Rapp-it

PIPE REPAIR BANDAGE

THE ULTIMATE PIPE REPAIR

TECHNICAL DATA CATALOGUE

www.piperepair.com.au

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A SUCCESSFUL REPAIR CAN BE ACHIEVED IN ONLY 30 MINUTES

DON'T RISK IT, USE RAPP-IT.

RAPP-IT PIPE REPAIR BANDAGE SPECIFICATIONS

RESIN	Water-activated polyurethane
HEAT RESISTANCE	150°C (300°F)
PRESSURE RESISTANCE	Internal pressure up to 2500kPA (360 psi)
BONDS TO MOST PIPES	Steel, Polypipe, PVC, Fibreglass, Copper
SET TIME	30 minutes
CHEMICAL, FUEL & OIL RESISTANT	Acid lines, Oils, Gas, Sea Water & CHPP
CERTIFICATIONS	NATO Certified, Potable Water (AS/NZS 4020:2018)

RAPP-IT STEEL PUTTY SPECIFICATIONS

SHORE D HARDNESS AT FULL CURE (24 HOURS)	80
LAP SHEAR TENSILE STRENGTH	On steel (1" x 1" x 1/16") 400 kg (6.2 MPa)
COMPRESSIVE STRENGTH	8,000 psi (55 MPa)
TEMPERATURE LIMITS	Continuous -40° to 121°C (-40° to 250°F) Intermittent -40° to 149°C (-40° to 300°F)
WORK LIFE	2 to 5 minutes Tenacious bond after 5 to 10 minutes
FUNCTIONAL CURE TIME	Approximately 30 minutes
CHEMICAL RESISTANCE	Hydrocarbons, ketones, esters, alcohols, halocarbons, aqueous salt solutions, dilute acids, and dilute bases.

Please contact our office if you require specific advice.

ABOUT RAPP-IT

Rapp-it is the Ultimate Pipe Repair System for your temporary emergency pipe repair needs. It is simple to use, with no mixing or measuring required. A successful pipe repair can be achieved in only 30 minutes.

Rapp-it Pipe Repair System includes a woven fibreglass bandage impregnated with a water-activated polyurethane resin, a 90mm stick of Rapp-it Steel Putty and a pair of longer, premium nitrile gloves.

Rapp-it Steel Putty is a hand-kneadable, steel-reinforced epoxy putty that can be moulded into any shape to fill cavities, cracks or holes for a strong, successful repair.

Rapp-it can be used on all types of pipes including polypipe (PP / HDPE), GRE, ABS, steel, PVC, rubber, concrete, galvanised, ceramic, clay, stainless steel, basalt, fibreglass, copper and all insert piping. It can be applied on cracked, fractured, damaged and leaking pipes; around straight lengths and difficult shapes like tee and elbow joints, y pieces, couplings and clamps.

Rapp-it is also suitable for use 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 use on wet or dry pipes. It can even be applied underwater, in fresh or salt water.

Rapp-it is a wholly Australian owned and operated company with over 30 years' industry experience and has been awarded with NATO Certification for stringent quality assurance.

FIVE CONVENIENT SIZES	PART NO.
50mm x 3.6m (2" x 12')	RAP122
75mm x 3.6m (3" x 12')	RAP123
100mm x 3.6m (4" x 12')	RAP124
100mm x 4.8m (4" x 16')	RAP164
100mm x 9.0m (4" x 30')	RAP304

RAPP-IT APPLICATION

DIRECTIONS FOR USE

STEP 1 Shut down pipes or hoses. If pipe cannot be shut down, reduce pressure as low as possible. Apply gloves, then thoroughly clean and roughen the damaged area with a metal file or a 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 life, and the bandage application must begin during this time.

STEP 3 Open foil pouch and soak bandage in fresh temperate water (approx. 22°C-26°C / 71-79°F) 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 (12-15 WRAPS).

