

# PSC Sealing Compounds

"We help power stations to generate electricity more reliably with a range of sealing compounds designed to increase maintenance intervals"

Created by Shivani Patnaik – Head of Business Development

## **About Project Sales Corporation**

Project Sales Corp is pleased to introduce its sealing compounds range. We represent one of the most exhaustive range of sealing compounds from around the world that finds application in sealing steam and gas turbines, compressors, pumps, gearboxes, flanges and more.

Please feel to circulate this presentation to your colleagues who might benefit from the use of this.











## Introduction



An ideal flanged joint would consist of two, mirror-finish, perfectly flat and parallel surfaces bolted directly together to create a leak-free seal. However, manufacturing processes do not allow for perfect sealing surfaces.

Most flange faces have surface irregularities that cannot be sealed without the use of some type of compressible, resilient material or a combination of materials between them to seal the fluid being transferred. This is true even for the most finely machined surfaces as a turbine flange where the surface asperities can create a leak situation.

Project Sales Corp presents an exhaustive range of sealing and gasketing material that can be used to effectively seal flanges and in many cases seal leaks that can develop in operation and can be sealed insitu without an outage of the equipment. We stock gasketing compounds, jointing Compounds, Flange Sealants, Thread Sealants, Pipe Sealants, Form-in-place RTVs, Turbine Flange Sealing Compounds.



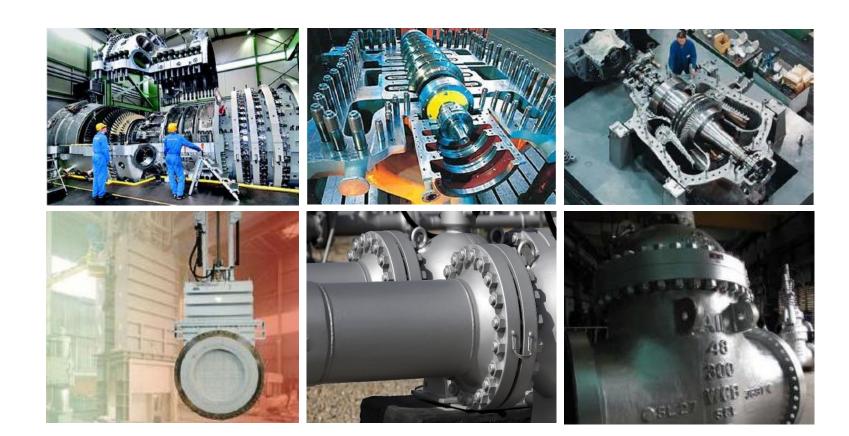
## **Key Parameters for Turbine Sealing Compounds**

With the new generation turbines being manufactured, it is now imperative that sealing compounds meet the key parameters.

- > Sealing compound should not present any significant danger for the environment. It should not contain any hazardous substance that is harmful to the environment.
- The sealing compound should be non-flammable or not have any flashpoint.
- Several products contain 10-12% by volume of methylated spirits and have flash point of 14-20 °C due to the solvents. This is not safe to handle and needs special protective clothing & needs special precautions as they are highly flammable.
- > Sealing compounds containing solvents have a chance for solvent evaporation which is not safe and needs addition of solvents.
- > Sealing compounds should have a service life of 10 years after application in line with the requirements on the new generation turbines.
- ➤ The new specifications for the next generation of SST steam turbines and SGT gas turbines will have a pressure resistance required of 250bar to also take care of a safety margin and temperature resistance of 900 °C.



# Critical Equipment Sealing





## Birkosit Dichtungskitt®

Bringing reliability to sealing high temperature high pressure flanges in turbines.

Birkosit has been developed in cooperation with Siemens. Approved and used by all major turbine manufacturers worldwide since 1952. Birkosit is the only product that can withstand temperatures in excess of 900 degree Celsius and pressures of 250 bar.

Used for sealing steam and gas turbines, compressors, generators, expanders, pumps, flange joints, etc. The adhesion on sealing surfaces and butt joints is so high that a one hundred percent seal is guaranteed even for pressures up to 250 bar. The pressure resistance for flanges without sealing rings is guaranteed up to 450 bar, and even up to 550 bar for screw joints. This ensures sufficient safety factor even for super critical turbines and improves reliability in turbines operating in 170 to 225 bar range.











