



PIPE REPAIR BANDAGE

CASE STUDIES





DIRECTIONS FOR USE

Rapp-it is the Ultimate Pipe Repair System for your temporary emergency pipe repair needs.



STEP 1: Shut down pipes or hoses. Apply gloves, then thoroughly clean and roughen the damaged area with a metal file or wire brush. This helps result in a successful repair.



STEP 2: Tear off adequate amount of Steel Putty. Twist and knead Steel Putty until it is a uniform grey colour and apply firmly into damaged area. Putty will become hot. The Putty has a 2-5 minute work time, and the bandage application must begin during this time.



STEP 3: Open foil pouch and soak bandage in fresh temperate water (22-26°C) for 10-20 seconds. Squeeze bandage 1-2 times while in water to help activation.



STEP 4: Quickly wrap the bandage around damaged area, extending 50mm (2") either side of the leak. Pull each layer firmly throughout the application. **A strong, tight repair is very important.**



STEP 5: With wet gloves, squeeze the bandage with a rotating motion until resin stops foaming and is set. Allow a minimum of 30 minutes for Rapp-it Bandage to set rock-hard.

**FOR BEST RESULTS:
ENSURE BANDAGE APPLICATION
IS AT LEAST 10MM THICK (12 TO 15 WRAPS).**

*A successful
pipe repair can
be achieved in
only 30 minutes.*

FIVE CONVENIENT SIZES

PART No.

50mm x 3.6m	(2"x 12')	RAP 122
75mm x 3.6m	(3"x 12')	RAP 123
100mm x 3.6m	(4"x 12')	RAP 124
100mm x 4.8m	(4"x 16')	RAP 164
100mm x 9.0m	(4"x 30')	RAP 304



Rapp-it is intended for temporary emergency pipe repair use only. Ultimately, usage and suitability of application is up to the discretion of the user.

Results may vary depending on pipe substrate, pipe size, pipe contents, damage type and size, and application technique. All appropriate PPE and safety measures must be followed. Always adhere to onsite safety policies.

Refer to our SDS and Product Data Catalogue for further information - available at piperepair.com.au

Please contact our office for specific advice.



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ACID LINE CASE STUDY



RAPP-IT PIPE REPAIR SOLUTION FOR ACID LINES

Rapp-it Pipe Repair Bandage is suitable for use on dilute acid lines. Many mining facilities use acid contents to aid the stripping of minerals. Rapp-it has been tested against several different acids and has superior chemical resistance.

SCOPE

The customer advised they had a leak in the acid column outlet bend to the extraction column as part of the stripping circuit in gold production. The bend had previously been repaired with a steel patch, but a leak occurred just above the repair weld.

SOLUTION

The customer reduced the line pressure and then cleaned and roughened the area. The leak was stemmed with Rapp-it Steel Putty and a Rapp-it Pipe Repair Bandage (100mm x 3.6m) applied over the top. The line was up and running at full capacity, 30 minutes after application.

"Rapp-it is used widely on site. It is an outstanding product for all applications."

"There isn't an occasion where Rapp-it hasn't done the job."

Gold Mining Facility, QLD



Pipe Substrate	Steel
Pipe Contents	Saturated carbon, hydrochloric acid, caustic solution
Pipe Diameter (mm)	100mm
Damaged Area (mm)	Pin-hole leak

