



**PIPE REPAIR BANDAGE**



**THE ULTIMATE PIPE REPAIR**



[www.piperepair.com.au](http://www.piperepair.com.au)

# 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 fiberglass bandage impregnated with a water-activated polyurethane resin and a 90mm stick of Rapp-it Steel Putty. Rapp-it Steel Putty is a hand-mixable, 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 stainless steel, copper, PVC, steel, rubber, concrete, metal, galvanised, fiberglass, and polypropylene. It can be applied on cracked, fractured, corroded, damaged and leaking pipes; and around difficult shapes including straight lengths, tee and elbow joints, couplings and clamps. Rapp-it is suitable for use on wet or dry pipes. It can even be applied underwater, in fresh or saltwater.

Rapp-it has been granted NATO Certification.  
Our NATO Stock Number is 4730-66-1257893.

*"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



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## RAPP-IT PIPE REPAIR BANDAGE SPECIFICATIONS

<b>RESIN MAKEUP</b>	Water-activated polyurethane
<b>HEAT RESISTANCE</b>	150°C (300°F)
<b>PRESSURE RESISTANCE</b>	Internal Pressure up to 2500kPa (360psi)
<b>BONDS TO MOST PIPES</b>	Steel, Polypipe, PVC, Fibreglass, Copper
<b>SET TIME</b>	30 minutes
<b>CHEMICAL, FUEL AND OIL RESISTANT</b>	Acid lines, Oils, Gas, Sea water, MDISC
<b>CERTIFICATIONS</b>	NATO Certified, Potable Water (AS/NZS 4020:2005)

## RAPP-IT STEEL PUTTY SPECIFICATIONS

<b>Shore D Hardness at Full Cure (24 hours)</b>	80
<b>Lap Shear Tensile Strength</b>	On steel (1" x 1" x 1/16") 400kg (6.2MPa)
<b>Compressive Strength</b>	8,000 psi (55 MPa)
<b>Temperature Limits</b>	Continuous -40° to 250°F (-40° to 121°C) Intermittent -40° to 300°F (-40° to 149°C)
<b>Work Life</b>	2 to 5 minutes Tenacious bond after 5 to 10 minutes
<b>Functional Cure Time</b>	Approximately 30 minutes
<b>Chemical Resistance</b>	Rapp-it Steel Putty is resistant to hydrocarbons, ketones, esters, alcohols, halocarbons, aqueous salt solutions, dilute acids, and dilute bases. Please contact our office if you require specific advice.

# 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 pipe area with a metal file or wire brush. A clean, rough surface helps result in a successful repair.

**STEP 2** Knead Steel Putty until it is a uniform grey colour. Apply firmly to the damaged area within 2–5 minutes of mixing. It is important to apply the bandage before the putty is cured.

**STEP 3** Open foil pouch and soak bandage in fresh water for 10 seconds. Squeeze bandage 1–2 times while in water to help activation.

**STEP 4** Quickly wrap the bandage around the damaged area, extending 50mm either side of the leak. Pull each layer tightly and firmly throughout application, using your hand to mould and squeeze the layers together in a tightening motion. A strong, tight repair is very important.

**STEP 5** Continue to 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, the completed bandage application should be no less than 10mm thick (12-15 wraps).**

## HINTS AND TIPS FOR RAPP-IT PIPE REPAIR APPLICATION:

- The tightness of the wrap is very important to ensure adhesion of Rapp-it Bandage and Rapp-it Steel Putty to the pipe surface.
- Rapp-it Bandage has a 4-5 minute work life, with full cure in 30 minutes. Water temperature can affect the bandage cure time. Colder water can result in a slower curing time, warmer water temperatures can result in a faster cure time.
- Rapp-it Steel Putty has a 2–5 minute work life, with a functional cure in 30 minutes.
- Our Rapp-it Repair System now comes with a 90mm stick of Rapp-it Steel Putty. Tear off adequate Steel Putty to suit the extent of the damage to the pipe.
- Rapp-it Steel Putty can be mixed 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.



# 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 cannot always be done. In that instance, simply turn down the pressure as low as possible when applying Rapp-it.