## Birkosit Dichtungskitt®

BIRKOSIT Dichtungskitt® is a single-component, paste luting agent/sealing material for industrial use wherever conditions of temperature combined with pressure on smooth, plane sealing surfaces (butt joints) make extreme demands on the quality of the sealing compound.

Temperature Resistance 900 deg C. Resistant to hot air, steam, water, light fuel oils and lubricants, crude oil and natural gas.



www.india.birkosit.com

BIRKOSIT Dichtungskitt<sup>®</sup> is suitable for sealing all surface sizes. The surface quality of the sealing surfaces complies with milled/scraped surfaces with a finishing accuracy of Ra =  $0.8 \mu m$  to  $1.2 \mu m$ . Sealing surface damage of  $\leq 0.2 mm$  is compensated with BIRKOSIT Dichtungskitt<sup>®</sup>.

Apply the BIRKOSIT Dichtungskitt<sup>®</sup> to the dry sealing surfaces with a brush or putty knife on both sides. The layer thickness to be applied is 0.2 mm to 0.3 mm. The product can be subjected to workloads immediately! It does not cure, will not change its consistency even after several hours, and remains flexible and elastic.

S.No	KGS	BASIC PRICE (PER KG)	EXTRA GST
1	From 0 – 11 Kgs	₹ 4,750/-	28% GST Extra on Basic Price
2	From 12 – 48 Kgs	₹ 4,500/-	
3	> 48 Kgs	₹ 4,250/-	



## Arexons Motorsil D RTV Silicone Sealant

Exported to over a dozen countries by Project Sales Corp including Kuwait Petroleum, GE Nuovo Pignone, Bechtel LNG Angola, and more. Used and recommended by several OEMs across the world.











MOTORSIL D

GUARNIZIONE SILICONICA ORIGINALE

- 70°C + 300°C

SPECIALE CATALITICHE



## **Arexons Motorsil D RTV Silicone Sealant**

A high temperature silicone RTV Sealant cures in the presence of moisture to form a reliable seal in flanges.

Acetic elastomer component type. Cures at room temperature. Good resistance to temperature, water, moisture. Excellent oil resistance. Good dielectric properties. Excellent tear resistance. High degree of vibration absorption. Good resistance to mechanical stress. Temperature range: -70 °C to +250 °C with peaks of 300 °C. Does not harm catalytic converters. The product, after curing, resists water, fuels, mineral oils and synthetic fluids for radiators.

Approved and used for GE Nuovo Pignone compressors and BHEL.

BHEL buys over a 1000 tubes for sealing turbine joints and all compressor flanges and has been using this for over a decade.

Available in 60 grams tube.





## **PSC Froschmarke Boiler Putty**

### **PSC Refractory Boiler Putty FROSCHMARKE**

Froschmarke refractory boiler putty is a potassium water glass based sealing putty. Guaranteed to be resistant to open flames and temperatures of up to above +1000 °C. Has good adhesion, is non-shrinking, completely seals off smoke and gas. **For boilers, furnaces and stoves.** With excellent adherence to metals and other materials, this product is used for sealing off flue-gases with simple application by trowel or spatula blade.



#### **Applications:**

- > Sealing Flue Gases off from boilers, stoves, ovens, etc.
- > Insulation repairs on boilers
- > Door openings in boilers and ovens can be sealed from outside
- ➤ Inlet/Outlet elbows
- > Exhaust Ducts
- ➤ Leakages in high temperature pipes (non-water)
- Manhole Covers
- Duct sealing in cladding applications
- Repairs to thermal insulation and for patch work in insulation jobs subjected to high temp.



## Blue Magic High-Temperature Metal Repair

PSC Blue Magic ThermoSteel High-Temp Metal Repair is the Highest temperature metal repair sealant available in the market. Withstands temperatures to 2400 degree Fahrenheit. Strength increases with heat.



#### **Applications:**

- > Welds cracks and holes in iron and steel.
- Fills cracks and holes and pits.
- > Great for boilers, stoves, BBQ's, furnaces, heaters.
- ➤ Works on cast iron, steel, aluminium.
- > Repairs mufflers, tail pipes, exhaust manifolds and other high temperature applications.

Available in 24 oz. tins.



## NIEL-SEAL Gasket & Joint Sealing Compound

Niel-Seal is a sealing compound for hydrogen cooled Turbo-Generator End-Shield. The joints between the shield halves and the joints between the shields and the stator frame are fitted and provided with grooves for the insertion of Niel-Seal to seal the hydrogen gas in the generator casing. It is a sealant material designed to be injected into a channel to form watertight seal and provide hydrogen sealing in the End-Shield. Available in Medium and Light Weight grades in 5 lb pack and used with special high pressure pumping equipment.



