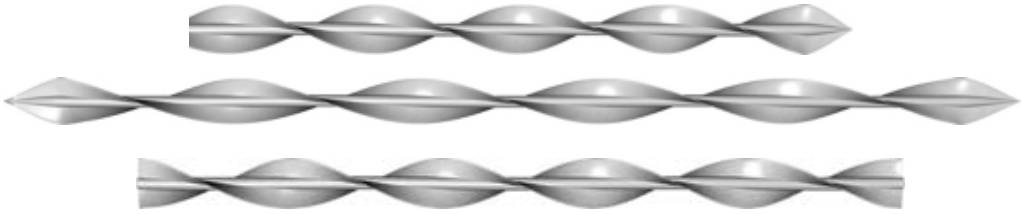
MATRIX INDUSTRIES

Matrix Crack Stitching Barr

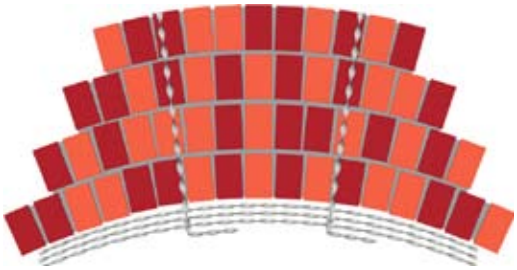
Matrix Remedial Tie

Matrix Helical Anchoring System

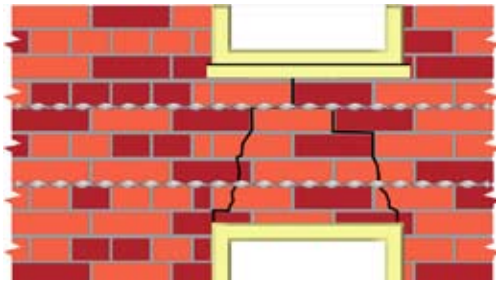
INNOVATIVE SOLUTIONS FOR PROFESSIONAL MASONRY REINFORCEMENT



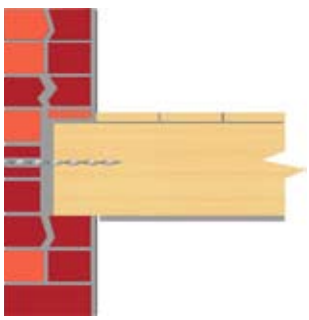
The uses of Matrix Remedial Ties and Matrix Crack Stitching Bar are both wide and varied and they can be utilised in new buildings and for many specialised refurbishment requirements like apartment buildings, historic buildings, bridges and many more (building materials – concrete, brick, stone, wood,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



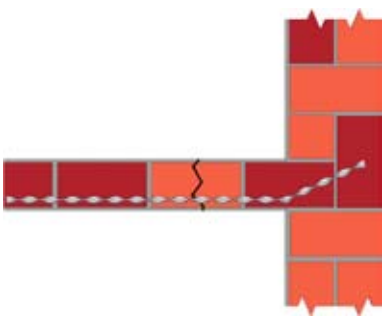
Arch support and strengthening



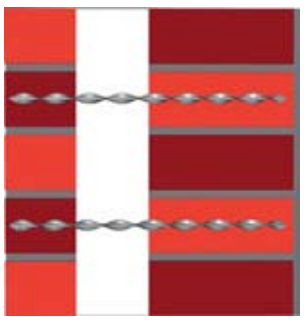
Wall cracking



Wall attatchment



Strengthen/Attach joined walls



Remedial wall ties

Application Uses:

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

Matrix
Crack Stitching Barr

Matrix
Remedial Tie

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. TwistFixis an austenitic stainless steel 304 or 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 3 mm, 4.5 mm, 6 mm, 8 mm and 10 mm. Length from 100 mm up to 10,000 mm. It is supplied in three types depending on the application. Bars without points are used in the reinforcement system. Ties with one or two points are used in the anchorage system. 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). The TwistFix Profile can be used for structural reinforcement or anchorage fixings.