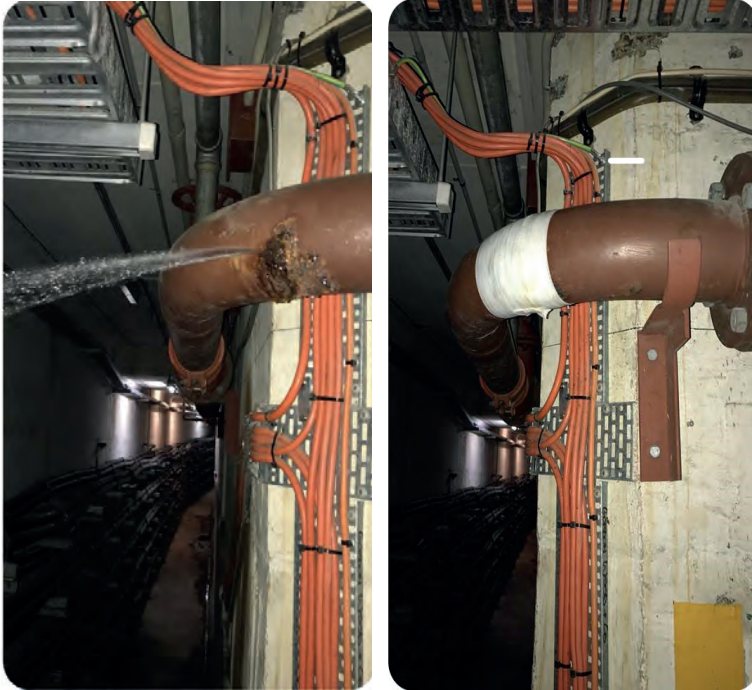
***Note:** It is recommended that acid resistant or chemset gloves are used for any kind of acid repairs.

Please refer to the chemical resistance data in our catalogue or contact our office for specific technical advice.

For safety advice, please consult our SDS.



HYDROELECTRIC POWER STATION CASE STUDY



"We recently applied the Rapp-it bandage repair kit to a leaking 4-inch water main pipe. Upon return to service of the pipe, no leakage was detected, and the water main line has remained in service allowing us to long-term budget plan a replacement of this section instead of an unplanned budget cost and replacement."

**Generation Technician
Hydroelectric Power Station,
TAS**

RAPP-IT PIPE REPAIR SOLUTION FOR HYDROELECTRIC POWER STATION

Rapp-it is suitable for use on corroded fluid lines, water reticulation pipelines, and outflow pipes that are widely used in hydro-electrical power stations.

SCOPE

The customer advised that they had an overhead leak in a 100mm water main line. The pipe required urgent repair, as the damaged area was dangerously close to electrical conduits which was creating a safety hazard.

SOLUTION

The customer reduced the line pressure and then cleaned and roughened the damaged area. The leak was plugged with Rapp-it Steel Putty and Rapp-it Pipe Repair Bandages (100mm x 4.8m) were applied over the top. The line was fully functional 30 minutes after application.



Pipe Substrate	Steel
Pipe Contents	Water
Internal Pressure (psi)	116 psi / 800 kPa
Temperature (°C)	7°C – 15°C
Pipe Diameter (mm)	100mm
Damaged Area (mm)	180mm



CONSTRUCTION SITE CASE STUDY



RAPP-IT PIPE REPAIR SOLUTION FOR CONSTRUCTION SITE

In the fast paced and cost sensitive construction industry, Rapp-it is ideal for emergency pipe repairs, as it can be applied to any size or type of pipe. Rapp-it is a more convenient alternative to stocking joiners and spare parts that you may never use.

SCOPE

The customer had a leak on a poly pipe water line feeding the job site. The pipe could not be shut down and required an urgent temporary repair, as the water spillage on the ground was creating a safety hazard for construction workers accessing the area.

SOLUTION

The customer decreased the line pressure and then cleaned the area. As the leak was located close to a poly joiner, we advised that Rapp-it should be applied over the joiner to ensure the leak would be fully contained. Using Rapp-it Steel Putty and a Rapp-it Pipe Repair Bandage (100mm x 3.6m) applied over the joiner, the leak was successfully contained within 30 minutes with no further spillage onsite.

"Thanks for the service, a quick swift response."

Construction Contractors, QLD



Pipe Substrate	Poly Pipe
Pipe Contents	Water
Internal Pressure (psi)	100 psi / 690 kPa
Temperature (°C)	Ambient
Pipe Diameter (mm)	100mm



FOOD & BEVERAGE CASE STUDY



RAPP-IT PIPE REPAIR SOLUTION FOR FOOD PROCESSING

Currently, over 94% of sugar mills in Australia use Rapp-it for emergency pipe repair needs. Rapp-it is suitable for use on corrosive fluid and acid lines. It is ideal for use on the phosphoric acid lines commonly involved in the sugar milling process.