## **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 be 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 increase the cure time, and hot water will reduce the 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 working life of 4-5 minutes and a full cure time of 30 minutes. Rapp-it Steel Putty has a working life of 2-5 minutes and a full cure time of 30 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 pipe repair.

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

Rapp-it Pipe Repair Bandages 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. All ways check the fluid/gas in the pipe first as fluid or medium may be flammable and ensure appropriate PPE (Personal Protection Equipment) is worn at all times.

## **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 (page 8) for further information.



# 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 Advantages:**

- Save time and money by avoiding unscheduled downtime.
- Extend the life of the pipe, reducing or delaying capital expenses.
- Awarded with NATO certification: for key quality products and suppliers with stringent quality assurance.
- Proven pipe repair method, backed by 30 years of Australian company experience.
- Specifications tested at Australian university laboratories.
- Premium solution for emergency pipe repairs, used by major companies throughout Australia and the world.
- Fully compliant with the Globally Harmonised System.

## **Additional Benefits:**

- Sets rock hard in only 30 minutes.
- Easy to use, can be applied by any team member.
- Contains leaking substances quickly, keeping your workplace safe.
- Two year shelf life, backed by our two year warranty.
- Onsite training and technical advice available.
- Versatile – one product that can be used on a vast array of pipe sizes, shapes, lines and substrates.
- Safe for use on potable water.
- Specifically developed for industrial pipe repairs.
- Can be applied underwater, in fresh and salt water.

*“Rapp-it can be used on all types of pipes including stainless steel, copper, PVC, steel, rubber, concrete, metal, galvanised, fibreglass or polypropylene.”*

**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: MDISC, water, steam, slurry and sludge lines etc.

## **GOLD MINES**

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

## **BAUXITE 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.

## **STEEL SHEET & COIL MANUFACTURING**

Processing: steam and water pipes.

## **PETROLEUM**

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

## **SUGAR MILLS**

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

## **POWER STATIONS**

Ash transfer systems, pulverised fuel tubes and cooling water lines.

## **MERCHANT SHIPPING**

Emergency repairs while at sea to fuel, oil, water and waste lines. Engine room. Damage control within engine room and fire-fighting service facilities.

**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”.

**RUSSELL WILTSHIRE , SUPPLY SUPERVISOR**

## IRON ORE MINE, PILBARA, WESTERN AUSTRALIA

“The first thing I did as Maintenance Manager was put Rapp-it onsite”

**GLENN D.**

## BLUESCOPE STEEL, PORT KEMBLA NSW

“Our processing plant utilizes 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 RAISBACK**

## COAL MINE, BOWEN BASIN, QUEENSLAND

“Rapp-it is the Panadol for Maintenance Managers, it cures most headaches”

**MONTY L.**

## COAL PREPARATION PLANT, QUEENSLAND

“I work in a Coal Preparation Plant in Middlemount, 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.**

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

Shayne Evers,  
Rapp-it Sales Representative

## 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 DOOLEY AND GRAEME DREDGE**  
- MINERAL MINING SECTOR

## 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 stormwater 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 Fibreglass 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.**

## NICKEL PROCESSING PLANT, WESTERN AUSTRALIA

“No Rapp-it, no plant.”

**ALLAN S.**

## 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.**



*“There’s more  
Rapp-it in my  
plant than steel.”*

**Dave M.,**  
Base and Precious  
Metals Mining





# 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 4020:2005). Rapp-it Steel Putty is also compliant with the equivalent US Standard, NSF 61.

## PRESSURE TESTING

Proof pressure test successful at 565 PSI (3895 kPa) on 50mm poly pipe with 10mm drilled hole.

Proof pressure test successful at 1160 PSI (8000 kPa) on 25mm poly pipe with 10mm drilled hole.

\*Pressure rating will change according to type of pipe and type of damage.

## TEMPERATURE TESTING

Three simultaneous thermal analysis tests were performed on a Rapp-it Pipe Repair Bandage. The resulting continuous temperature limit is 150 degrees Celsius. Rapp-it can withstand intermittent temperatures up to 250 degrees Celsius.

## 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 hardness 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. Refer to our SDS for further information. Please contact our office if you require specific advice.

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







## 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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