

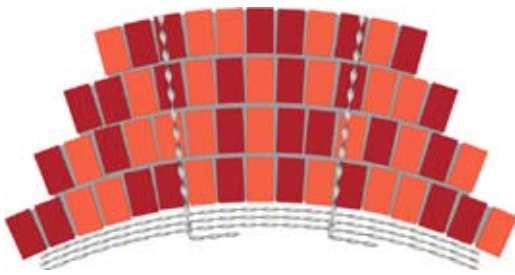


Matrix Helical Anchoring System

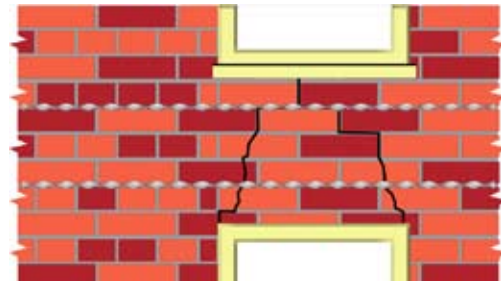
INNOVATIVE SOLUTIONS FOR PROFESSIONAL MASONRY REINFORCEMENT



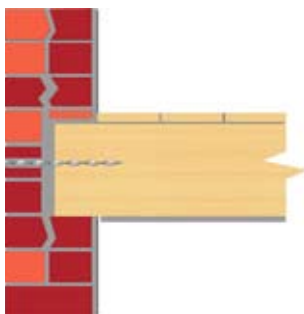
The uses of Matrix Remedial Ties and Matrix Crack Stitching Bars are both wide and varied and they can be utilised in new buildings and for many specialised refurbishment requirements like apartment buildings, historic buildings, bridges and many more (building materials – concrete, brick, stone, wood, air concrete and others).



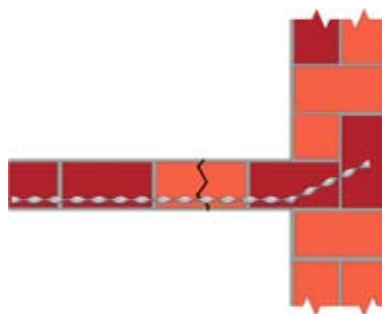
Arch support and strengthening



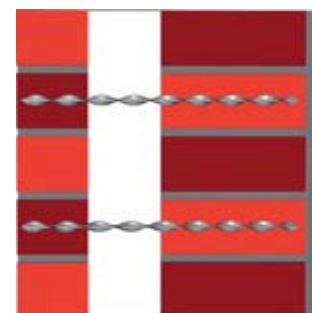
Wall cracking



Wall attachment



Strengthen/attach joined walls



Remedial wall ties

Application Uses:

Masonry reinforcement, Masonry repairs, Arch construction, Cavity walls, Bridges, Historic Buildings, many more...

Matrix Helical Anchoring System

Applications

- **Masonry Repairs**
- **Arch Construction Cavity Walls**
- **Roof Fixings**
- **Highway Bridges**
- **Historic Buildings**
- **Retaining Dams**
- **Many More...**

Causes

- **Temperature Influences**
- **Damage Due To Damp**
- **Wind Loads**
- **Fractured Masonry**
- **Lack of Foundation**
- **Imbalanced Building Ground**
- **Road Traffic Vibration**
- **Air Traffic**



Advantages:

- No load and tension concentration
- Load dispensed over the complete length of the bar
- No additional plates or screws
- No additional fixings
- Ideal interaction with the masonry

Description

The Matrix Remedial Ties and Matrix Crack Stitching Bar anchorage system is offering you an optimum solution. Manufactured in stainless steel 316, reinforcing material that has many unique properties. Being rolled from a plain round wire, the fins are work-hardened to a very high level whilst the core remains relatively soft. The subsequent twisting process puts the fins into tension and the core into compression. The tensile strength of the base material is more than doubled during the manufacturing process. The pronounced fins over the core make the bonding characteristics of the TwistFix Profile far superior to alternative standard reinforcing materials.

The tie and bar profile is available in various diameters and lengths. Matrix stocks the key sizes for Australian constructions. We can supply the material in any length and profile to meet the requirements of structural engineers and other specifiers.