SCOPE

The customer had an overhead leak in a corroded line at 2 o'clock in the morning. The pipe required urgent repair, as water spillage on the ground was creating a safety hazard for staff accessing the area.

Pipe Substrate	Steel
Pipe Contents	Water
Internal Pressure (psi)	150 psi / 1034 kPa
Temperature (°C)	Ambient
Pipe Diameter (mm)	250mm
Damaged Area (mm)	180mm

SOLUTION

The pressure in the line was reduced and the corroded area was cleaned and roughened. The leak was stemmed with Rapp-it Steel Putty and a Rapp-it Pipe Repair Bandage (100mm x 9m) applied over the top. The line was back up and running at full capacity 30 minutes after application.

"We had an overhead leak in a corroded line at 2am in the morning. This could have shut down our production and needed urgent repair. Applying Rapp-it Pipe Repair Bandage meant that we could keep our operations functional during the night, avoiding downtime, and replace the pipe at a later time more convenient to us. Water spillage on the ground was also creating a safety hazard and this could have caused issues for our staff in accessing the area."

Sugar Milling Facility, QLD





SYDNEY THEATRE CASE STUDY



RAPP-IT PIPE REPAIR SOLUTION FOR ICONIC AUSTRALIAN THEATRE

Rapp-it is suitable for use on most substrates, including cement.

SCOPE

The customer had a leak in their 1992 vintage cement storm water run-off pipes. The pipes required urgent repair, as the damaged area was dangerously close to electrical, lighting and costumes. This was creating a safety hazard for all staff and patrons, as well as potentially damaging thousands of dollars worth of costumes.

SOLUTION

After the customer stemmed the flow of water, and cleaned and roughened the pipe, they used Rapp-it Steel Putty and a Rapp-it Pipe Repair Bandage (50mm x 3.6m) to seal the leak. The successful application ensured no risk to staff or patrons, or costume damage.

"The area affected is directly above the stage where hundreds of thousands of dollars in electronics, lighting, costumes and more are located, any water in this area would be disastrous for the production.

Anyway, Rapp-it has sealed the leaks so 'the show can go on!'"

**Maintenance Manager
Iconic Sydney Theatre, NSW**

***"the show can
go on!"***



Pipe Substrate	Cement
Pipe Contents	Water run off
Internal Pressure (psi)	100 psi / 690 kPa
Temperature (°C)	10°C – 20°C
Pipe Diameter (mm)	100mm
Damaged Area (mm)	20mm



PAINT MANUFACTURING CASE STUDY



RAPP-IT PIPE REPAIR SOLUTION FOR PAINT MANUFACTURING

Rapp-it is suitable for use on corroded fluid lines, water reticulation pipelines and ball valves that are widely used in the paint manufacturing industry.

SCOPE

The customer had an overhead leak in a 25mm ball valve line. The valve required urgent repair, as the damaged area was leaking Texanol. Texanol is a widely used toxic liquid found in paint manufacturing.

Pipe Substrate	Steel
Pipe Contents	Texanol
Internal Pressure (psi)	116 psi / 800 kPa
Temperature (°C)	25°C – 30°C
Pipe Diameter (mm)	100mm
Damaged Area (mm)	25mm Ball Valve

SOLUTION

The line was shut down and the damaged area was cleaned and roughened. Rapp-it Steel Putty and Rapp-it Pipe Repair Bandages (50mm x 3.6m) were applied over the ball valve line with 5cm tails on each side. The line was up and running at full capacity 30 minutes after application.

"Rapp-it successfully stemmed the flow of Texanol, we will replace the valve next week. We will continue to use Rapp-it as it is a very good product."

Maintenance Supervisor, Global Supply Chain, VIC





INDUSTRIAL HOSE CASE STUDY

RAPP-IT PIPE REPAIR SOLUTION FOR INDUSTRIAL HOSES

Rapp-it is suitable for use on material handling hoses, industrial hoses, waste pipes and processing lines commonly found in nickel and other mineral processing facilities.

