



COMPANY AND PRODUCT PRESENTATION



FOURTHANE manufactures solutions designed to maximize the useful life of the equipment, keeping them in function during the emergencies and minimizing the breakdown time in the plants.



WHAT DO WE DO?



1) Corrective maintenance: we extend the useful life of the worn equipment, till reaching at least the next plant shutdown.

2) Preventive maintenance: we prevent the wearing down of the equipment, avoiding plant breakdowns.

We apply our products, assist our customer and we measure the benefits of our solutions in terms of **cost effective reduction**.

GLOBAL PRESENCE:



Headquarter:
Chile

Branches and
commercial
offices:
EE.UU
Perú
Australia
España
Brasil

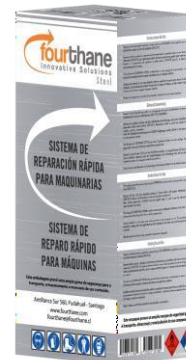


More than 50
distributors
located
worldwide





OUR SOLUTIONS





CONVEYORS BELTS



RED BELTS



SILVER PULLEY PULLEYS



LIQUID STEEL



ANTI-CORROSION PAINT

BLACK 5551 antiacid



BLACK 5611



BLACK 5711



HEX 6 / HEX 12



SILVER



HIGH IMPACT MODERATE ABRASION

HIGH ABRASION MODERATE IMPACT

HIGH ABRASION LOW IMPACT

FOURTHANE PRODUCTS AND THEIR FUNCTION:



FOURTHANE PRODUCT:

1. Belt repair and pulley lagging repair:

RED LB (750 gr y 300 gr): conveyor belt rip repair;

SILVER PULLEY (5 kg): pulley lagging repair.

2. Solution against impact:

SILVER (5 kg): SAG and ball mills components protection.

3. Solution against abrasión and acid protection:

BLACK 5711 (5 kg): Pipeline protection, chutes, hydrocyclones, pumps;

BLACK 5611 (5 kg): Flotation cell lining, tanks, pumps;

BLACK 5511 (5 kg): Pipeline protection, agglomerators, tanks.

4. Solution against abrasion:

KIT HEX 6 y KIT HEX 12 (5 kg): Buckets of bucket Wheel excavator lining, pipeline, chutes.

5. Solution against corrosion and cavitation:

BROWN (2 kg): Pump and pump impellers coating.

6. Metal surface restoration:

STEEL (1 kg): Recovery of worn mill boreholes, pumps, valves, axis.

Functional curing time (depending on the ambient temperature)

30 minutes – 45 minutes

2-4 hours

4 hours

2-3 hours

2-3 hours

2-3 hours

1 hours

1-2 hours

1-2 hours

CONVEYOR BELT RIP REPAIR:

Fourthane Red LB is a liquid rubber with high resistance to cutting, impact and abrasion, which allows doing repairs in different types of conveyor belt (EP, ST and others).

- Very quick application and functional curing time (30-45 minutes);
- From 2 hours after the application, the belt can come back to normal function;
- Easy application and simple to learn, not requiring a very specialized manpower;
- Two different formats available, 750 gr y 300 gr;
- Available with 85 shores A of hardness (LB) and 92 shores A (Classic, used in feeders).



CONVEYOR BELT RIP REPAIR:



PERFORATED LONGITUDINAL BELTRIP REPAIR



Before

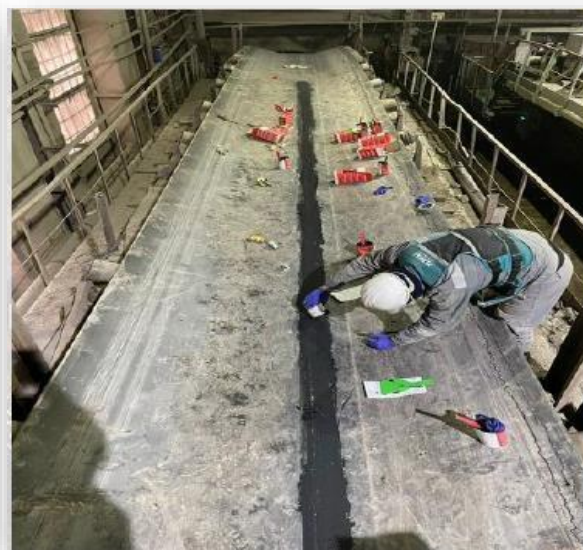


After

*Length of rip: 50 metres
Industry: cement (USA)*



Before



After

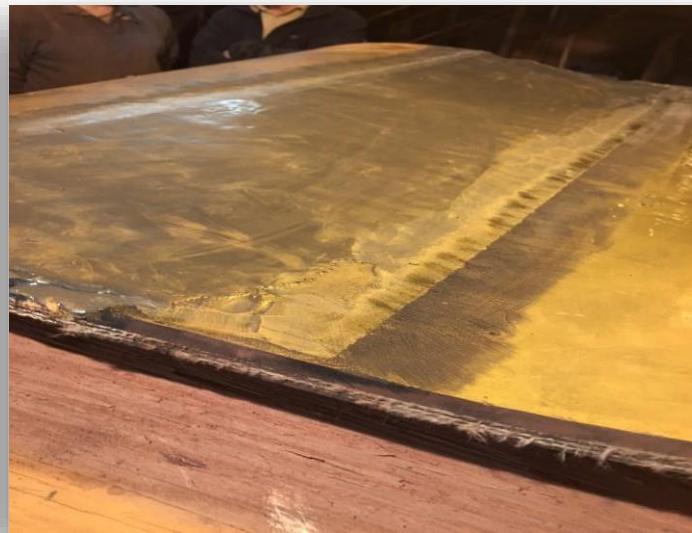
*Length of rip: 125 metres
Industry: mining (Kazakstán)*

OTHER TYPICAL

- Superscrew splicing reinforcement;
- Belt Edge repair (EP and ST);
- Top cover reinforcement;
- Top cover central rip repair;
- Splice Edge repair;
- Others (ports): Crude oil hose and bumpers.



Before



After



Before



After



PULLEY LAGGING REPAIR

Fourthane Silver Pulley is a non-sag putty, epoxy bicomponent polymeric paste composed of powdered rubber, very resistant to impact, with hard and elastic non-stick fillers to withstand mechanical stress and improving traction.

Specially designed to cover and repair pulley lagging damages.

- It allows doing on site and overhead repairs;
- Functional curing time can be accelerated with a hot air blower;
- Thickness and design adaptable to the original pulley rubber lagging.



Before the repair



Repaired pulley



After 8 months

PULLEY LAGGING REPAIR



PULLEY LAGGING REPAIR



PROTECTION FROM IMPACT

Fourthane Silver is an epoxy bicomponent polymeric paste composed of high hardness powdered rubber, very resistant to impact and specially designed to protect from wear SAG and ball mills.

- Multipurpose: applicable on metal, rubber, concrete and others;
- Non-sag putty: aplicable overhead;
- Resistant to high impact and moderate abrasion;
- Functional curing time: 4 hours.



PROTECTION FROM IMPACT



PROTECTION AGAINST



Before



After



Before



After

-SAG and ball mills lining:

-Feed head;

-Discharge head;

-Mill cylinder;

-Pulp lifter;

-Inlet trunnion;

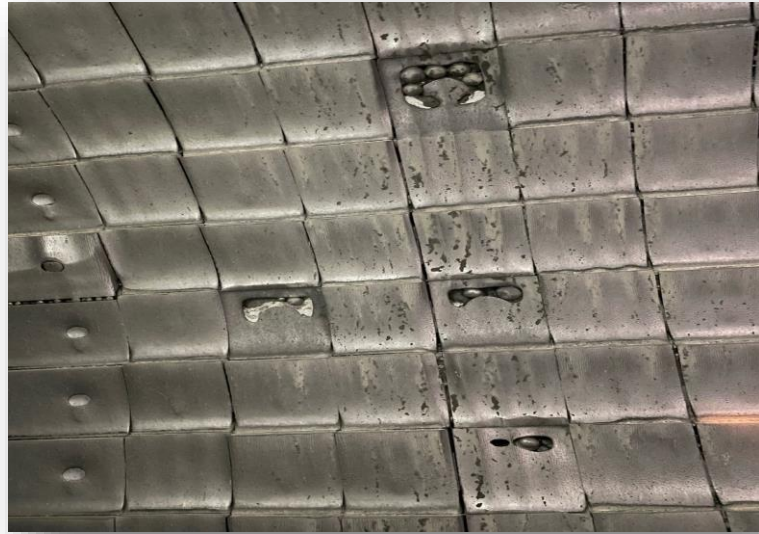
-Outlet trunnion;

-Discharge cone.