Heat Proof, vibration proof, non-solvent, non-shrinking, non-cracking product. Withstands high temperatures and pressures, resistant to water, gasoline, kerosene, grease, oil, LP and natural gas, glycerine, ethylene glycol, ammonia, etc. Designed to survive in the harsh environment. It is highly resistant to contact with solvents, fuels, oils and many industrial chemicals

Used for gasket dressing in gearboxes, sealing radiator hose connections, pumps, tanks, pressed plates, covers, pans, pipe threads, imperfect or uneven flanges.

Abbey Products were the exclusive manufacturer of Tite-Seal® for Radiator Specialties Corporation (RSC) for over twenty years. After RSC chose to exit the market recently, Abbey decided to continue servicing the market directly under the new brand name 'Niel-Seal'. Niel-Seal is exactly the same material as Tite-Seal®, it is produced in exactly the same way, with the same raw materials, in the same facility.



## **PSC Hochdruck Fermit Putty**

PSC Hochdruck Fermit is an non-toxic, non-drying, universal sealing compound, pasty putty, which is heat, steam and high pressure-resistant and does not dry up. The product is insoluble in water, is non-flammable and is a red brown paste based on natural rock dusts, oils and pigments!

Is particularly suitable for sealing threads, flanges and faces on high-pressure equipment, turbine casings, steam lines etc. Can be used up to a pressure of 16 bar and up to +160 °C, briefly also up to +200 °C.



In sealing threaded connections upto 2 inch in diameter, hemp completely impregnated with Hochdruck-Fermit is used. For flanges and faces apply Fermit and then screw together firmly. The seals produced in this method with Hochdruck-Fermit can be stressed immediately and the connections can be undone again at any time.

Available in 500grms box.



## Slic-tite® Paste with PTFE

PSC Laco Slic-tite<sup>®</sup> contains more PTFE than other brands. The higher concentration of PTFE particles provides greater sealing power on all tapered pipe threads including those that are damaged. Brushes easily on wet or oily threads.

#### **Features**

- > Sticks to hot, oily threads, will not run off.
- ➤ Ideal for use on production lines using high speed pipe threading machines.
- ➤ The non-toxic, non-drying formula will not harden or crack in the pipe joint.
- > Provides easy disassembly and break out.

**Seals to high pressures:** 10,000 PSI for Liquids, 3,000 PSI for Gases.

**Sealing temperature range:** -50° to 500°F (-46°C to 260°C).

Available in 1/4 Pint.





## The Original Quiksteel from Blue Magic USA

- Imported and Marketed by Project Sales Corp





## Quiksteel 6004 from Blue Magic USA

QuikSteel Steel Reinforced Epoxy Putty is a steel fortified, high temperature (500°/260°C) epoxy putty that can be used to make quick, permanent repairs of all materials except rubber.

It can be used to repair products and parts made of steel, copper, aluminium, cast iron, stainless steel, galvanized steel, brass, bronze, chrome, silver, gold, exotic metals, glass, plastic, fiberglass, epoxy fibre materials, PVC, concrete, ceramic, brick, tile and porcelain.

Part# PSC 6004 - Size 4 oz (113.6 grams stick).







# PTFE Thread Cords from Laco USA & Fermit GmbH

#### From LACO USA

PTFE cord used as packing for valves, pumps, flanges as a gasket material. Resistant to all chemicals, solvents, fuels and acids, and temperature resistant to 260 deg C, this non flammable, non-hazardous PTFE cord replaces all other sealants and tape on threads. Imported from LACO, USA.





#### **From Fermit Germany**

100% P.T.F.E. for sealing metal & plastic threaded pipe joints. Absolutely chemically resistant to the most aggressive chemicals, solvents, fuels and acids. Remains functionally stable in a temperature range from -200 °C to +240 °C. BAM approved. DVGW tested & approved up to 100 bar pressure.







### Permatex Form-A-Gasket Sealant #2

**Permatex Form-A-Gasket** No. 2 Sealant is a black, viscous paste with a characteristic alcoholic odor. It is a slow drying, flexible setting paste that changes to a pliable, non-hardening film through solvent evaporation. It seals flanges, fittings, connections and flexible assemblies against leakage. It increases the reliability of gasket seals.