SCOPE

The customer had a damaged material handling hose due to the pressure and contents of the mineral ore running through it. The hose required an urgent repair or unplanned shutdown maintenance was needed, potentially costing thousands of dollars in unnecessary downtime.

Pipe Substrate	Industrial rubber hose
Pipe Contents	Nickel sludge
Internal Pressure (psi)	117 psi / 800 kPa
Temperature (°C)	0°C – 45°C
Pipe Diameter (mm)	250mm
Damaged Area (mm)	Multiple damaged areas

SOLUTION

Industrial hoses are great for transferring harsh and abrasive products throughout processing facilities. However, sometimes abrasive materials can impact the integrity of the hose. In this example, the customer was unable to weld or clamp the hose. The customer applied 23 Rapp-it Pipe Repair Bandages (100mm x 4.8m) around the damaged area. The material handling hose was up and running at full capacity just 30 minutes after application.





MANGANESE ORE WASTE LINE CASE STUDY

RAPP-IT PIPE REPAIR SOLUTION FOR ORE WASTE LINE

Rapp-it is suitable for use on most substrates, including poly pipe. This large manganese ore waste line is located in the Northern Territory, Australia.

SCOPE

The customer had a leak in their waste poly pipe which had been damaged over time. The pipe was spilling waste and mud which caused a safety hazard for workers around the site.

Pipe Substrate	Poly Pipe
Pipe Contents	Waste, Gravel, Mud
Internal Pressure (psi)	Standard Pressure
Temperature (°C)	10°C - 20°C
Pipe Diameter (mm)	500mm
Damaged Area (mm)	50mm

SOLUTION

The customer was able to stem the flow of gravel and waste by using a rubber lining followed by applying several Rapp-it Pipe Repair Bandages (100mm x 4.8m) over the top and around the pipe to completely seal the damaged area. By applying Rapp-it, the customer was able to stop the waste leak and work was able to continue, which saved thousands of dollars in downtime.



"Big repair, but Rapp-it managed to stem the flow allowing us to continue."

Maintenance Manager, NT





WATER HOSE CASE STUDY

RAPP-IT PIPE REPAIR SOLUTION FOR WATER HOSE

Rapp-it can be used on all rubber and flexible hoses so long as they do not lay flat or have a pressure that exceeds 360 psi / 2500 kPa. Rapp-it is suitable for low pressure hoses, flexible hoses, fixed lines, and reinforced flexible hoses.

SCOPE

This water hose is used for clearing magnetite sumps at a large coal processing plant. Holes occur regularly in these hoses and it can be very labour intensive to continually change out the hoses, as well as being very costly. Rapp-it allows the hose to be repaired in a short space of time and be put back into service quickly.

Pipe Substrate	Rubber hose
Pipe Contents	Water
Temperature (°C)	Ambient
Pipe Diameter (mm)	50mm
Damaged Area (mm)	Small hole

SOLUTION

The customer reduced the pressure of the hose and cleaned and roughened the area. The leak was firstly stemmed with Rapp-it Steel Putty, and a Rapp-it Pipe Repair Bandage (100mm x 3.6m) was then applied over the top. Just 30 minutes after the application, the line was back up and running at full capacity. This one application may have saved the site thousands of dollars in costly downtime.



"I use Rapp-it Pipe Repair Bandages nearly every shift. This product has saved my company millions in downtime."

CHPP Staff, QLD Australia



COAL FIRED POWER STATION CASE STUDY



"Could not be better for our product."

Rapp-it Response Team, Power Station, QLD

RAPP-IT PIPE REPAIR SOLUTION FOR COAL FIRED POWER STATION

Rapp-it can be used on air heater, water, slurry, hot ash and chute pipe-works found widely through coal fired power stations. Temperatures here can range from 0°C to 140°C.

SCOPE

The customer advised the coal discharge chute had a leak. This would require a replacement, however, the power station was unable to stop coal handling processes.

