LESA SYSTEMS 2017 LTD

ENGINEERED CONCRETE FLOOR SYSTEMS

PRODUCT CATALOGUE 2019

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LESA SYSTEMS PRODUCT CATALOGUE 2019

ABOUT US

Since commencing business in 1989 with the innovative Lesa Strip floor joint protection system and square dowel range, Lesa Systems now offers one of the largest ranges of shear dowels and joint armouring systems in Australasia. Lesa's Armour Joint system is being used in some of the most prestigious projects in New Zealand and Australia and is preferred by engineers and contractors for its ease of use and economy.

In 1998 Lesa Systems developed the world's first free-standing mono-pour armour joint system and is now recognised as Australasia's leader in the development and supply of floor design and products which enable concrete slabs on grade to be constructed durably and economically.

In 2003 Lesa Systems acquired the rights to Convergent Concrete Technology and the Pentra range of products from the Convergent group in Belgium, for Australia and New Zealand for sealing, densifying, dust-proofing and protecting concrete floors (including ground and polished floors). Lithium-based products are accepted worldwide for their many benefits and have now been extensively used throughout New Zealand and Australia.

In 2008 Lesa Systems acquired the rights to the Metzger McGuire range of joint fillers. Metzger McGuire has led the way in the development of concrete floor joint protection systems for more than 45 years. Metzger McGuire floor joint fillers and concrete repair products are specially engineered to provide optimum protection for heavy-duty warehouse/distribution centre facilities to stained and polished concrete floors.

Lesa Systems has qualified and experienced staff with extensive knowledge, particularly in the construction of slabs on grade. Many of our products have been developed in response to the needs of the market, to suit the often unique conditions in New Zealand and Australia. Lesa operates offices in Auckland, Christchurch and Brisbane with highly trained staff to assist with any enquires.

30 YEARS
CELEBRATING

We develop, we innovate, we lead.

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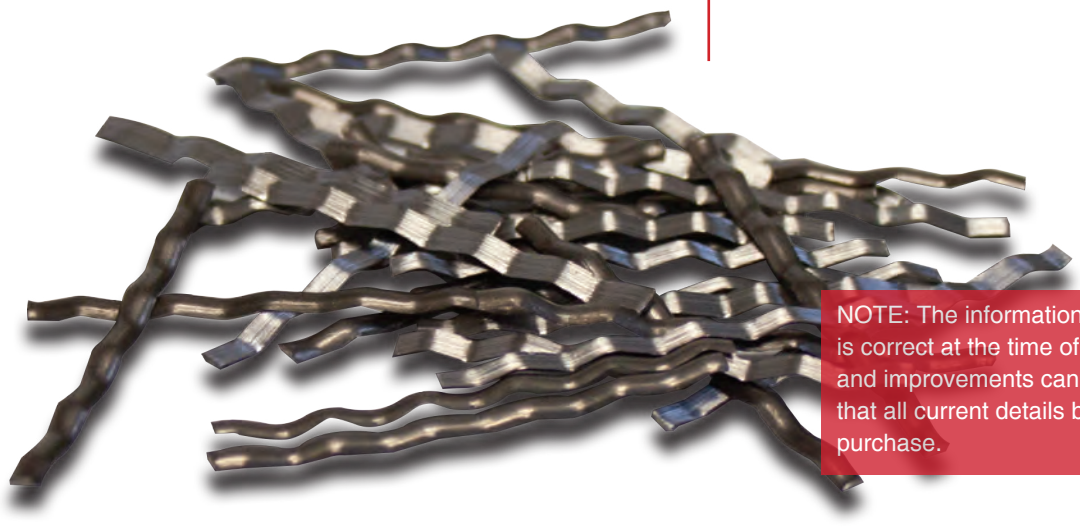
LESA PLATE DOWELS



NOTE: The information contained in this brochure is correct at the time of print, however, changes and improvements can occur. It is recommended that all current details be obtained prior to purchase.

LESA ARMOUR JOINT SYSTEMS

WHY ARE LESA ARMOUR JOINTS USED?

Lesa Armour Joint is a completely assembled permanent formwork system for creating and protecting construction/cold joints in concrete slabs on grade. It incorporates anchored steel armouring at the concrete edges and includes dowels for load transfer across the joint.

WHERE ARE LESA ARMOUR JOINTS USED?

Lesa Armour Joints are used in concrete slabs on grade.

FOUR PRIMARY FUNCTIONS

There are three primary functions in most versions of armour joint:

1. The full depth sheet steel creates the joint and defines where movement will occur.
2. Steel armouring protects the concrete edges from spalling damage.
3. Dowels transfer live loads across the joint.
4. Factory manufactured, helping to speed up the process of the concrete pour and ensuring a great end result.

BACKGROUND

The first product in the Lesa Armour Joint range was designed in 1999 to solve problems associated with previous concrete slab design methods.

Earlier design systems for conventional slab construction resulted in floors with many joints, and a mix of saw cuts/control joints, which gave little control over which joints shrinkage movement appeared in, or the width of joints. The construction of joints which were damage resistant was then expensive and rarely achieved.

Lesa Systems Armour Joint, which was the first product of its type in the world, enabled the introduction of improved design and detailing methods which control widths of floor joints in conventionally constructed floors.

The shrinkage movement of the concrete is focused into fewer joint spacings. These joints can be protected against damage, and dowels are incorporated to suit the joint width and loading.

FLOOR DESIGN SYSTEMS

There are three primary design approaches for concrete slabs on grade:

1. Conventional construction, both reinforced and un-reinforced;
2. Steel fibre reinforced, both low dosage and high dosage (also known as joint free); and
3. Post-tensioned.

Each of these approaches has advantages and disadvantages, and Lesa Armour Joint is suitable for and is widely used in all three. A summary is as follows:

Concrete slabs on grade differ from most other structural concrete components, as the concrete is used in tension. Concrete tensile stresses must be kept low enough to avoid cracking. Cracking in floor slabs (except under sawcuts) is undesirable, and unnecessary with proper design and detailing.

One of the major functions of joints in floor slabs is to limit the level of concrete tensile stress which occurs.

CONVENTIONALLY CONSTRUCTED FLOORS

These floors are the most common, being the traditional method of construction. The slabs usually include either bar or mesh reinforcing, though it can be argued that the reinforcing is usually unnecessary. Saw cuts/control joints are created in both directions at quite close centres, typically at about 5 metres. At this spacing, cracks are unlikely to occur between the joints. Both saw cuts/control jonts and construction/cold joints are used, to suit pour layouts.

Joint widths and shrinkage movement can be controlled with the proper detailing of the slabs and the use of defined joint types. The use of Lesa Armour Joint typically at about 20-metre centres in each direction focuses all the shrinkage movement into the relatively small number of saw cuts/control joints and is armoured to prevent spalling damage.

The construction/cold joints shrinkage openings usually do not exceed about 15mm, and Lesa Armour Joint Type A, B and K are suitable for the construction/cold joints. This reduces cost. High-quality and economical floors can be constructed with this simple formula.

STEEL FIBRE REINFORCED FLOORS

Steel fibre reinforced slabs fall into two distinct categories:

a) Low dosage slabs, and
b) High dosage (jointless or joint free) slabs.

In low dosage steel fibre slabs, a low level of steel fibre reinforcing is substituted for conventional reinforcing. The joint types and spacings are similar to conventional slabs. Lesa Armour Joint Types A, B and K are suitable for the construction/cold joints. Dowels are advisable in saw cut joints.

High dosage steel fibre slabs have different performance characteristics, and the fibre reinforcing is used to increase abrasion/impact resistance and higher flexural strength. Construction/cold joints are often located at 20 - 25-metre centres or greater, without saw cuts between the movement joints. This results in a high-quality slab.

The construction/cold joint shrinkage openings are typically no more than 20mm and rarely exceed 25mm. For this expected joint opening, an armour joint which includes a cover plate is advisable, Lesa Armour Joint Type L45 is the most commonly used product for high dosage steel fibre reinforced floors.