Matrix
Crack Stitching Barr

Matrix
Remedial Tie

Matrix Helical Anchoring System

Products

Matrix Crack Stitching Bar

Manufactured from stainless, austenitic steel of
3, 4.5, 6, 8, 10 mm diameters in any length from 5 cm to 10 m.

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

Applications in new building situations:

- As masonry reinforcement
- As wall connector
- As a cavity wall anchor with and without insulation
- Fixing into all types of stone, including concrete

Matrix Remedial Tie-single point and double point

Single Point

Double Point

- Manufactured from stainless, austenitic steel of
  4.5, 6, 8, 10 mm diameters in any length from 5 cm to 1 m.
- Single is supplied with one point
- Double is supplied with two points.

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

Applications in new building situations:

- As masonry reinforcement
- As a wall connector
- As a cavity wall anchor with and without insulation
- 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 Grouting Mortar into the masonry to complete the system.
Three different types are available in 3 l and 6 l containers:

Grouting Mortar S: with a strength of 27.5 Mpa for normal masonry.
Grouting Mortar HS: with a strength of 38 Mpa especially for concrete applications.
Grouting Mortar SR: Sulphate resistant: with a strength of 33 Mpa especially for aggressive environment, such as coastal regions or chemical industries.

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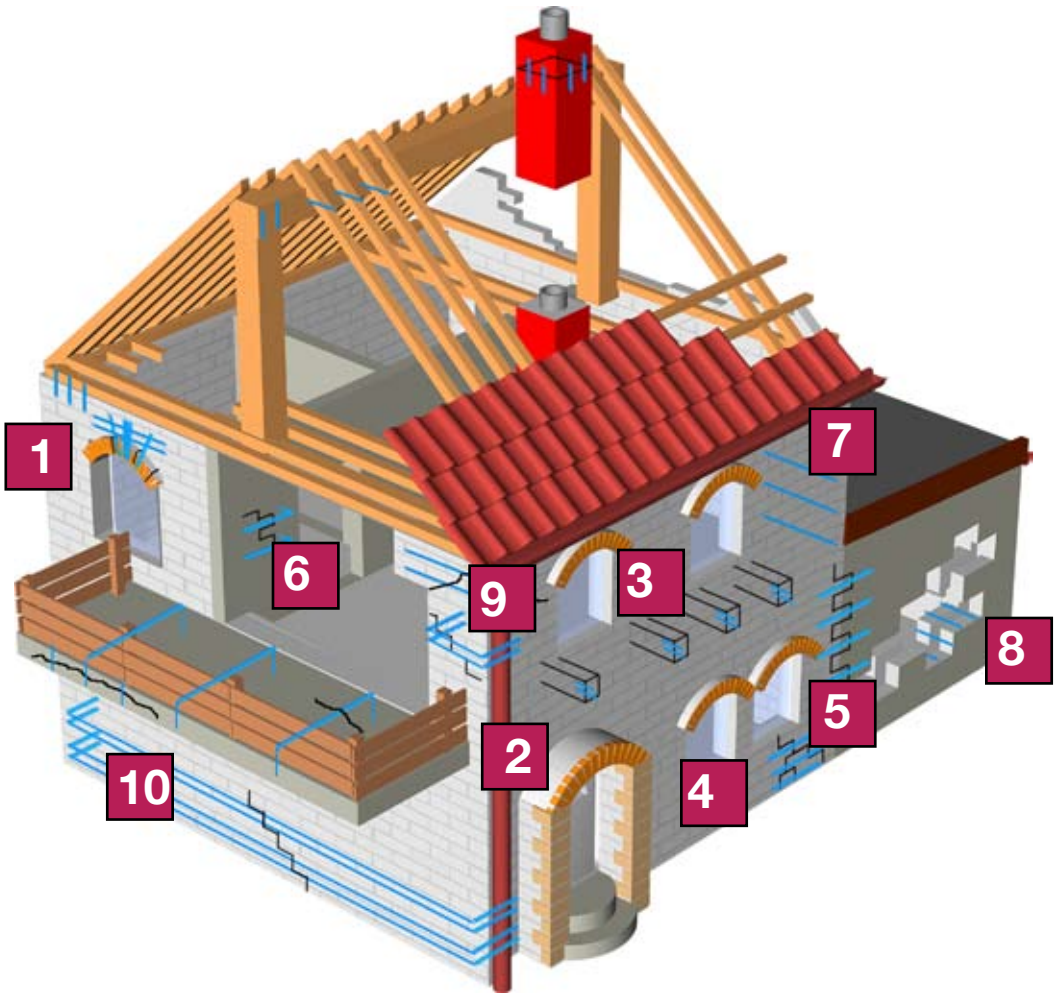