SOLUTION

The customer used Rapp-it Steel Putty and applied several Rapp-it Pipe Repair Bandages (100mm x 4.8m) to fix the damaged chute. This allowed the customer to continue preparing the coal for export until a maintenance shutdown could be scheduled.



Pipe Substrate	Steel
Pipe Contents	Water
Internal Pressure (psi)	87 psi / 600 kPa
Temperature (°C)	80°C – 140°C
Pipe Diameter (mm)	600mm



IRRIGATION SYSTEM CASE STUDY



*"Our pump works at 600kPa
and not a drop of water
escaped the joint, excellent."*

**Maintenance Director,
Hervey Bay, QLD**

RAPP-IT PIPE REPAIR SOLUTION FOR IRRIGATION SYSTEM

Rapp-it is suitable for use on water pipelines, unions, and valves that form part of water irrigation systems.

SCOPE

The customer advised that the glue had failed on a 50mm high pressure union leaving a 35mm long crack. Water was leaking out of the irrigation system causing flooding on the golf course.

SOLUTION

The customer turned off the water to reduce the pressure and isolate the leak. Using Rapp-it Steel Putty and a Rapp-it Pipe Repair Bandage (100mm x 3.6m), the customer was able to seal the leak. The damage was successfully repaired without needing to replace the poly pipe.



Pipe Substrate	Poly Pipe
Pipe Contents	Water
Internal Pressure (psi)	87psi / 600kPa
Temperature (°C)	Ambient
Pipe Diameter (mm)	50mm



WASTE TREATMENT CASE STUDY

RAPP-IT REPAIR SOLUTION FOR WASTE TREATMENT PLANT

Rapp-it is suitable for use on sterilization systems including stainless steel steam pipes that are used to quarantine waste. However, sometimes abrasive materials can contaminate the steam which can impact the integrity of the pipe.

SCOPE

The customer had a crack at the crimped joint on a steam pipe. The pipe required an urgent repair, otherwise an approximate six hour unplanned shutdown maintenance was required. This would have cost the customer thousands of dollars in unnecessary downtime.

Pipe Substrate	Stainless Steel
Pipe Contents	Steam / Air / Low pH water
Internal Pressure (psi)	36psi / 250kPa
Temperature (°C)	130°C
Pipe Diameter (mm)	40mm
Damaged Area (mm)	Crack

SOLUTION

The customer cleaned and filed the damaged area. Rapp-it Steel Putty was then applied over the crack and a Rapp-it Pipe Repair Bandage (50mm x 3.6m) was applied over the damaged area. This allowed the pipe to be back up and running at full capacity in short amount of time.



"Rapp-it worked perfectly; I'd seen it before a few times but never used it. Repaired in two hours and that includes procurement. Excellent stuff. I'll keep a spare on site."

Mechanical Engineer, QLD



GOLD PROCESSING PLANT CASE STUDY



"We are using your pipe repair product almost daily, it keeps the show on the road."

**Maintenance Manager
Boddington, WA**

RAPP-IT PIPE REPAIR SOLUTION FOR GOLD PROCESSING PLANT

Rapp-it is suitable on air, water and slurry pipework, as well as cyclone feeds and leach lines found widely throughout gold mines.

SCOPE

The customer advised the pipe mainly consisted of water with a small amount of fine ore particles (i.e. gold / copper) that were being sent back to the processing plant after the excess rubbish had been removed. The ore was very abrasive, and a small hole had worn out the pipe before the valve. Shutting down the gold plant to replace the pipe would have been costly. Using Rapp-it, the mine could now continue operations until a scheduled maintenance time could be arranged.

SOLUTION

The customer roughened and cleaned the damaged area of the pipe before applying Rapp-it Steel Putty over the hole. Then they applied a Rapp-it Pipe Repair Bandage (100mm x 9m) to the pipe before the valve. The customer was successful in repairing the damaged pipe without having to shutdown the processing facility.