Uses – The uses of the bars are both wide and varied and they can be utilised in new buildings and for many specialised refurbishment requirements like apartment buildings, historic buildings, bridges and many more (build materials – concrete, brick, stone, wood, air concrete and others).

Matrix Helical Anchoring System

Products

Matrix Crack Stitching Bar



Supplied in 316 stainless steel of 6mm and 8mm diameters in length from 1000 mm.

Applications in remedial situations:

- Unlimited masonry reinforcement and anchorage applications
- Cracks restoration of any type
- Subsequent needling of double walled masonry
- Fixing into all types of stones and materials, including concrete

Matrix Remedial Tie



- Manufactured from 316 stainless steel
- Supplied in 8mm diameter and standard lengths of 200mm, 220mm and 250mm.
- Other sizes on request

Applications in remedial situations:

- Unlimited masonry reinforcement and anchorage by manual hammering
- Subsequent needling of double walled masonry by manual hammering
- Driving with a hammer into all types of stone, including concrete, to stabilize and fasten, by pilot-drilling with a reduced diameter
- Driving with a hammer directly into soft structures for stabilizing and fastening, also into wood and synthetic material

Matrix Grouting Mortar



Matrix Grouting Mortar is a two-components, non-shrinking grouting mortar with a mineral, concrete base. It was specifically developed for a faultless embedding of Matrix Crack Stitching bar or Remedial Tie into the masonry to complete the system.

Matrix-Power Support Tool



Power Support Tool 3

Power Support Tool 3 is a further development of the Power Support Tool 1 and Power Support Tool 2 solutions. It features a guiding element like in Power Support Tool 1 and a striking device like in Power Support Tool 2. It is perfectly suitable for the processing with Matrix Remedial Tie from lengths of up to 300 mm.

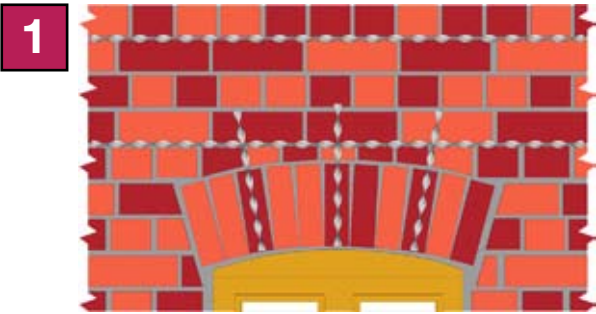
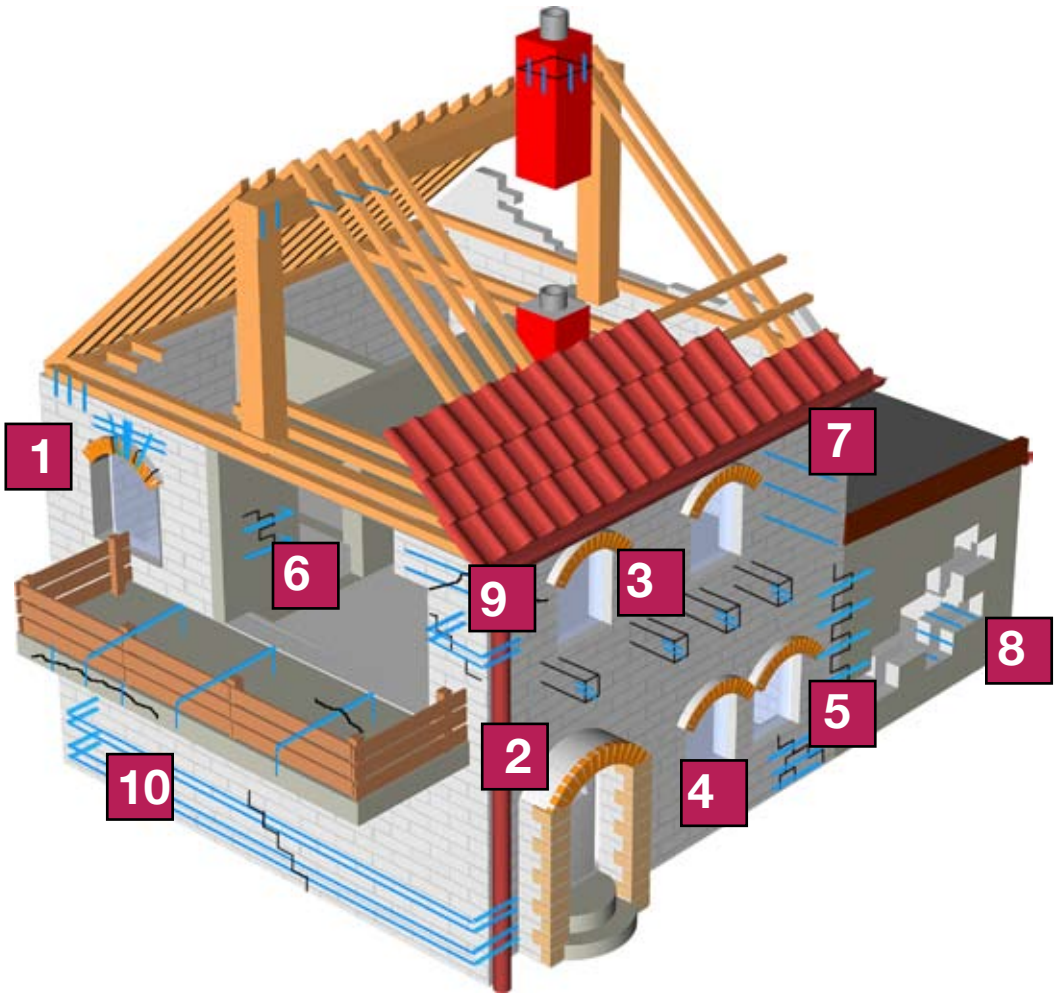
Pointing Gun Kit