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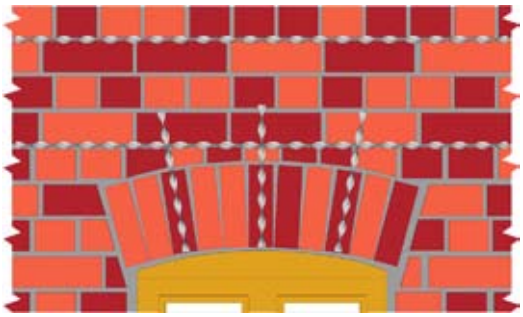
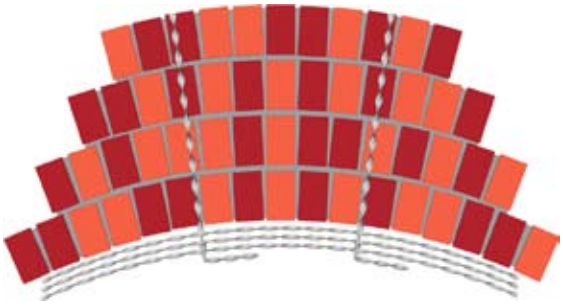


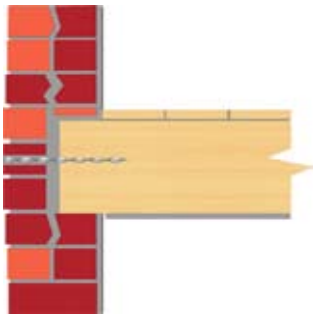
Repair and reinforcement of damaged wall lintels

2



Repair and reinforcement of all different kinds of arches

3



Stabilising bowing walls

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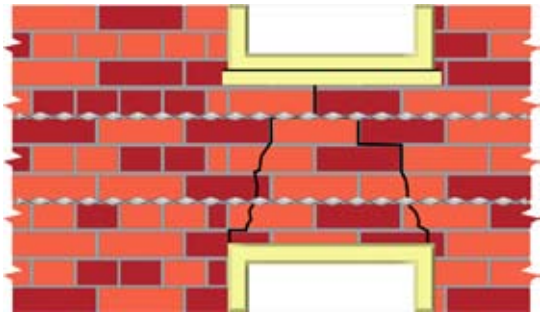
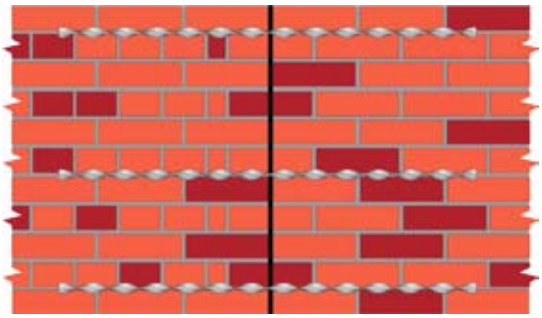


Complex cracks can be “stitched up” to strengthen the masonry

5



Connecting homogeneous or heterogeneous building materials

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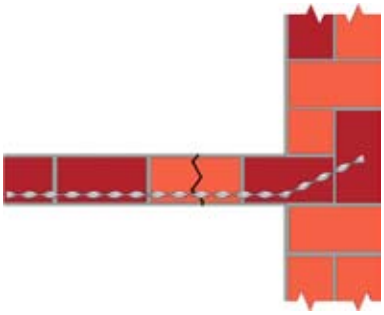