POST-TENSIONED FLOORS

Post-tensioned floors use stressing cables to place the concrete under pre-compression, prior to live loads being applied. This increases the "available" tension in the concrete, allowing thinner slabs and wider joint spacing. Construction/cold joints, which also become movement joints, are frequently spaced 40 metres or more apart, but there are no saw cuts between these joints.

Total contraction movement in post-tensioned floors can be significant. In addition to full concrete shrinkage, strain shortening will occur over time. Construction/cold joint width openings of 30mm are common, and in extreme cases can reach about 70mm. Lesa Armour Joint Types G45, G65, G85, L45 and L65 are commonly used in post-tensioned concrete floors.

THE PRODUCT RANGE

The Lesa Armour Joint range has been extended significantly since the original design, to allow for the many types of floor slab construction, including wide and very wide joints, as occurs in jointless steel fibre reinforced slabs and post-tensioned slabs.

JOINT SPACING, LAYOUTS AND DETAILS

The correct layout of joints is essential in designing successful concrete slabs. A design service is available for this from Lesa Systems in consultation with the lead design engineer.

Movement and other necessary joints must be correctly spaced in relation to the type of construction of the floor, and to any constraints to the movement of the concrete.

In addition, all intersections in movement joints and in armour joint products must be detailed to allow the movement joints to open freely. Lesa Systems provides pre-manufactured junction sections for self-supporting armour joint versions, and the use of these is essential to avoid incorrect site installation.

LESA ARMOUR JOINT SYSTEMS

FREQUENTLY ASKED QUESTIONS

WHAT ARMOURING STEEL IS USED?

Lesa Armour Joint uses high-quality square edged mild steel. The square edges ensure a flush finish between steel and concrete floor surface. Lesa avoids the use of bright steel sections since these have sharp edges which can damage the solid synthetic wheels on lift trucks. Radiused, or round-topped steel is not used.

HOW IS LESA ARMOUR JOINT INSTALLED?

A range of installation systems and procedures can be used, depending on the product and circumstances. Contact Lesa Systems for the best installation system for your project and installation guidelines are supplied to site.

HOW DO I SEAL LESA ARMOUR JOINT?

The gap which develops in an armoured movement joint is dependent primarily on the spacing between the movement joints. In many installations, the gap which appears between the steel sections is left unsealed, since the armouring ensures that no damage will occur, and a sealed joint is not necessary.

Where a sealed joint is required, several different techniques can be used, depending on the product and the circumstances. For Lesa Armour Joint Types A and B, Metzger McGuire polyurea joint filler is the best sealant for use. For other circumstances, contact Lesa Systems for specific advice.

WHAT HAPPENS AT JUNCTIONS IN LESA ARMOUR JOINT?

When using Lesa Armour Joint, it is essential to use pre-formed junction sections. These ensure that the movement joints respond fully to concrete shrinkage movement, allowing joint gaps to form continuously, in both directions.

HOW MUCH EXPERIENCE DOES LESA SYSTEMS HAVE WITH ARMOUR JOINT?

Lesa Systems developed the world's first armour joint types A and B in 1998 and has been manufacturing these and other versions of armour joint ever since. The Lesa Armour Joint range has been tried and proven in many high profile projects in New Zealand and Australia.

LESA ARMOUR JOINT TYPES A1, A2, A3 ©1999

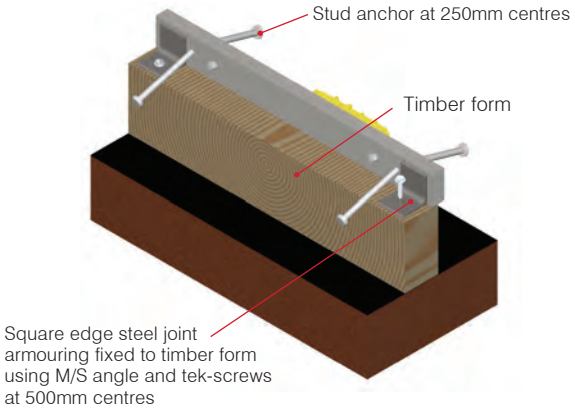
FOR USE WITH TIMBER BOXING

Types A1, A2 and A3 provide floor joint edge protection using square edged steel flat bars positioned vertically. All Type A versions are used with timber formwork and dowels. Type A1 is pre-assembled for mounting on top of a timber form. Type A2 has one pre-drilled side for nailing to formwork. The second side is tack-welded to side one. Welds are cut following the concrete pour to allow concrete shrinkage to take place. Type A3 is pre-drilled to allow side one to be nailed to formwork for the first concrete pour. The second side is pinned to the first side after formwork is stripped from the first pour.

TYPE D

Is a variant of Type A, which is predominantly used for doorways and often incorporates a 10mm step down.

TYPE A1



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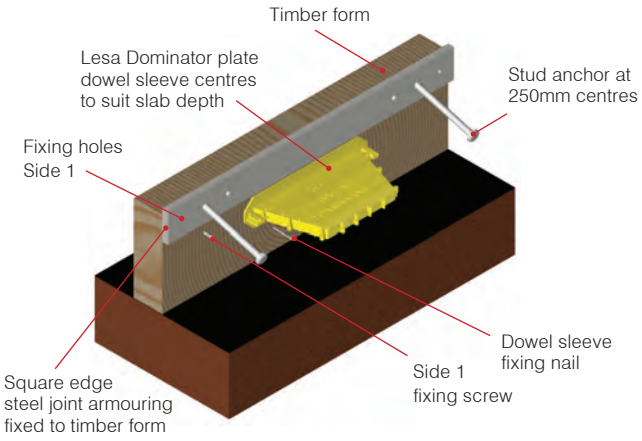
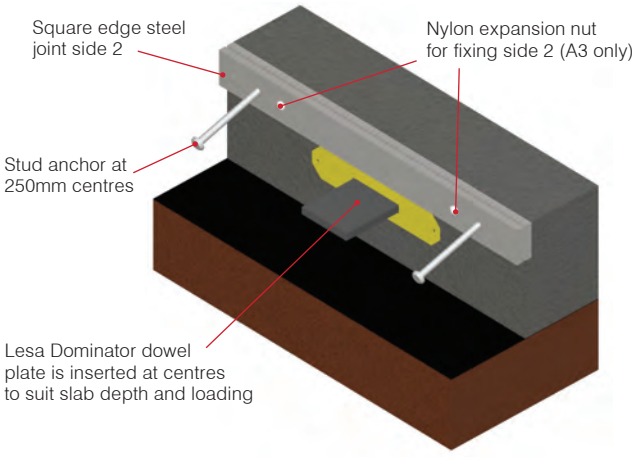
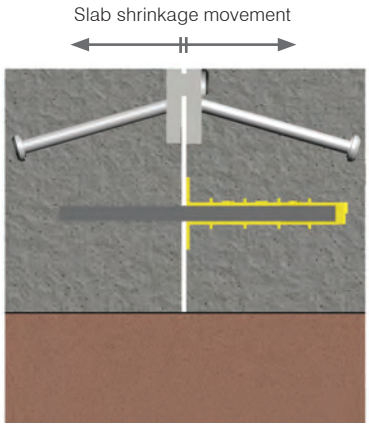


TYPE A3





SECOND POUR

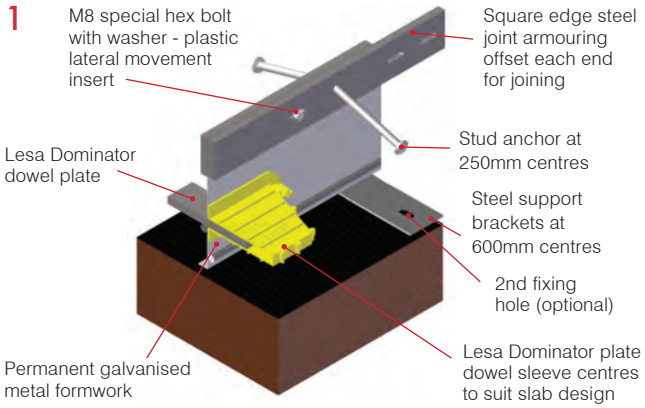
LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE B ©1999

COMPREHENSIVE PRE-ASSEMBLED SYSTEM

Type B provides proven flat bar steel edge protection into a full, comprehensive pre-assembled formwork system which includes a sheet metal steel form and Dominator dowels at spacings to suit the slab thickness. A range of sizes is fabricated to suit the slab thickness. The use of Dominator dowels caters for joint widths up to 25mm in most floors. It allows for continuous pours over the joint, but can also be used as an edge form.