#### TYPICAL APPLICATIONS

- ➤ Valve cover gaskets
- ➤ Oil pan gaskets
- > Threaded connections
- Cover plates
- ➤ Hose connections

Available in 11 oz tube.

**Dynatex Blue RTV Gasket Maker** Temperature resistant up to 500 °F (260 °C). Resists oil, water, anti-freeze and transmissions fluid. For valve covers, oil pans, transmission pans, rear-end housings, timing chain covers, thermostat housings, water pumps and oil pump flanges. Withstands the harsh conditions of Gear Oil, especially with differentials and transfer cases.







## **RTV Silicones for Gasketing Applications**

**Permatex Ultra Black** Maximum Oil Resistance RTV Silicone Gasket Maker. Temperature range -65 °F to 500 °F intermittent; resists auto and shop fluids and vibration and is non-corrosive. Retains high flexibility, oil resistance properties through use of a patented adhesion system. Use for valve covers, oil pans, intake manifold end seals, timing covers, transmission pans, etc.



**Permatex Ultra Copper** Maximum Temperature RTV Silicone Gasket Maker is the most advanced, high temp RTV silicone gasket available. Three times more oil resistant than conventional silicones and eight times more flexible than cut gaskets. Highest operating temperatures for 4-cylinder, turbocharged or high performance engines and OEM specified, with a temperature range of -75 °F to 700 °F intermittent. Also resists auto and shop fluids and vibration.





## **Hose Sealing Tape**

Versachem WrapIt Repair Tape is a self-fusing, flexible silicone repair tape that has been used by the military for years.

It is an all-purpose repair tape that is made out of specially formulated silicone rubber, contains no adhesives and yet chemically bonds to itself upon contact. Simply stretch and wrap for an airtight, waterproof seal in seconds.

Repair and seal all types of hoses and cables, appliance cords, leaking pipes, broken branches and stake plants.

Resistant to fuels, oils, solvents, water, salt water, road salt, and UV Rays. Insulates 400 volts per Mil. Meets Mil Spec AA59163 and UL510 Specifications.





## Surface Cleaner for Sealing & Gasketing

IPA is a universally recognised cleaning solvent which is considered to be safe on metals and most plastics.



It evaporates after application and does not leave any residue.

Used for cleaning surfaces prior to sealing, bonding and gasketing applications.

Available in 400 ml and 1 litre tins.



## **Electrical Sealing Liquid Tape**

Permatex Liquid Electrical Tape is a weatherproof protectant for wiring and electrical connections.

It goes on as a liquid and dries to a vinyl polymer that resists dirt, dust, chemicals, and moisture, ensuring that connections stay intact. Brush top applicator allows coverage without gaps and enables access to tight spaces that roll tape and shrink tubing can't get to.

#### **Suggested applications:**

- > Ignition wires
- Underground wiring
- Outdoor lighting fixtures
- ➤ Bilge pumps
- > Terminal blocks
- > Exposed wires, etc.

Available in 4oz tin.





# **Aquashield (formerly Aqua lube Grease)**Lubricates & Seals 'O' Rings, even Underwater

AQUASHIELD is a multi-purpose lubricant and sealant that is compounded specifically to cling to metal and "O" ring surfaces, provide long term lubrication, and rust protection. It is designed to seal out water and contaminants.

Provide lubrication for O rings to prevent them from becoming brittle in contact with media. Extremely tacky and provides a better sealing effect. Used at the time of assembly of O rings.

Available in pack size 5.5oz tubes.







# Never-Seez Pipe Compound with PTFE Lubricant cum Sealant

Never-Seez Pipe Compound with PTFE allows greater thread engagement and more positive sealing.

This product prevents corrosion and galling of threads for easy disassembly at temperatures up to 525°F.

#### Recommended for use on

- ➤ Black iron
- ➤ Galvanized stainless steel
- ➤ Pressure steam pipes in contact with malleable cast iron, brass, stainless steel and galvanized fittings.

Available in 8oz tin.







# **Dow Corning RTV 732 and 736 Silicone**General Purpose Gasketing Compounds

**Dow Corning® 732 Multi-Purpose Sealant** is used for General-purpose bonding and sealing; making formed-in-place gaskets.

#### Applications -

Sealing flashing, vents, flues, gutters, marine cabins and windows, and electrical boxes; caulking joints in sheet metal stacks and ductwork; bonding appliance parts, making formed-in-place gaskets for compressors, gearboxes and pumps, etc.