Connecting different wall junctions in a simple and cost-effective way

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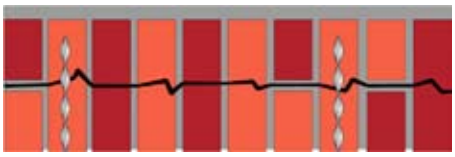

Various anchorage of building components

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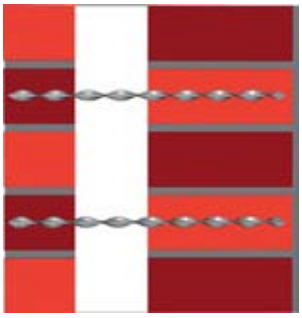
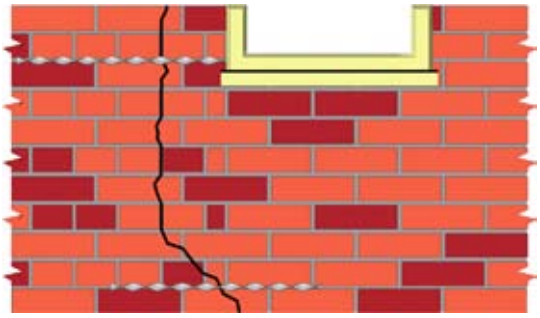


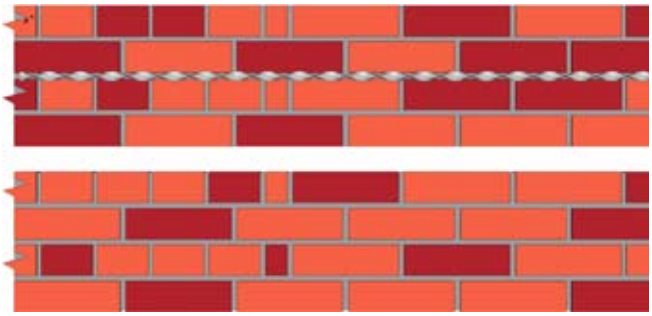
Connection and repair of cavity walls

9



Repair of various masonry cracks

10



Repair of failed masonry beams

TwistFix-Hand Support Tool

Hand Support Tool A - HST A

Hand Support Tool B - HST B

Applications in remedial situations:

Hand Support Tool A - HST A
The Hand Support Tool as a guiding element for Matrix Remedial Tie Single Point is designed for conventional drive with hammer force.
It is available with 4.5, 6, 8 and 10 mm diameters and with lengths of 8 to 100 cm respectively.

Hand Support Tool B - HST B
The Hand Support Tool as a guiding element for Matrix Remedial Tie Double Point is designed for conventional driving with hammer force.
It is available with 4.5, 6, 8 and 10 mm diameters and in lengths of 8 to 100 cm respectively.

A special cavity in the head of the Hand Support Tools reduces the friction during rotation of Matrix Remedial Tie Single Point .

Matrix-Power Support Tool

Power Support Tool 1

Power Support Tool 2

Power Support Tool 2 / 45°

Power Support Tool 3

Power Support Tool 1

Power Support Tool 1 is equipped with a SDS tool holding fixture for standard percussion drills and hammer-drills.

Tube lengths are available from 8 to 100 cm with 6, 8 and 10 mm diameters which allow driving into the Matrix Remedial Tie products up to a length of 150 cm.

Power Support Tool 2

Power Support Tool 2 is equipped with a SDS tool holding fixture for standard percussion drills and hammer-drills.

By means of these tools, Matrix Remedial Tie with 6, 8 and 10 mm diameters are driven in directly into pre-drilled openings up to lengths of 50 cm.

A special countersink drives Matrix Remedial Tie up to 7 mm more deeply into the material. This enables you to close the drilling opening perfectly when completing the job.

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.

Loading Test Unit

With this pull test device the actual pulling forces of the inserted Matrix Remedial Tie product can be measured to satisfy the requirements of customers and specifiers.

The measuring spectrum ranges from 0 to 5 kN.