1



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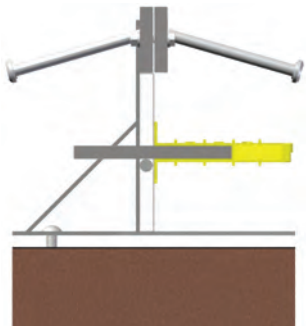

ARMOUR JOINT TYPE B - END VIEW

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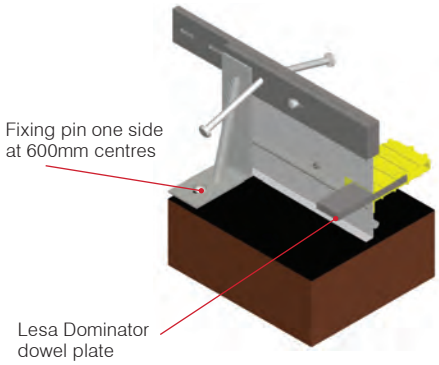

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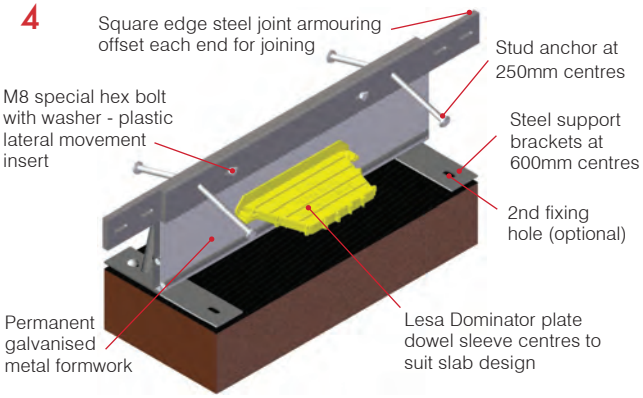

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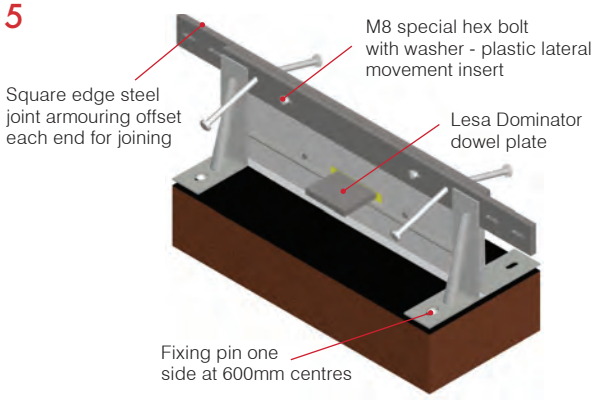
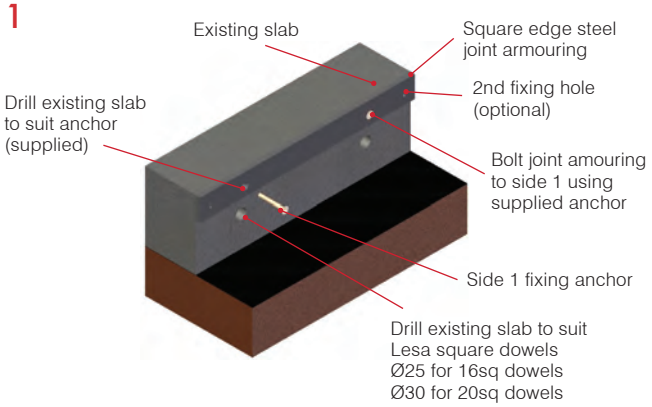


LESA ARMOUR JOINT TYPE C ©1999

FOR NEW TO EXISTING CONCRETE SLABS

Type C provides flat bar steel edge protection, for use when casting a new slab against an existing slab. Side one is bolted to anchors drilled into the existing concrete. Side two is pinned to side one and cast into the new concrete.

1



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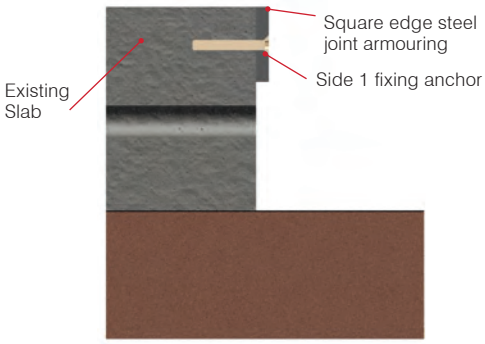

STAGE 1

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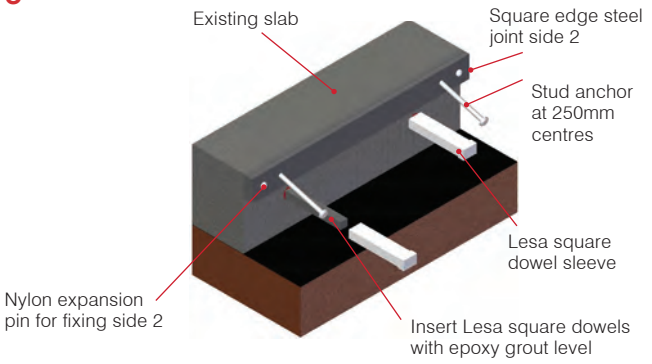

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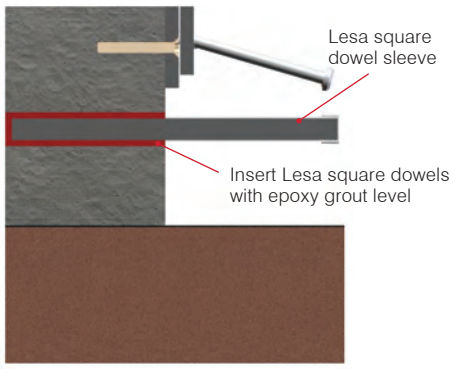

STAGE 2

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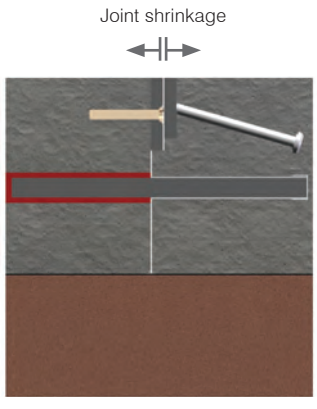

STAGE 3

LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE E ©1999

FOR EXPANSION JOINTS

Type E is a fully pre-assembled flat bar steel edge protection system similar to Type B, modified to create an expansion joint. It incorporates a central compressible material, to meet the requirements of hot climate markets and shrinkage compensating concrete slabs.