PROTECTION AGAINST IMPACT

-Protection of:

- Worn liners (mills);
- Trommel structure.



Before



After



Before



After



PROTECTION AGAINST IMPACT



-Protection of:

-Shell;

-Bolts;

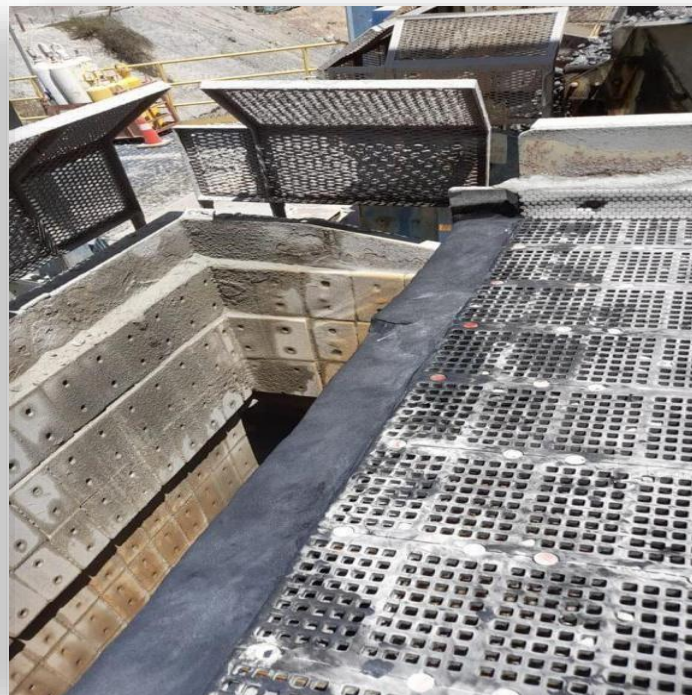
-Rubber backing reinforcement.



PROTECTION AGAINST IMPACT

Others applications:

- Vibrating screens (axis and lateral structures)*
- Discharge chute caulking*



PROTECTION AGAINST ABRASION AND ACID

Fourthane Black is an epoxy bicomponent polymeric paste composed of ceramic and silicon carbide, specially designed to protect the equipment from high abrasion.

- Protect from high abrasion (5711), fine abrasion (5611), acid (5511).
- Multipurpose: applicable on metal, rubber, concrete and others;
- Non-sag putty: applicable overhead;
- Resistant to high abrasion and moderate impact;
- Functional curing time: 2/3 hours.



Characteristic	Main applications
COURSE LOAD: With ceramic beads of 2,5 mm of thickness	Discharge cone, transfer chutes, pipeline, hydrocyclones, spout feeders, mills. High abrasion.
FINE LOAD: With powdered ceramic	Flotation cells, pump housings, pipeline, tanks floor. Fine abrasion.
ANTACID: 7 times more resistant to sulfuric acid than a normal paste. It resists till a 30% of sulfuric acid concentration.	Agglomerators, Super Sucker trucks, equipment with a high acid concentration.

PROTECTION AGAINST ABRASION AND ACID

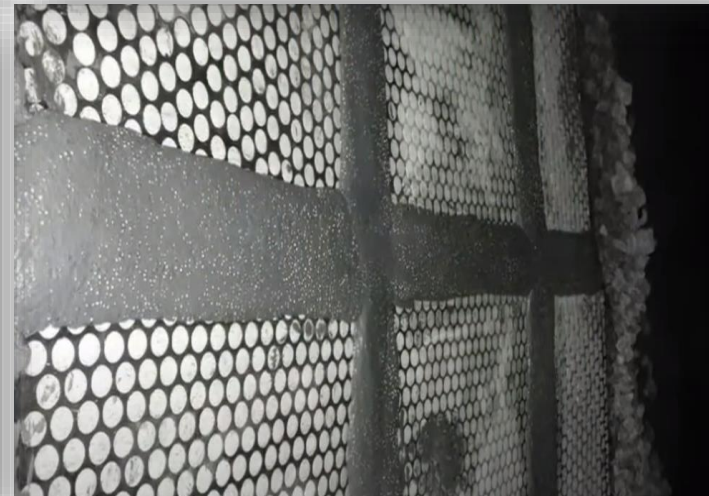


PROTECTION AGAINST ABRASION

Black 5711 Course Load

-Typical applications:

- Pipeline;*
- Gutter;*
- Discharge chute caulking;*
- Hydrocyclone batteries (manifold inlets, underflow)*



PROTECTION AGAINST ABRASION

Black 5611 Fine Load



Before



After



Before



After

-Typical linings:

- Flotation cell;
- Tanks;
- Pipeline.