HINTS AND TIPS FOR RAPP-IT APPLICATION:

- The tightness of the wrap is very important to ensure adhesion of Rapp-it Bandage and interfacing with Rapp-it Steel Putty.
- Rapp-it Bandage has a 4-5 minute work life, with full cure in 30 minutes. Water temperature can affect the bandage cure time.
- Rapp-it Steel Putty has a 2–5 minute work life, forming a tenacious bond in 10 minutes, and functional cure in 30 minutes. Ensure putty is fully mixed until it is a consistent dark grey colour - no zebra striping; no patchwork colours.
- Rapp-it Steel Putty can be kneaded by hand and then moulded into a variety of shapes to fill cracks and holes. When applying to damp, wet or slowly leaking areas work Rapp-it Steel Putty forcefully into the surface and apply pressure until adhesion begins to take effect.
- Difficult or large applications may require multiple bandages.
- For applications where pipes cannot be shut down, the effectiveness of the repair may vary. Please contact our office for specific advice.

FAQ

Can Rapp-it be used as permanent repair?

Rapp-it is intended as a temporary pipe repair for onsite emergency situations. Ultimately, usage and suitability of application is up to the discretion of the user.

If the leaking pipe (live line) cannot be isolated, can Rapp-it Pipe Repair still be used?

Yes, Rapp-it can be used to stem the flow of the pipe leak until an alternative procedure can be completed. Isolating the pipes is the most effective repair; however, we understand this can't always be done. In that instance, turn pressure down as low as possible. Contact our office for advice.

If the pipe has a small leak and is unable to be completely dry, can Rapp-it be used?

Absolutely. Rapp-it Pipe Repair is ideal for use in wet applications. We suggest the pipe is cleaned and roughened first to ensure a successful repair.

Can Rapp-it Pipe Repair be used underwater?

Yes, both Rapp-it Pipe Repair Bandage and Rapp-it Steel Putty can be used underwater in either fresh or salt water. Curing time may vary according to the temperature of the water, cold water will slow the cure time, and warmer water will result in a faster cure time.

What is the recommended thickness of Rapp-it?

Our recommended Rapp-it repair thickness is a minimum of 10mm or approximately 12-15 wraps around the pipe. We also recommend the repair extend 50mm either side of the damaged area.

What is the cure time for Rapp-it Pipe Repair system?

As soon as the foil bandage packet is opened the bandage will start to cure. The Rapp-it Bandage has a work life of 4-5 minutes and a full cure time of 30 minutes. Rapp-it Steel Putty has a work life of 2-5 minutes and forms a tenacious bond within 10 minutes.

Can Rapp-it Pipe Repair be used on pipes with larger diameters?

Yes. We supply the RAP304 (100mm x 9m) for larger diameter pipes and elbows. Multiple bandages may be required for very large pipes.

Can I repair my pipe using only the bandage?

Yes, Rapp-it Pipe Repair Bandage can be used alone. We do recommend the combination of the Rapp-it Pipe Repair Bandage along with our Rapp-it Steel Putty to ensure a more successful repair.

How can I remove Rapp-it once it's cured?

Rapp-it can be removed with a hacksaw or angle grinder. Hammer and coal chisel is also an effective method of removing the bandage. When using an angle grinder, always use a respirator during the removal. Always check the fluid/gas in the pipe first, as fluid or medium may be flammable. We advise the use of non-spark equipment and appropriate PPE when removing Rapp-it.

Does Rapp-it have an expiry date?

Rapp-it has a shelf life of approximately 2 years from the date of manufacture, which is located on the exterior packaging. We recommend storing Rapp-it below 25°C (77°F) to ensure longevity.

Can Rapp-it be used on an underground or buried pipe?

Yes, however as Rapp-it is a temporary repair we recommend a job and location report be filed so the repair location is recorded for when a permanent repair is arranged at a later date.

What liquids are suitable for use with Rapp-it?

Rapp-it is suitable for use on a wide variety of liquids, including potable water, diluted acids and fuels. Please refer to our Chemical Immersion Testing Results on Page 10 for further information. We advise the use of acid resistant or chemset gloves for any kind of acid repairs.

WHY USE RAPP-IT?

A leaking or damaged pipe could shut down your entire operation, costing you $1000's in unscheduled downtime. Rapp-it provides you with a trusted solution: a fast-acting, temporary, emergency pipe repair.

"Rapp-it can be used on all types of pipes including polypipe (PP / HDPE), GRE, ABS, steel, PVC, rubber, concrete, galvanised, ceramic, clay or stainless steel."