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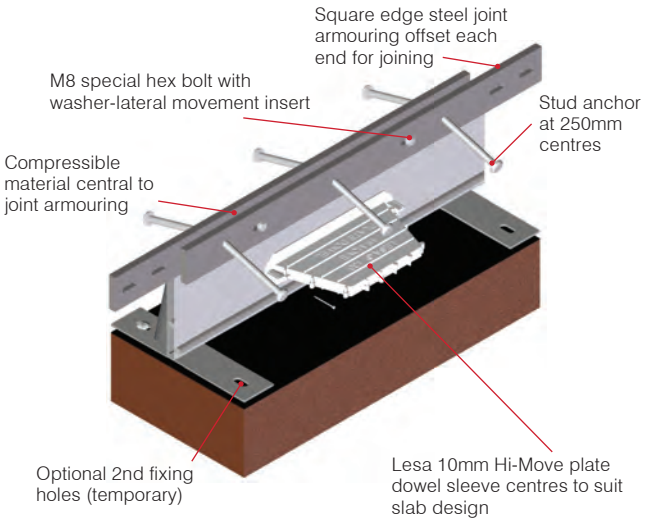

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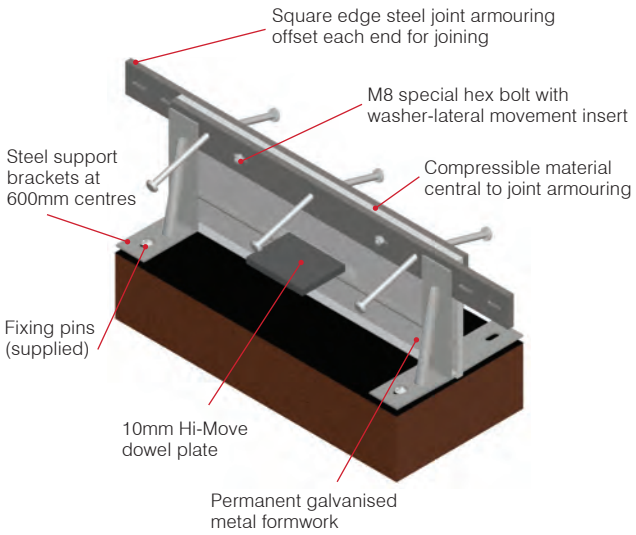

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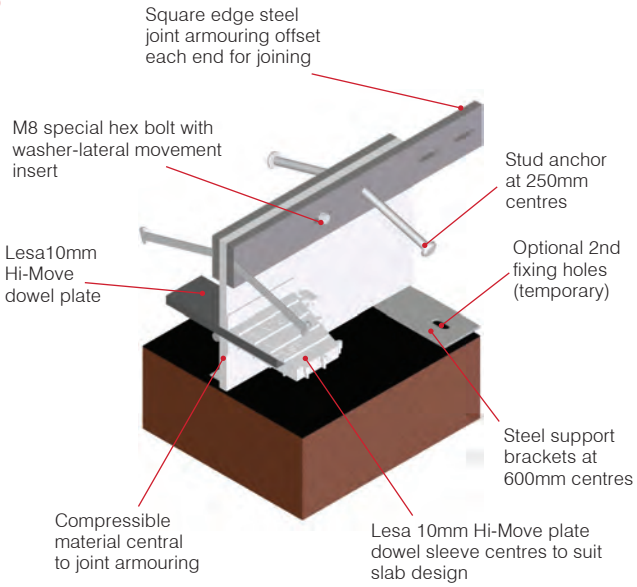

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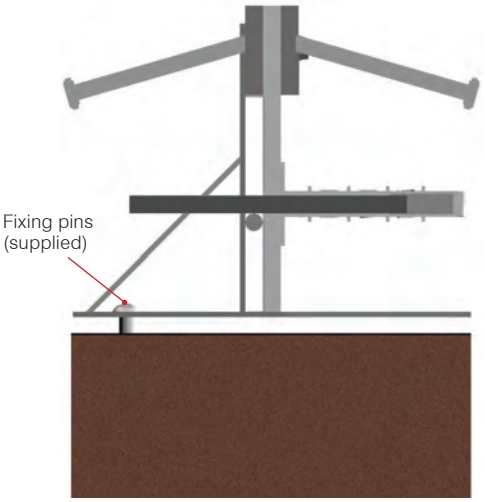

ARMOUR JOINT TYPE E - END VIEW

LESA ARMOUR JOINT TYPE F

FOR PRECAST CONCRETE FLOORING SYSTEMS

Steel angle edge protection for use in suspended precast floors, such as hollow-core etc. This ensures a straight and spall proof crack line where reflective cracking regularly occurs, over panel joints, in the topping slabs.

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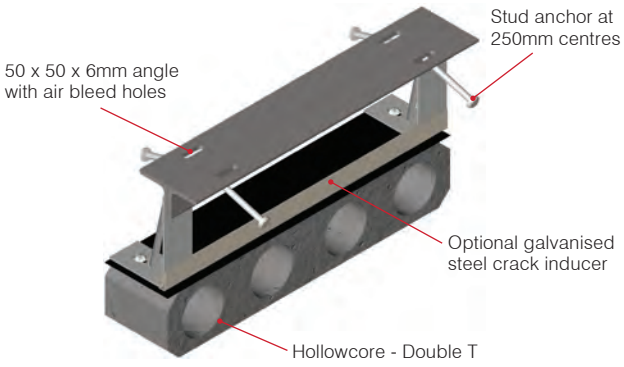

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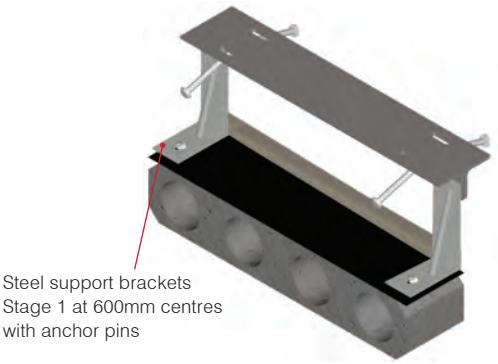

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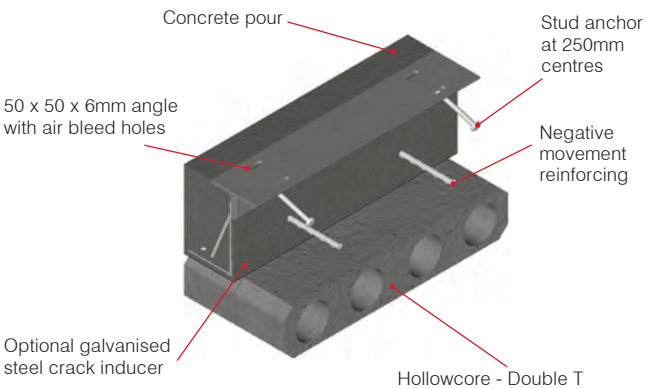

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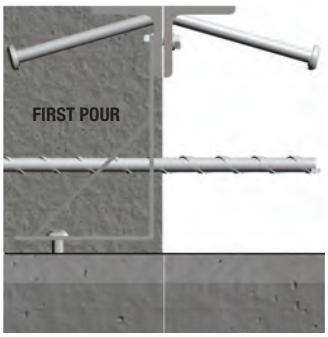

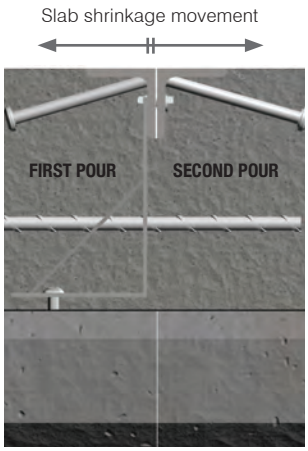

LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE G

SLIDING COVER PLATE JOINT

Type G provides a sliding cover plate joint system for a range of floors where high joint movement occurs due to the wide joint spacing. Type G is used in stressed slabs, jointless (high dosage) steel fibre slabs and shrinkage compensating concrete slabs. It has been in use since 2003. A robust cover plate slides over the joint as floor shrinkage occurs. Three versions (Types G45, G65, and G85) provide for expected joint width openings up to 85mm.