PROTECTION AGAINST ABRASION

Black 5611 Fine Load



PROTECTION AGAINST ABRASION

Antacid Black 5511



- Excelent resistance to a sulfuric acid concentration till 30%;*
- Good resistance to clorhidric acid and fosforic acid.*

-Typical linings: pipeline, tanks of Super Suckerm trucks, plant tanks and flotation cells and relevant components.

PROTECTION AGAINST ABRASION

Fourthane HEX is a kit composed of hexagonal ceramic tiles with high content of alumina and an elastic polymeric adhesive with very high adherence, very resistance to abrasion.

- Functional curing time: 1 hour;
- Ceramic tiles with 6 or 12 mm of thickness;
- Multipurpose;
- 1 m² of coverage per each kit;
- Non-sag putty: aplicable overhead;
- Combined application with other Fourthane solutions (for example: Black 5611 as adhesive HEX ceramic tiles).



PROTECTION AGAINST ABRASION

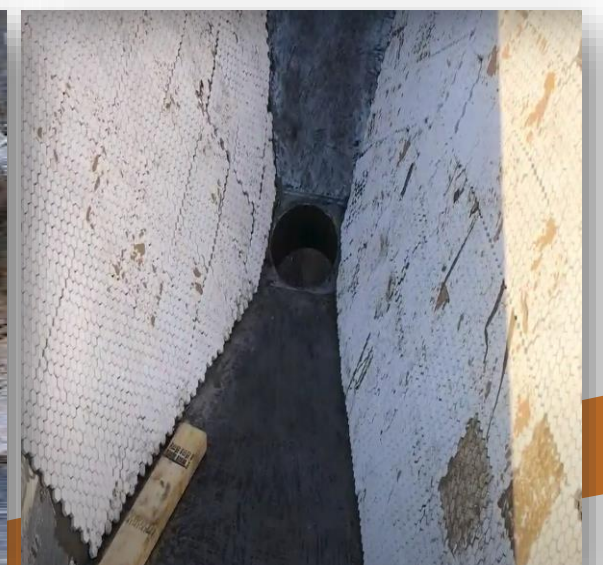
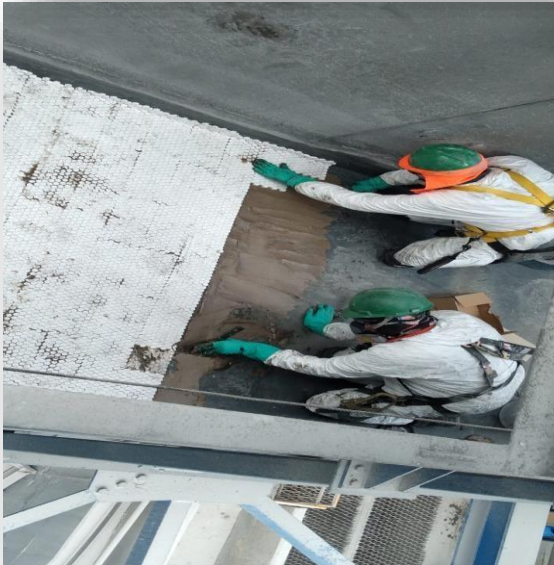


PROTECTION AGAINST ABRASION



-Typical applications:

- Buckets of bucket wheel excavators;
- Discharge and feeder gutters;
- Transfer, discharge and feeder chutes;
- SAG mill discharge chute;
- Pipe elbows.