Pipe Substrate	Steel
Pipe Contents	Fine ore particles
Internal Pressure (psi)	140 - 160 psi
Temperature (°C)	90°C
Pipe Diameter (mm)	150mm
Damaged Area (mm)	Crack



OIL SANDS MINE CASE STUDY



"Temperatures are testing out here, Rapp-it stands up to the test."

Maintenance Manager, Canada

RAPP-IT PIPE REPAIR SOLUTION FOR OIL SANDS PROCESSING PLANT

Oil sands are either loose sands or partially consolidated sandstone containing a naturally occurring mixture of sand, clay and water, saturated with a dense and extremely viscous form of petroleum technically referred to as bitumen. These are all very abrasive materials.

SCOPE

The customer had a rupture on a water line 350mm pipe. The mine was subject to frigid conditions of -26°C.

SOLUTION

The customer shut down the pipe line and then utilised a Herman Nelson heater and sock placed right at the patch location to maintain a moderate temperature. They then cleaned and roughened the damaged area. The leak was stemmed with Rapp-it Steel Putty and Rapp-it Pipe Repair Bandages (100mm x 3.6m) were applied over the top. The line was up and running at full capacity, 30 minutes after application.



Pipe Substrate	Steel
Pipe Contents	Water
Internal Pressure (psi)	87psi / 600kPa
Temperature (°C)	Ambient
Pipe Diameter (mm)	350mm



METALLIFEROUS MINES CASE STUDY

RAPP-IT PIPE REPAIR SOLUTION FOR METALLIFEROUS MINES GOLD – NICKEL – COPPER

Rapp-it is suitable for repairs to various locations in concentrators on mine sites.

SCOPE

The customer's concentrator throughput was approximately 25 million TPA and had 4 main outages per year at 12-week intervals. The biggest wear issues were in pipes throughout the concentrator as the slurry was very abrasive as with most mining in grinding. Although the pipes were rubber lined and, in some cases, also ceramic lined for the high wear areas, they had the occasional pipe failure, with slurry leaking from either a pipe's bend (elbow), flange or valve body.

SOLUTION

- 500mm slurry and coarse material piping and valve body leaks were contained and sealed up using Rapp-it Pipe Repair Bandages (100mm x 9m).
- 550mm tailings pipe line leaks were successfully wrapped and sealed using Linatex rubber and wrapped with many rolls of Rapp-it Pipe Repair Bandages (100mm x 3.6m).
- Cyclone feed spool and coarse overflow spool repairs were conducted using Rapp-it Pipe Repair Bandages (50mm x 3.6m).
- Many airline pipe pin hole leaks were detected at an early stage and wrapped and sealed using the smaller Rapp-it Pipe Repair Bandage (50mm x 3.6m).

All repairs above were able to be successfully completed using Rapp-it Pipe Repair Bandages. Rapp-it set as hard as a rock and stopped the leaks.

Rapp-it withstands coarse slurry and materials very well, long enough to enable planning for the right replacement.

"Rapp-it has been around for many years. I have been working in mining for the past 28 years and have used their product at every mine I have worked at from Western Australia, New South Wales and South Australia and primarily all been metalliferous mines.

Rapp-it has been used in many applications across all processing plants as an enabler to continue processing until the plant is taken off line to meet a scheduled down time shutdown/maintenance day. Equipment wrapped with Rapp-It can safely be removed from service and a longer-term replacement can be executed without impacting production."

**Maintenance Superintendent,
NSW**





METALLIFEROUS MINES CASE STUDY





THE PIPE REPAIR LEADER

with NATO certification

Rapp-it is a global leader in emergency pipe repairs. Developed to industrial specifications and certified by NATO, Rapp-it is the trusted repair solution for major mining, processing, offshore oil, agricultural and marine companies.

We have continually improved and refined Rapp-it since our inception over thirty years ago. Tested in university laboratories, our products are fully compliant with the GHS, and undergo stringent quality management. We also provide comprehensive technical training, to help you achieve a successful repair on even the toughest projects.

Rapp-it is available from distributors throughout Australia and around the world. Please contact us to find your nearest distributor.

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