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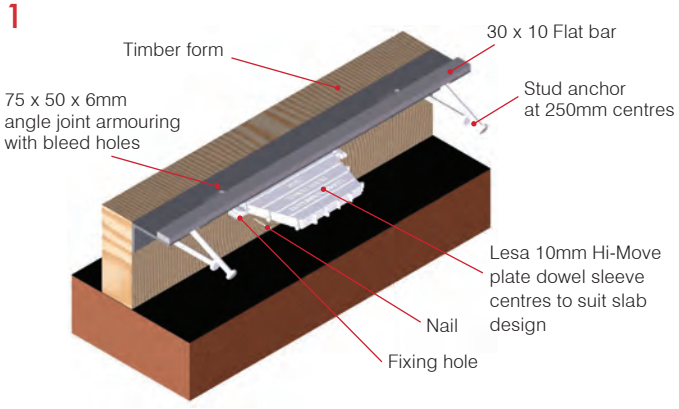

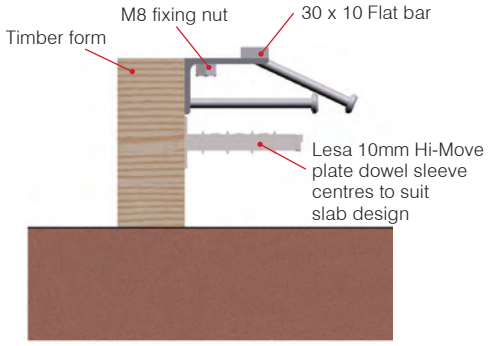

ARMOUR JOINT TYPE G - END VIEW

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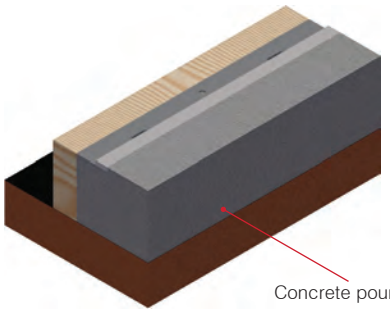

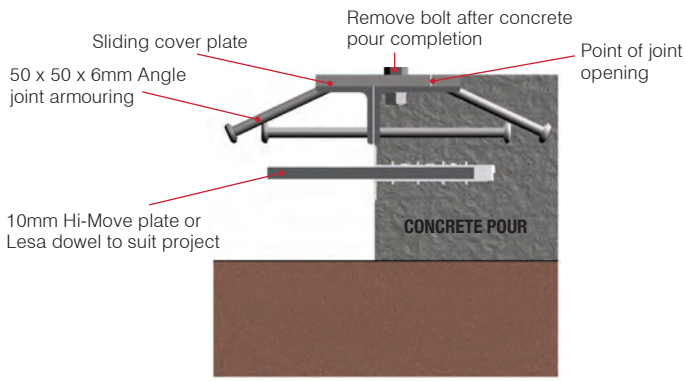

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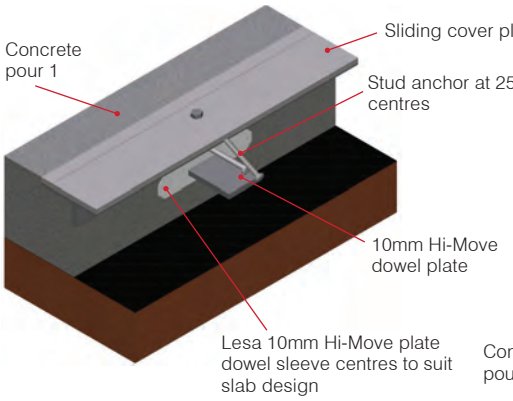

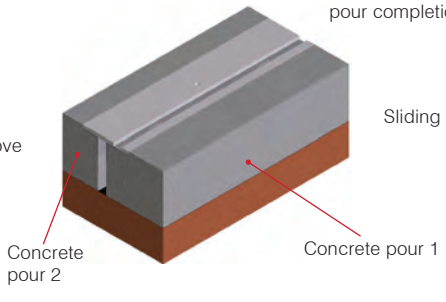

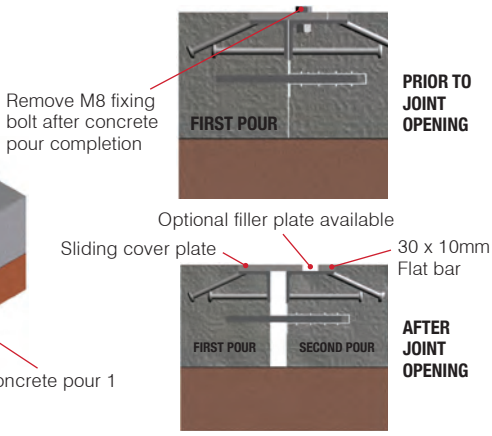

NOTE: Top mount bolt is optional and made to order. Steel sizes in above drawings are for Type G45.

LESA ARMOUR JOINT TYPE G-C

NEW TO EXISTING SLIDING COVER PLATE JOINT

Type G-C can be used where a new slab is poured against an existing slab, but a cover joint system is required. The first side is fabricated to enable it to be mounted into the edge of an existing slab.

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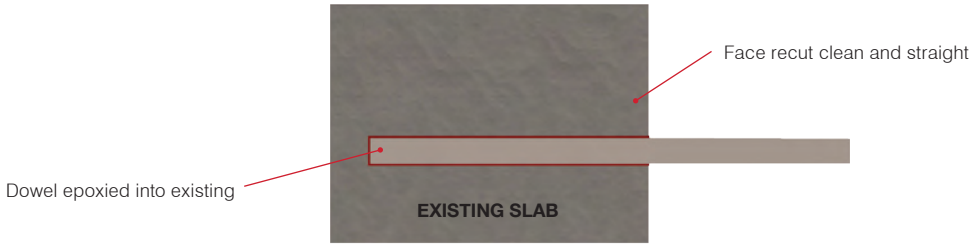

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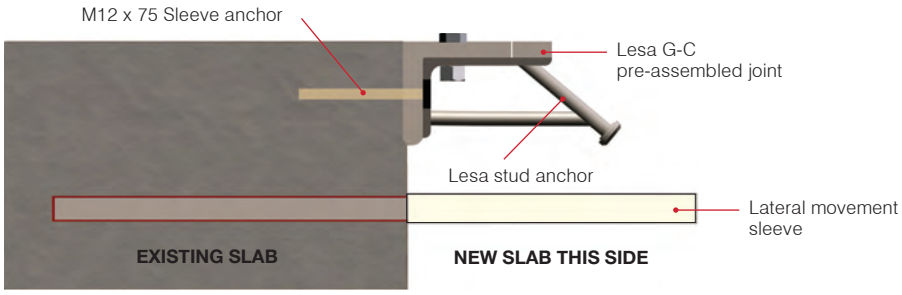

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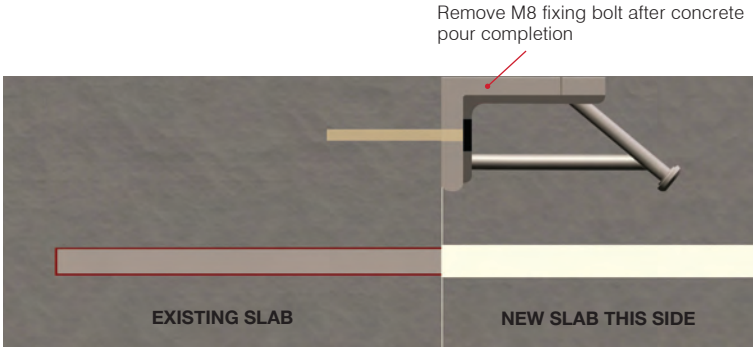

LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE H

JOINTS THAT REQUIRE HIGHER LATERAL MOVEMENT

Type H is similar to the Type B version, providing flat bar steel edge protection, but for floors where wider joint openings are expected. It is a full, comprehensive, pre-assembled product but differs as it incorporates heavy duty Lesa Hi-Move plate dowels for joint openings up to 35mm in most floors.

