highly specialized products for a wide range of indoor and outdoor applications. Even for difficult surfaces and extreme requirements, you will find the right solution here.

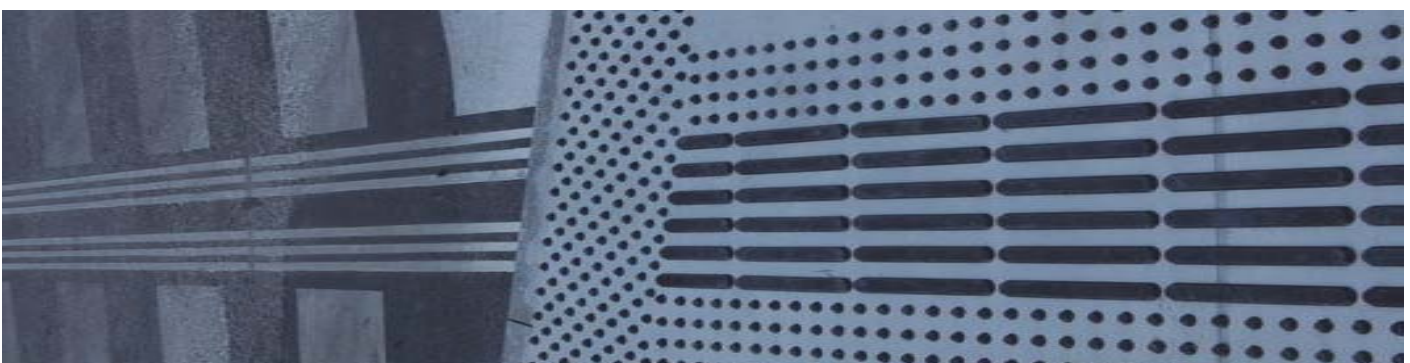
Strong and durable. Ready for immediate use. Easy to assemble.





Textural surface markings: The System of Textured Surface Markings – FON (TWSIs – Tactile Walking Surface Indicators, based on the ISO 21542:2011 standard) is a type of marking of places that facilitate movement. It consists of textures that are detectable by people with visual impairments.

**Textured pavement markings, guide markings for the blind, Braille tiles.**



# HAZARDOUS AREA PRODUCTS

We supply Hazardous Area Products suitable for installation into locations and areas designated as a potentially explosive atmosphere, identified as Zone 1/2 (gas) or Zone 21/22 (dust) according to the ATEX directive.

Gases, vapours, mists and dusts all form potentially explosive atmospheres with air and are classed as hazardous area locations according to the degree of explosion risk, known as Zones. Hazardous area workplaces and locations are classified in terms of Zones on the basis of the frequency and duration of the occurrence of an explosive atmosphere.

International classifications, such as ATEX and IECEx, protect your people, plant and productivity from catastrophic industrial accidents and fatalities.



## GASES, VAPOURS, MISTS

Hazardous area zone classifications:

**Zone 0** A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances present continuously or for long periods or frequently.

**Zone 1** A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances is likely to occur in normal operation occasionally.

**Zone 2** A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

## DUSTS

Hazardous area zone classifications:

**Zone 20** A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.

**Zone 21** A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

**Zone 22** A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

We supply Hazardous Area Lighting, Power & Electrical Products for safe installation in Zone 1 & 2 locations with potentially explosive atmospheres and gas risks including:

Solvent Vapours – liquid paint, varnish, bonding, stripping  
Propellant Gas – lubricants, perfumes, paint, surface treatment  
Gas Leaks – heating processes, hydrogen furnaces  
Handling & Storage – butane, propane  
Fossil Fuels – oil, petrol, methane



## Products list include;

Control Panels | Plugs | Isolators  
Enclosures & Junction Boxes | Lighting  
Control Stations | Motor Starters | Heat Trace  
Gas Detection | Flame Detection | Process Instrumentation  
Process Heating | Ventilation Fans | Security Access Control





# Mechanical Power Tools

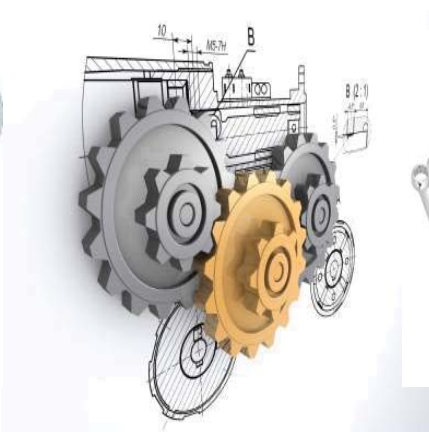
Complete Line of Industrial Power Tools and Parts.

Extensive stock of Abrasives, Cutting Tools and Fasteners.  
Bulk and Pneumatic Nails.

Serving customers in the construction, industrial and institutional markets, we work with one of world's most agile distributors of fasteners, tools, safety supplies, abrasives, paints, adhesives and sealants.

With extraordinary service and expert knowledge, you can depend on us to get you the right products to get the job done. We have solution based expertise in fasteners, tools and industrial supplies. Some of the major manufacturer includes Lenox, Dewalt, MEtabo, Husqvarna, 3M, Rigid, Walter, KCC and more.

We have what you need when you need it.



Flow Solutions Trading Co.



# Industrial Consumables



## Fasteners

**Aerospace Applications** – Fasteners made from lightweight, superior materials such as titanium, alloy A286, or Inconel 718.

**Automotive Industry** – Made from high-strength, fatigue-resistant carbon steel or stainless-steel.

**Food and Beverage Industry** – Fasteners made from stainless steel that are highly resistant to corrosion, including crevice corrosion and stress corrosion.

**Shipbuilding Industry** – Made from marine grade materials that resist corrosion, pitting, and cavitation in the harsh environment of seawater and salty air.

**Power Industry** – Made from high corrosion resistance material, valued strength, durability, and high fatigue strength.

**Architectural and Civil** - Apart from CS and SS, fasteners made from plastic, ABS, nylon suitable for flooring and wall panel insulation what have high anchoring strength.



## Abrasives & Welding Supplies

Abrasives used to aid in sanding, buffing, grinding, or polishing products to their completed state. Different types of abrasive materials include:

**Bonded** – These abrasives are generally contained in a matrix such as resin, rubber, or clay and shaped into blocks or wheels. They have different grit densities for various uses.

**Coated** – The most commonly used coated abrasive is sandpaper. Resin is used to bond the abrasive material to a paper or metal backing. These products come in a variety of shapes and grit densities.

### Welding Supplies

Industries use welding in various applications and work processes. The different types of welding include:

- MIG welding – Gas metal arc welding (GMAW)
- TIG welding – Gas tungsten arc welding (GTAW)
- Stick welding – Shielded metal arc (SMAW)
- Flux-cored welding (FCAW)

Welding supplies consist of a wide array of equipment, chemicals, gas apparatus, safety gear, and various fittings and hand tools used in the process.

Flow Solutions Trading Co.

You may forward your inquiries to

Email: [sales@fstarabia.com](mailto:sales@fstarabia.com), [info@fstarabia.com](mailto:info@fstarabia.com)

Our Address:

Suite No. 303 Shaikh Tower Adh Dahran Street

Building No. 2638 Al Khobar Ash Shamaliyah 6240

Postal Code: 34429 Kingdom of Saudi Arabia

Telephone: +966 13 897 93 68; Fax: +966 13 8383018

Web: [www.fstarabia.com](http://www.fstarabia.com)

You are most welcome to visit our office

<https://g.co/kgs/mCu595>