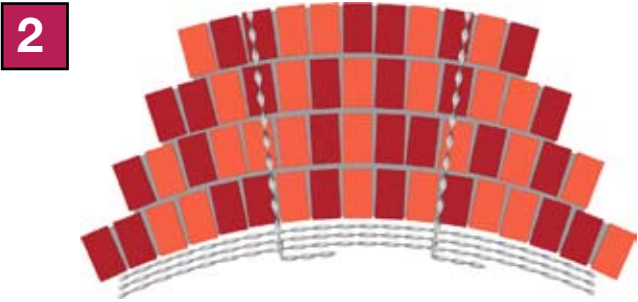
This pointing gun was designed to meet the requirements of Matrix Grouting Powder. It can be delivered with two different injection heads to enable a state-of-the-art injection of the grouting mortar into the masonry openings.

A nozzle extension with a diameter of 12 or 14mm for injecting up to a length of 1.000 mm can be delivered as an option.

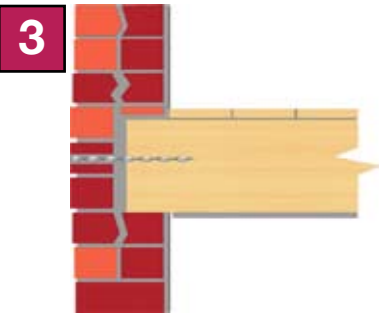
Matrix Helical Anchoring System



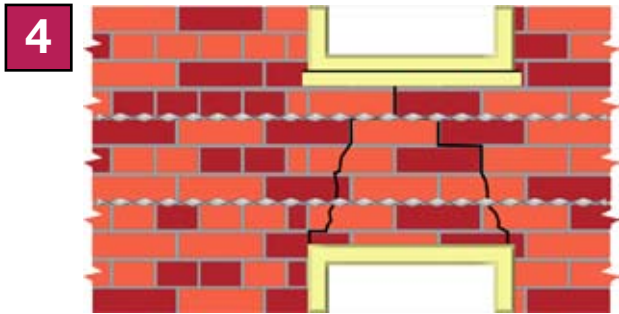
1 Repair and reinforcement of damaged wall lintels