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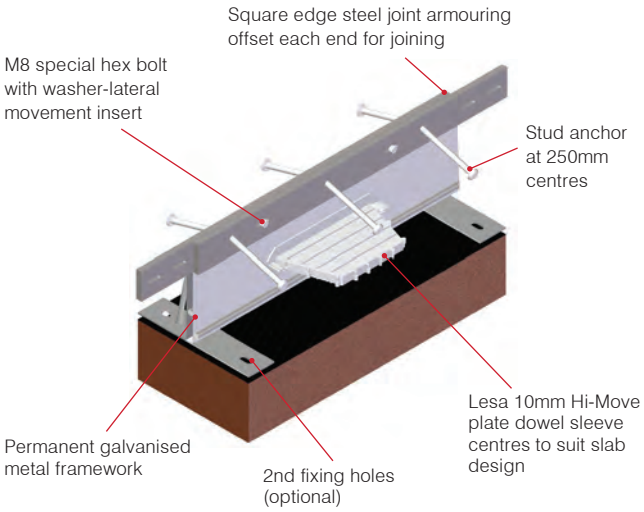

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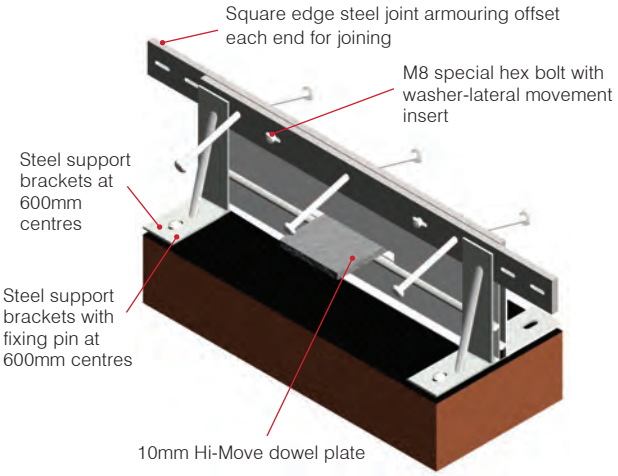

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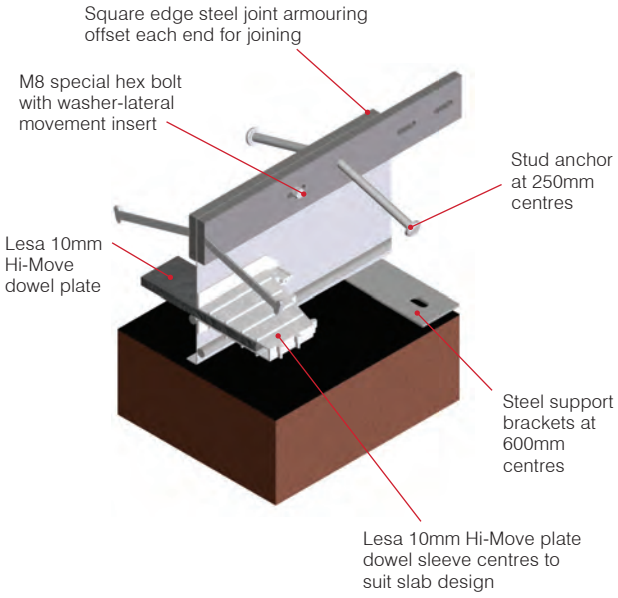
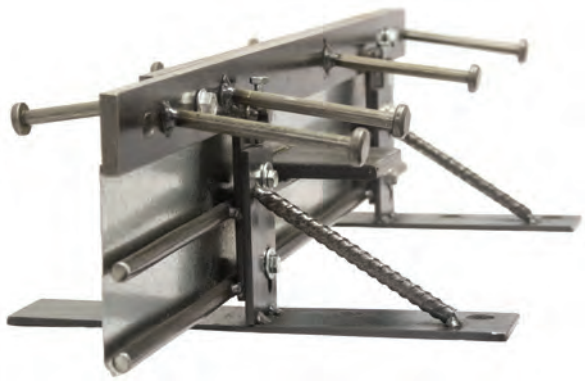


NOTE: OPTIONAL ADJUSTABLE BRACKETS ARE AVAILABLE FOR TYPE B AND TYPE H FLAT BAR SYSTEMS. THIS MUST BE NOTED WHEN PLACING AN ORDER

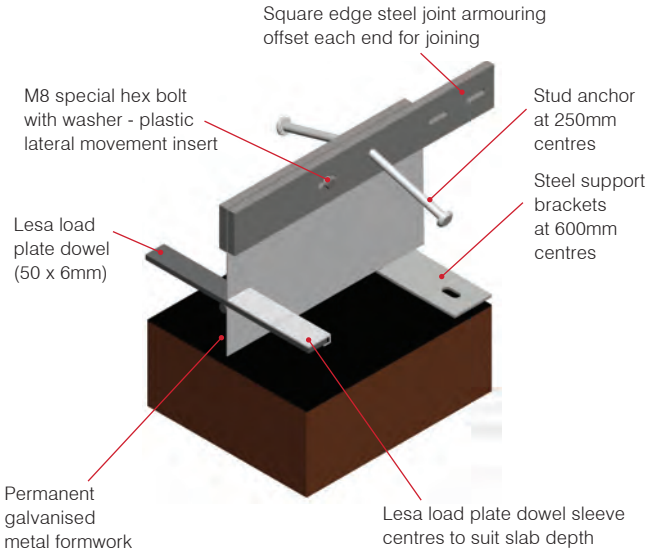


LESA ARMOUR JOINT TYPE K

AN ECONOMICAL VERSION OF THE TYPE B JOINT

Type K is an economical version of Type B and is available for slab thickness up to 200mm. It is fully pre-assembled, and its lighter construction is suitable for many circumstances and lighter floor loads with lower load transfer requirements.

1



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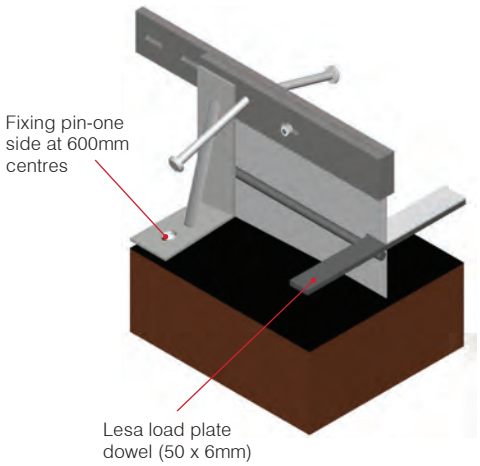

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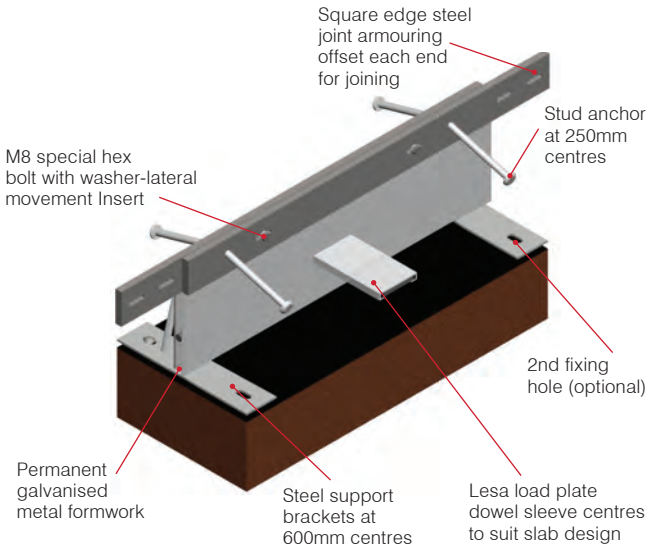


ARMOUR JOINT TYPE K - END VIEW

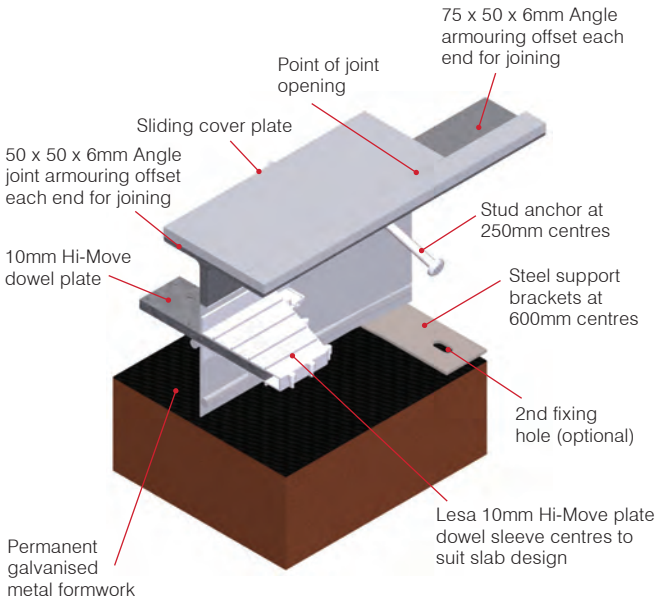
LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE L

FREE STANDING COVER PLATE JOINT

Type L is a full, comprehensive pre-assembled version of Armour Joint, with an upper joint armouring section similar to Type G. This provides a cover plate over wider joints and can be used where sealed joints are required. Up to 45mm joint movement is catered for with standard Type L, and special versions can cater for joint widths up to 85mm.