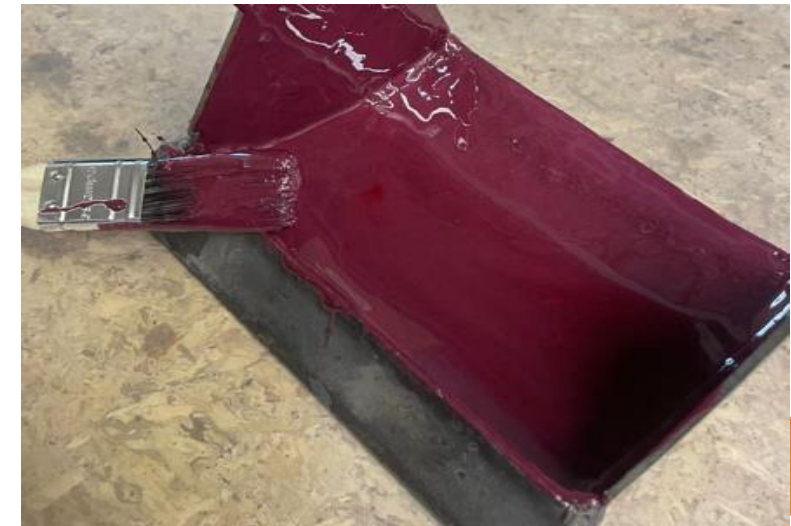


PROTECTION AGAINST CORROSION AND CAVITATION



Fourthane Brown is an ultrasoft epoxy polymeric paint applicable with brush, reinforced with ceramic which protects the equipment from corrosion and cavitation.

- Functional curing time: 1 or 2 hours;
- Corrosion resistance;
- Cavitation resistance;
- Chemical attacks resistance;
- Pump impeller lining;
- Pump housing lining (mixed application).



PROTECTION AGAINST CORROSION AND CAVITATION



RESTORATION OF WORN METAL PARTS

Fourthane Steel is an epoxy liquid steel which recovers surfaces, components and metal precision parts which are worn and/or broken.

-Functional curing time: from 1 to 2 hours;
-It's not a coating, but a recovery solution.

-Restoration of:
-Worn boreholes in mills;
-Pump housings (combined application),
-Worn axis;
-Valves
-Bearings;



Before



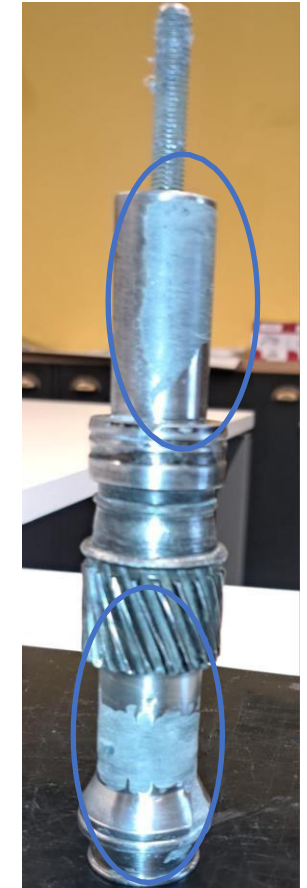
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RESTORATION OF WORN METAL PARTS



Before



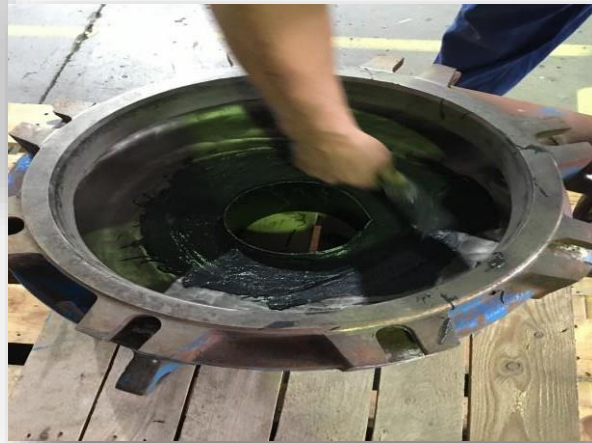
After

COMBINED APPLICATION OF FOURTHANE SOLUTIONS

- When required, we can combine the application of our solutions;
- Combined application per layer: one product applied on the top of the other;
- Typical example: worn and broken pump housing (1), recovered with Fourthane Steel (2), protected from abrasión with Fourthane Black (3) and protected from cavitation with Fourthane Brown (4). +20%-25% of pump's useful life extension.



1. Initial wear condition



2. Steel



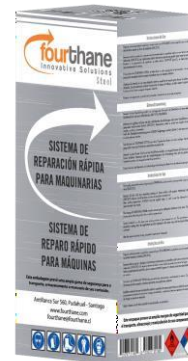
3. Black



4. Brown



THANK YOU FOR YOUR ATTENTION!





TSALACH GROUP