2 Repair and reinforcement of all different kinds of arches

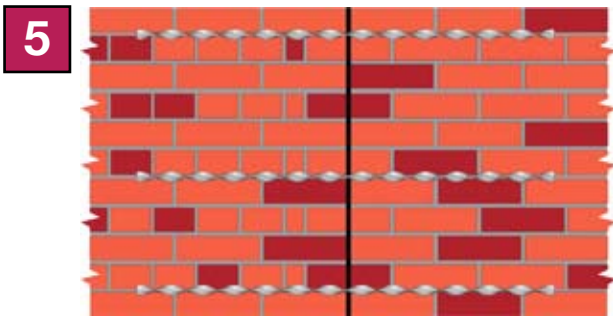


3 Stabilising bowing walls

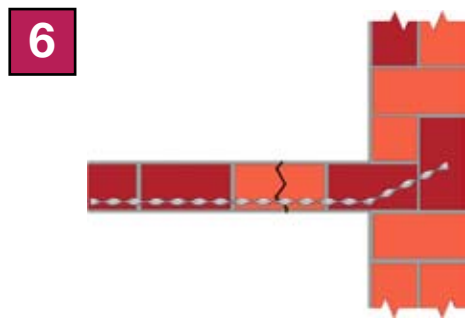


4 Complex cracks can be "stitched up" to strengthen the masonry

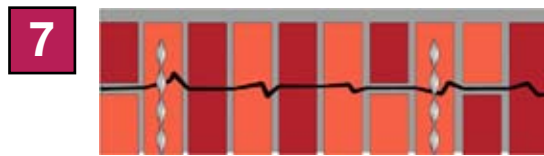
Matrix Helical Anchoring System



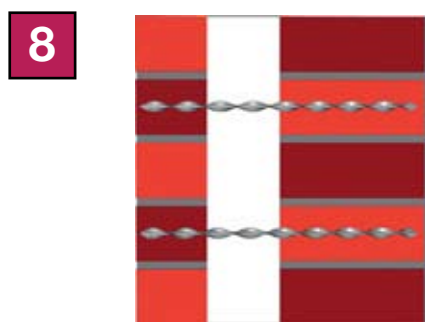
5 Connecting homogeneous or heterogeneous building materials



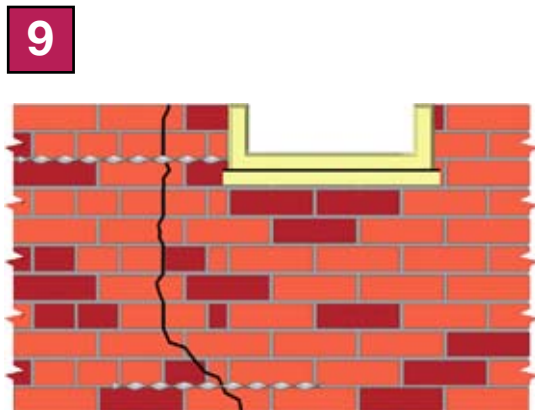
6 Connecting different wall junctions in a simple and cost-effective way



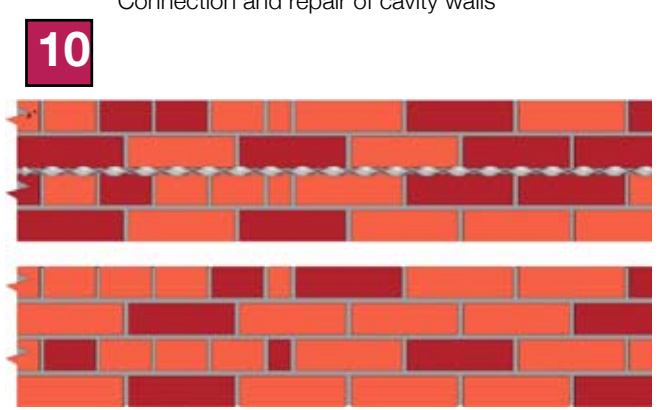
7 Various anchorage of building components



8 Connection and repair of cavity walls



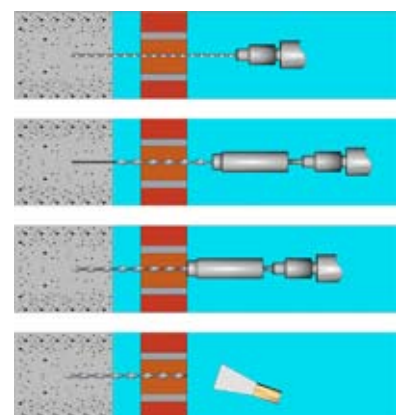
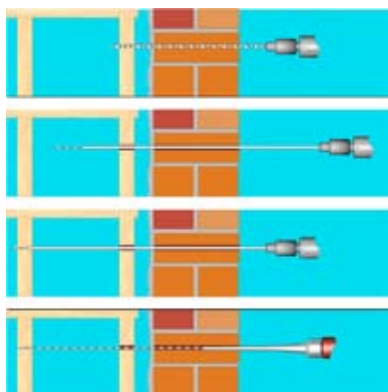
9 Repair of various masonry cracks