1



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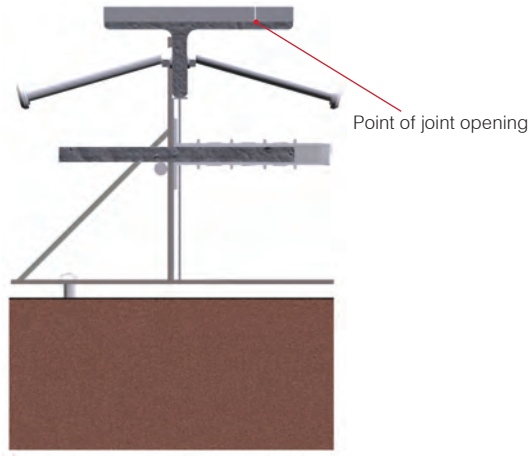
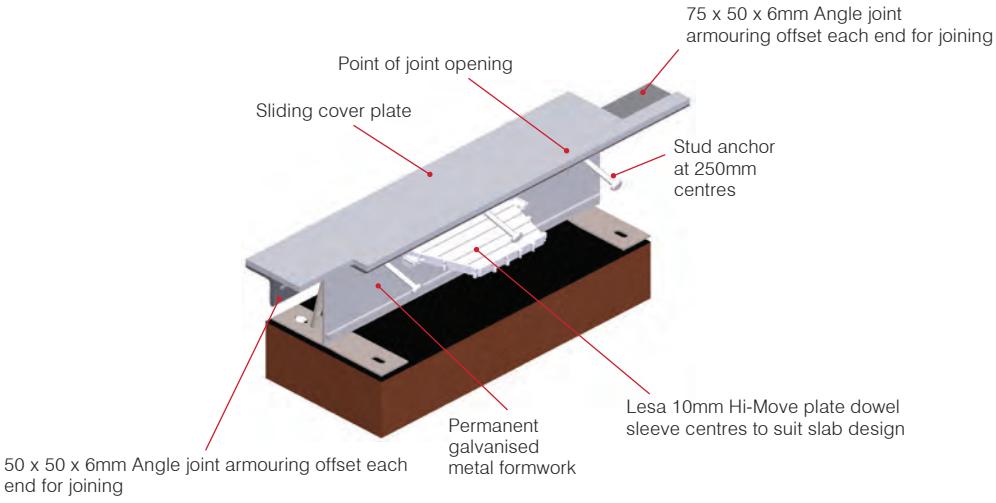




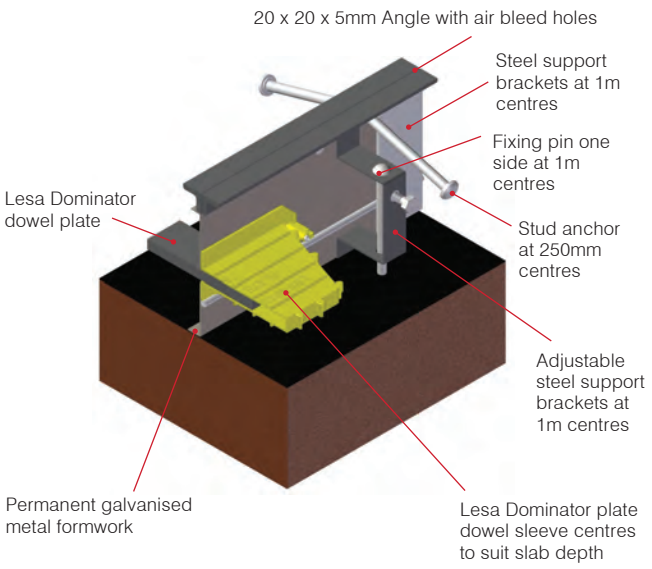
NOTE: Steel sizes in above drawings are for Type L45.

LESA ARMOUR JOINT TYPE M

AN ECONOMICAL VERSION OF THE TYPE P JOINT

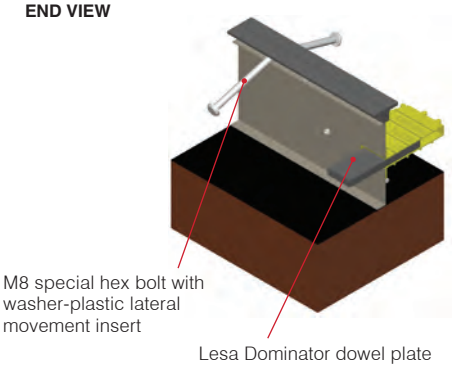
Type M is an economical version of Type P using steel angle edge protection and is available for floor thicknesses up to 200mm. It is fully pre-assembled, incorporating dowels to suit lighter floor loads and load transfer requirement. (For heavier duty, see Lesa Armour Joint Type P).