Available in 300 mL Cartridge.

**Dow 736 Heat Resistant Sealant (Red)** is a one component, non-slumping, silicone paste that is used for coating, sealing, encapsulating, potting, and bonding applications that are exposed to high temperatures.

It is recommended for industrial ovens, aerospace gasketing, moving oven belts, and appliances. It cures at room temperature when exposed to moisture.

Available in 300 mL Cartridge.





# Dow Corning 3145 Electronic Grade RTV Silicone Sealant

Dow Corning 3145 RTV MIL-A-46146 Adhesive Sealant Clear is a one component, room temperature curing, silicone adhesive that is used for assembling print wire boards and sealing housings, modules, and electrical leads.

It is non-flowing and has high elongation, tensile, and tear strength.

#### **Features**

> Appearance : paste

➤ Color : white, translucent

➤ Odor : slight

> Self-ignition: The substance or mixture is not classified as pyrophoric.

The substance or mixture is not classified as self heating

Available in 90ml tubes and 300ml cartridges





## Led Plate 250 Anti-seize Sealing Compound

This compound aptly is named Led Plate consists of pure mineralized lead powder and a non-volatile hydrocarbon vehicle and does not dry out, even when exposed to the atmosphere. Led Plate 250 it is used extensively for sealing the fittings on hydraulic, propane, butane, gasoline and petroleum oil lines.

**Low Temperature Usage** - The compound forms an effective seal for equipment handling liquid nitrogen at -350°F. It is recommended for pipe sealing applications at temperatures to -100°F.

**High Pressure Applications** - Increasing pressures cause the lead particles to pack more closely, strengthening the seal. Led Plate 250 can be used for up to 50,000 PSI.

Available in 1lb pack.



Registered trademark of Armite Lubricants

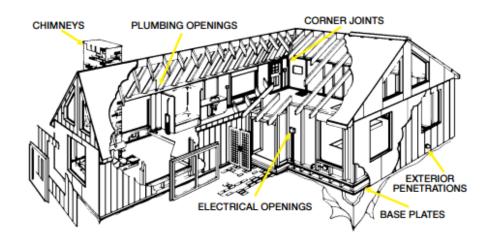


## 333 Polyurethane Expanding Foam

Not a flange sealing product, but talk of sealing products and can't ignore this construction sealer. PSC 333 is a ready-to-use, multi-purpose, polyurethane foam that expands to three times its original volume on contact with air.

The expanding action fills holes, cracks and gaps more completely than standard caulks. PSC 333 has excellent insulating properties and superb adhesion to virtually all building materials. Used for sealing partition walls with ceilings; through penetrations around cables and pipes; seams between chimneys, roof protection, roof panels and wall panels. UL Classified, Tested to ASTM E-8

Available in 750 ml can.







### **PSC Duct Sealer**

Not a flange sealing product, but talk of sealing products and can't ignore this product as well.

**PSC Duct Sealer Seals** irregular openings from air, dust, or water, is Non-hardening sealant that adheres to metal, masonry, wood or plastic. Provides vibration dampening.

Safe and easy to use, non-corrosive, non-toxic, no asbestos, will not stain or harm hands, and no unpleasant odour.

Dielectric strength: 200 V/Mil, Min .030" thick

Available in 1lb pack.











# Rust-Oleum® LeakSeal® Spray

Repair and prevent leaks on a wide range of demanding surfaces with Rust-Oleum® LeakSeal® Spray.

This rubberized coating seals cracks, fills small holes and provides firm-but-flexible protection against moisture and rust on surfaces that need it most.

#### **Features**

- > Great for gutters, roofs, flashing, ductwork, PVC, masonry, concrete and more.
- > Seals leaks and cracks water-tight
- > Paintable finish
- Available in clear, white and black color

Available in 15 oz can, Part #PSC-RLS15.









## INDEX TO OTHER PSC GUIDEBOOKS

Know more about our product range.

➤ PPE GuideBook 2017	Click here
➤ Workplace Safety GuideBook 2017	. Click here
➤ PSC Impact Gloves GuideBook	. Click here
➤ PSC Task Specific Gloves GuideBook	. Click here
➤ PSC Hands-Free Safety Tools & Hands-Off GuideBook	. Click here
> PSC Specialty Lubricants Range	. Click here

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