10 Repair of failed masonry beams

Matrix Helical Anchoring System

Matrix Remedial Tie and Crack Stitching Bar-Installation



Matrix Crack Stitching - installation

- 1.1 Slot cutting - Dimension in accordance with design (depth, vertical spacing of slots)
- 1.2 Slot clearances - Vacuum out the slot and flush with water - temperature over 0°C (cohesive force)
- 1.3 Preparation of bars (ad measurements, calculate with overlap of bars -500 mm)
- 1.4 Preparation and mixing of grout (2 x 2 components - liquid and dry powder - don't water down)
- 1.5 Using the grout gun grout into the back of slot
- 1.6 Inserts of bars and push back into grout
- 1.7 Cover with second layer of grout
- 1.8 Finish with coloured grout to match wall

Matrix Remedial Ties - Dry Fix

- 2.1 Drill pilot holes - 2mm less than remedial tie diameter
- Note: pilot hole size determined by brick condition - see engineer
- 2.2 Clean holes - Vacuum out the holes and flush with water - temperature over 0°C (cohesive force)
 - 2.3 Insert remedial tie into PST3 tool
 - 2.4 Drive tie home
 - 2.5 Make hole good with matching grout

Matrix Remedial Ties - Chemical Fix - without sieves

- 3.1 Drill holes - 10mm to appropriate depth
- 3.2 Clean holes - Vacuum out the holes and flush with water - temperature over 0°C (cohesive force)
- 3.3 Inject Matrix mortar into inner leaf using extension nozzle
- 3.4 Insert tie fully
- 3.5 Inject Matrix mortar into outer leaf around inserted tie.
- 3.6 Make hole good with matching grout

Matrix Remedial Ties - Chemical Fix - with sieves

- 3.1 Drill holes - 12mm to appropriate depth
- 3.2 Clean holes - Vacuum out the holes and flush with water - temperature over 0°C (cohesive force)
- 3.3 Insert stainless steel sieves to predrilled hole
- 3.4 Inject Matrix mortar into sieve withdrawing nozzle as injected
- 3.5 Insert tie fully
- 3.6 Make hole good with matching grout

Matrix Remedial Tie- Dry application without Grout



Drill pilot hole



Drill pilot hole



Preparation of Accessory



Application



Application



Finishing

Matrix Crack Stitching Bar - Application



Slot Cutting



Slot clearance-flush with water



Application



Grouting

Matrix Remedial Tie- Load Testing



LTU Preparation



LTU Preparation



LTU Preparation

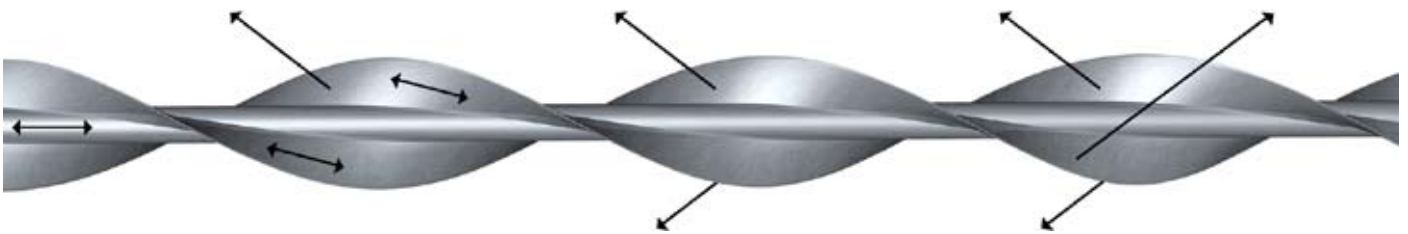


Attaching



Measuring

Matrix Helical Anchoring System



Matrix Helical Anchors are available from
Matrix Industries PTY LTD
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Oxley Island NSW 2430
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sales@matrixindustries.com.au