Rapp-it Advantages:

Time & Labour Benefits

- 30 minutes from time of application to curing and effective repair
- Rapp-it available in stock at your nearest distributor
- Short delivery time
- Minimal staff required for application

Cost Benefits

- Minimises unscheduled downtime and lost production earnings
- Easy to apply without the need to replace fittings
- Extends life of the pipe

Technical Capabilities

- One product fits all
- All types of pipes (stainless steel, steel, copper, galvanised, PVC, iron, rubber, concrete, fibreglass, polypropylene etc.)
- Pipes from 50mm to 800mm (2″ to 32″) in diameter
- All types of shapes (tee, elbow, couplings, clamps, flanges, 45′s, 63′s, 90′s, Y sections)

Works Where Others Don't

- On wet pipes, including under water in fresh and salt water
- On fuel, oil, petrol, diesel or acid lines

Reliability and Trust

- Specifications backed by laboratory testing
- Free technical assistance and training
- Stringent quality controls
- 30 years of proven performance
- Safe for use on potable water lines
- Fully compliant with the Globally Harmonised System for workplace health and safety
- Continuous improvements in quality, performance, customer service, speed, and flexibility.

Over 93% of operational mine sites in Australia use Rapp-it Pipe Repair Bandages.

WHERE TO USE

Ideal in emergency situations, Rapp-it protects your operation from harmful spills and leaks on chemical, sludge, oil, gas and water lines. Rapp-it is essential for use in a wide range of industries; see where Rapp-it can assist with your pipe repair needs below.

COAL MINES
Coal preparation wash plants/CHPP: water, steam, slurry and sludge lines.

GOLD MINES
Processing plant: chemical, sludge, slurry and by-product/waste pipes.

BAUXITE & ALUMINIUM MINES
Processing plant: sludge and chemical lines in the refinery/alumina section.

COAL, COPPER & ZINC SMELTING
Processing: blast furnaces, water, steam, sludge and slurry lines.

STEEL SMELTER WORKS
Processing: blast furnaces, water, steam and waste product pipes.

PHOSPHATE MINES
Processing: tailings ponds, dams, and de-watering processes.

MERCHANT SHIPPING, NAVY & MARINE
Emergency repairs while at sea to fuel, oil, water and waste lines, engine room, damage control within engine room, and fire-fighting service facilities.

AGRICULTURE
Emergency repairs to most lines, silos, tanks, hoses and heavy machinery.

STEEL SHEET & COIL MANUFACTURING
Processing: steam and water pipes.

PETROLEUM
Repairs to fuel, oil, gas, disulphide and water supply lines during 24 hour shift.

SUGAR MILLS
Corrosive fluid lines, abrasive product pipes, low pressure, water and steam lines.

LITHIUM & NICKEL MINES
Processing: abrasive product pipes, corrosive lines.

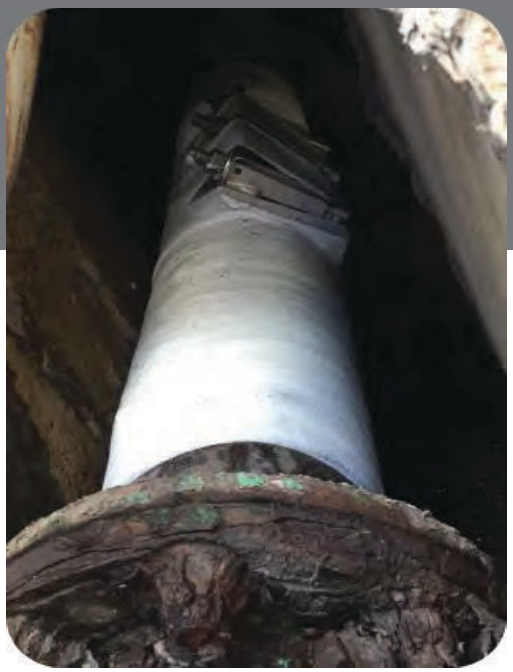
SILVER MINES
All acids, cyanide and extraction processes.

POWER STATIONS
Ash transfer systems, pulverised fuel lines and cooling water lines.

FOOD & BEVERAGE PROCESSING
All water & steam lines, oil, gas and acid lines and some diluted chemicals. Wash down hoses, vacuum hoses, pressure piping.