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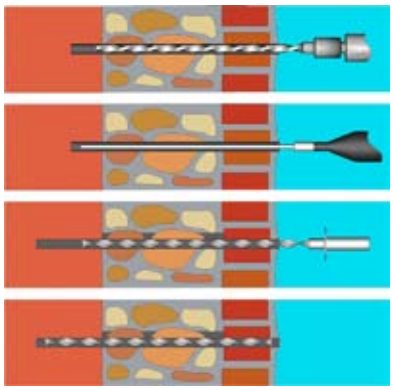
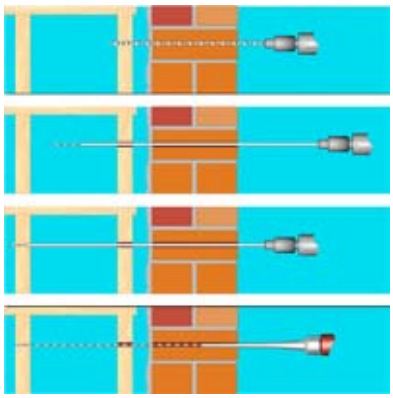
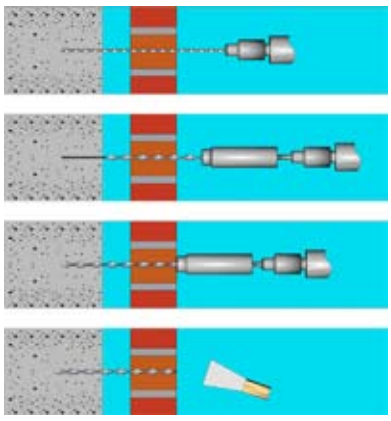
Matrix Remedial Tie and Crack Stitching Bar-Installation







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 (admeasurements, 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 and grouting into the back of slot

1.6 Inserts of bars and push back into grout

1.7 Grouting, coverage ratio 1.8 Multiple reinforcing bars if required

Matrix Remedial Ties - Anchors

2.1 Drill holes - Dimension in accordance with design (depth, diameter of drill holes)

2.2 Holes clearance - Vacuum out the holes and flush with water - temperature over 0°C (cohesive force)

2.3 Preparation of bars, grout and grout gun with nozzles - add measurements, mixing (length of holes and Brutt anchors, diameter of holes)

2.4 Applications of ties with grout gun and nozzle - depending upon material and the length of tie

3. Anchors system without Grout – pilot hole depending on build material 4 – 6 mm or directly without pilot hole. Application with extra power driven tool

4. Tools clearance

Matrix Remedial Ties - Anchors

3.1 Cut slot into original grout at about 300mm apart

3.2 Clean out slots of dust and wash using water

3.3 Using the supplied gun two thirds fill the slot with Matrix Grout

3.4 Insert the Matrix Crack Stitching Bar into the mortar three quarters deep in mortar. Work the grout soothely to cover the Bars completely.

3.5 Make good the repair site using the appropriate coloured grout.

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Matrix Remedial Tie- Dry application

Drill pilot hole

Drill pilot hole

Preparation of Acessory

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

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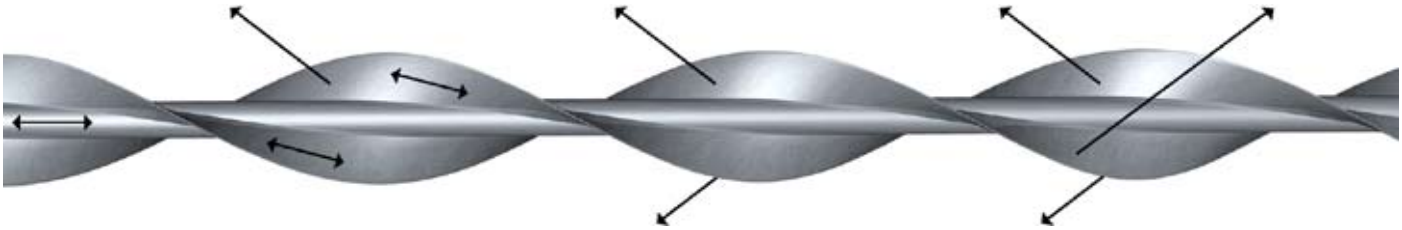

Matrix Helical Anchors are available from
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