CONSTRUCTION & LOCAL COUNCIL
Sewerage and water lines. Couplings, steam lines, and damaged pipes and pipe collars.

Rapp-it is used by customers in more than 30 countries around the world, including Singapore, UK, PNG, NZ, USA, Canada, Thailand, Spain, UAE, and throughout South America and South-East Asia.



TESTIMONIALS

BHP BILLITON

"We have been using Rapp-it Pipe Repair Bandage for leakage applications for the past four years. It has been extremely reliable with regards to pipe repairs. Approximately $20,000 annually are saved on costly downtime." RUSSEL W. - SUPPLY SUPERVISOR

IRON ORE MINE, PILBARA, WESTERN AUSTRALIA

"The first thing I did as Maintenance Manager was put Rapp-it onsite." GLENN D.

"They use so much Rapp-it on their site that they have their own Rapp-it Response Team."

Shayne Evers,
Rapp-it Sales and Technical Specialist

BLUESCOPE STEEL, PORT KEMBLA, NSW

"Our processing plant utilises nine different chemical baths and over 40 recirculating fluid systems that together have over forty kilometres of piping systems in Cast Steel, Stainless Steel, PVC, and ABS Plastics. Our mechanical department have been using Rapp-it Bandages for a number of years with almost perfect results on all our piping systems and chemicals. We have literally had situations where $100,000 worth of downtime was averted by a small foil package." WAYNE R.

COAL MINE, BOWEN BASIN, QUEENSLAND

"Rapp-it is the Panadol for Maintenance Managers, it cures most headaches." MONTY L.

COAL PREPARATION PLANT, QUEENSLAND

"Pipes are hard wearing and we patch them with Rapp-it Bandages regularly. They do an excellent job stopping the bad leaks until we shut down for a maintenance day to repair or replace. EDWARD G.

NICKEL PROCESSING PLANT, WESTERN AUSTRALIA

"No Rapp-it, no plant." ALAN S.

SIBELCO MAGNESIA, WESTERN AUSTRALIA

"After isolating the pump, we used a Rapp-it bandage to fix a Y pipe fitting, allowing the pump to start operation again with minimum disruptions. As this pump is on a processing plant, the pump was needed ASAP and Rapp-it allowed the pump to be fixed and back in operation with no loss of production! Rapp-it Pipe Repair Bandages are a great solution!"

JOHN D. & GRAEME D.

PULP & PAPER MILL, VICTORIA

"During a Saturday night shift a pipe bridge was damaged after it had been struck by a tip truck. The structure was secured into position by chain blocks but the 200mm spiral wound stainless pipe had been kinked and was pouring liquor onto the ground. This liquor is an environmental hazard and had to be stopped from getting into nearby storm-water drain. To call a boilermaker in would take time and cost money and as well as production down time. With the use of two 100mm Rapp-it bandages along with the Steel Putty, the pipe was repaired and put back into service 45 minutes later. Great product which got us out of trouble again."

PAUL S.

"There's more Rapp-it in my plant than steel."

Dave M.,

Base and Precious Metals Mining

ORE MINE, PAPUA NEW GUINEA

"We have committed to ongoing use of Rapp-it because of its strengths in our process streams."

MAINTENANCE SUPER.

FLY ASH HANDLING SYSTEM, QUEENSLAND

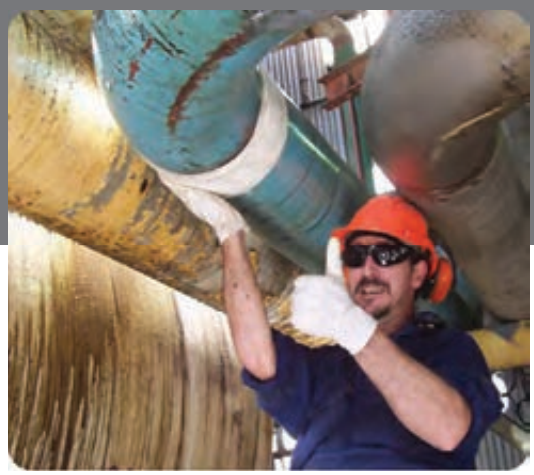
"Rapp-it Pipe Repair Bandages have been on some pipes for more than two years and are still going strong. Even in a difficult spot, Rapp-it still does the job!"

MICHAEL J.

COAL MINE CHPP, NEW SOUTH WALES

"We are constantly using Rapp-it on air and water lines that fail in service due to corrosion."

MAINTENANCE PLANNER.



RAPP-IT TESTING

NATO CERTIFICATION

Rapp-it has been granted NATO Certification. This is only awarded to key quality products and suppliers with stringent quality assurance programs. Our NATO Stock Number is 4730-66-1257893.

POTABLE (DRINKING) WATER

Both Rapp-it Bandage and Rapp-it Steel Putty are compliant with Australian Standard (AS/NZS 4020:2018). Rapp-it Steel Putty is also compliant with the equivalent US Standard, NSF 61.

"Rapp-it is suitable for use on wet or dry pipes. It can even be applied underwater, in fresh or saltwater."

PRESSURE TESTING

Recent tests have proven that Rapp-it resists in excess of 5000 kPA (725 psi) on 50mm galvanised pipe with a 10mm hole, and in excess of 12,500 kPa (1810 psi) on 50mm galvanised pipe with a 5mm hole.

* Results may vary depending on pipe substrate, pipe size, pipe contents, damage type and size, and application technique.

TEMPERATURE TESTING

Three simultaneous thermal analysis tests were performed on a Rapp-it Pipe Repair Bandage. The resulting continuous temperature limit is 150°C (300°F). Rapp-it can withstand intermittent temperatures up to 250°C (480°F).

RAPP-IT BANDAGE CHEMICAL RESISTANCE

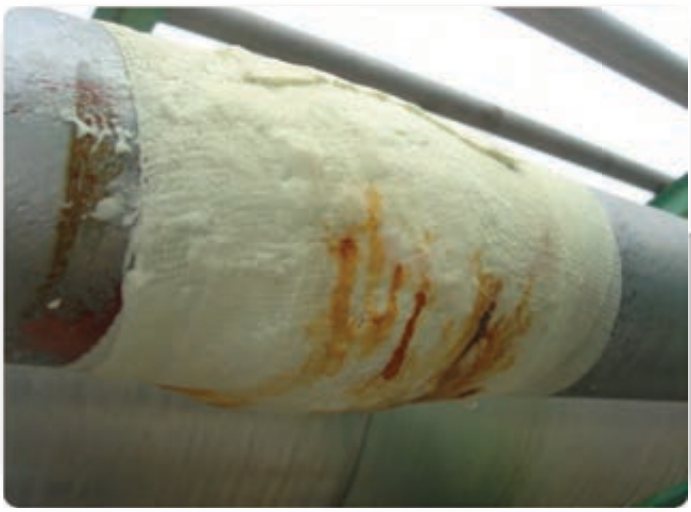
50mm (2") Rapp-it Pipe Repair Bandages were rolled to five layers and submerged in the following chemicals for a period of one month.

IMMERSION TESTING RESULTS

Hydrochloric Acid 30%	Severe discolouration	No softening of bandage
Sulfuric Acid 30%	Slight discolouration	No softening of bandage
Caustic Soda 20% (NaOH 20%)	No colour change	Slightly reduced hardness Bandage maintained integrity
Caustic Soda 50% (NaOH 50%)	No colour change	Slightly reduced harness Bandage maintained integrity
Ethanol	No colour change	No softening of bandage
Diesel	No colour change	No softening of bandage
Gasoline	No colour change	No softening of bandage
MEK	Slight discolouration	No softening of bandage
Xylene	Slight discolouration	No softening of bandage
Mineral Spirits	Slight discolouration	No softening of bandage
Pure Water	No colour change	No softening of bandage
Acetone	Slight colour change	No softening of bandage
Toluene	No colour change	No softening of bandage
Nitric Acid 50%	Severe discoloration	Slightly reduced hardness Bandage maintained integrity

Rapp-it Steel Putty is resistant to hydrocarbons, ketones, esters, alcohols, halocarbons, aqueous salt solutions, dilute acids, and dilute bases.

All appropriate PPE and safety measures must be followed. Always adhere to onsite safety policies. Refer to our SDS for further information. Please contact our office for specific advice.



TEST
4/12/14

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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