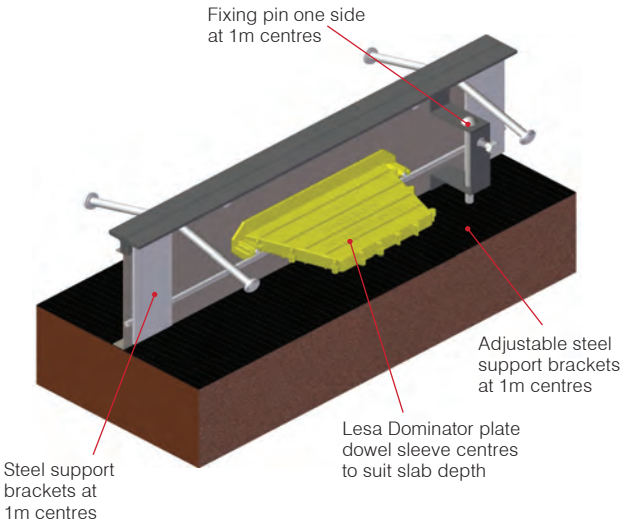
1

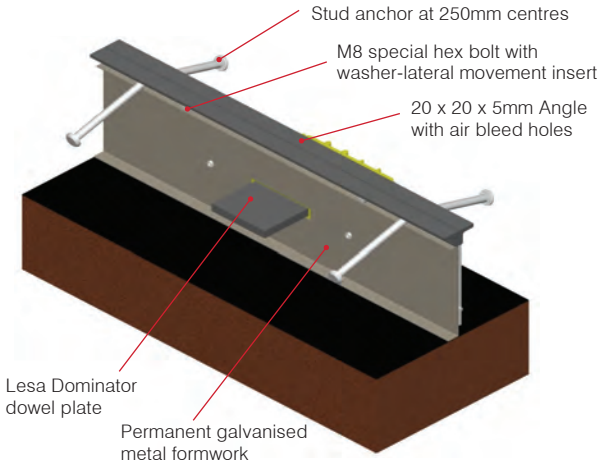


2

ARMOUR JOINT TYPE M END VIEW







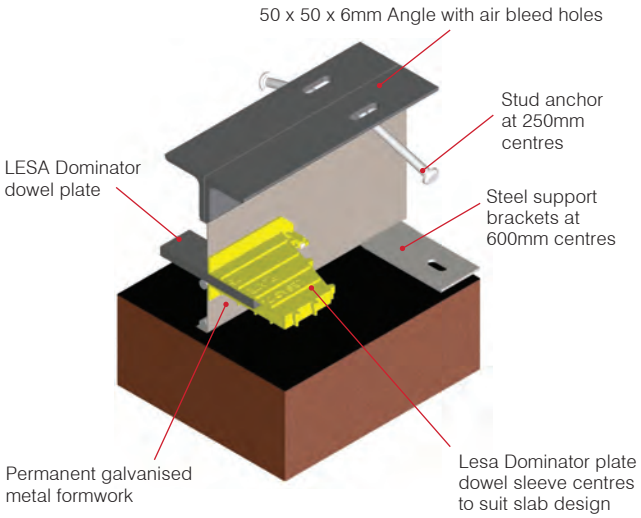
LESA ARMOUR JOINT SYSTEMS

LESA ARMOUR JOINT TYPE P

EQUAL ANGLE ARMOUR JOINT PROTECTION

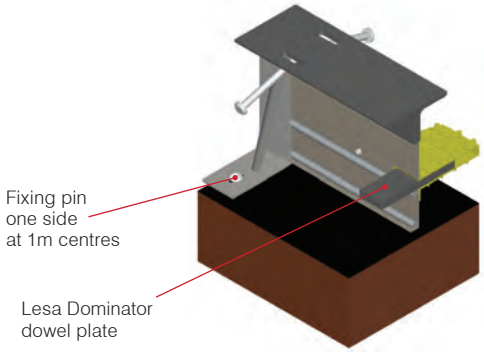
Type P is a fully assembled version using steel angles in place of flat bar for joint edge protection. This version is used where clients have a preference for steel angle joint edges and are used in installations such as supermarkets.

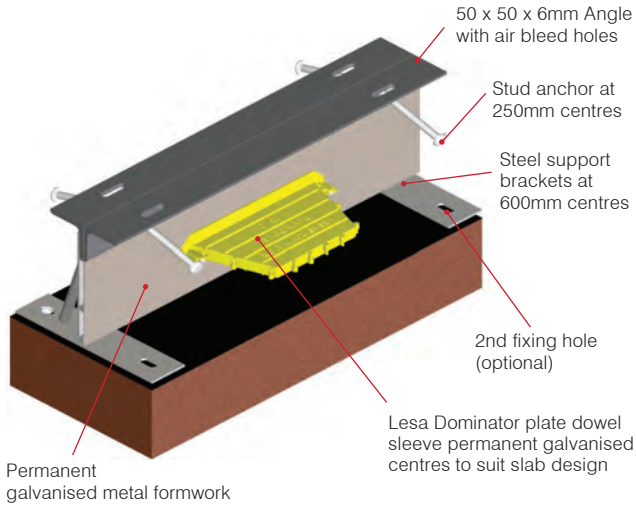
1

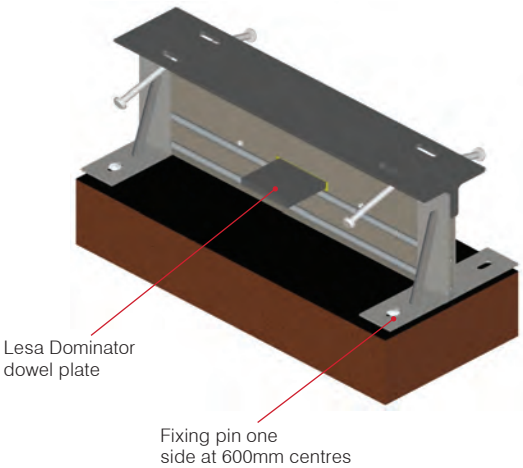


2

END VIEW OF TYPE P





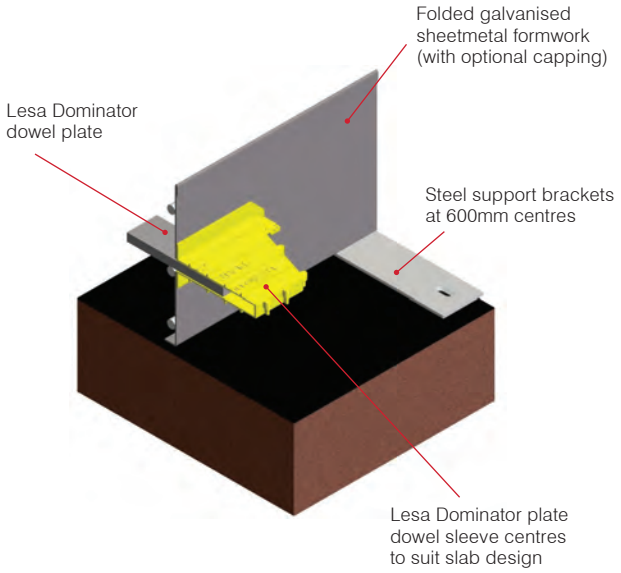


LESA T-FORM / TYPE T

DOWELLED STAY-IN-PLACE FORMWORK

Lesa T-Form is a pre-assembled, self-supporting permanent metal formwork system for creating dowelled movement joints in slabs where armouring is not required. It can be used within a monolithic pour, or as an edge form. T-Form is typically supplied with Lesa Dominator plate dowels as standard, but can also be supplied complete with any type of Lesa dowel and sleeve (illustrated with Lesa Dominator plate dowels), Fixing pins and jointers.

1



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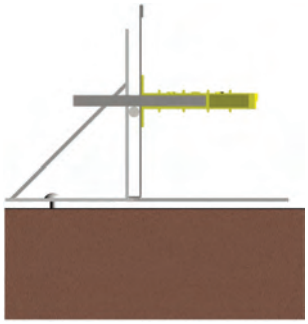
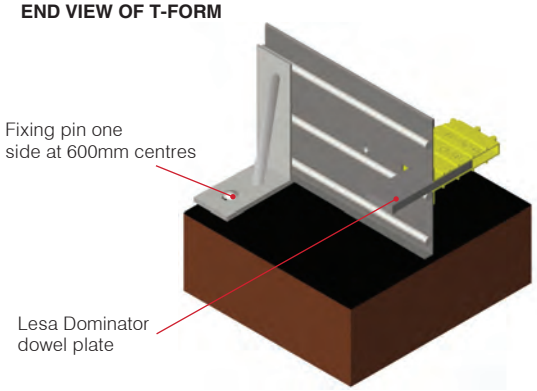
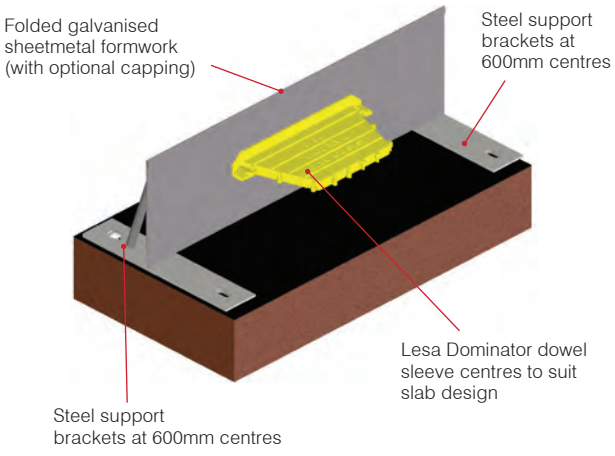
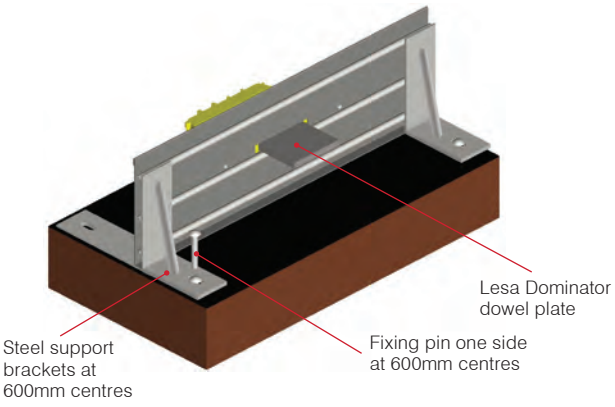


END VIEW OF T-FORM





NOTE: A RANGE OF OPTIONAL PVC CAPPING IS ALSO AVAILABLE SUCH AS LESA REMOVABLE CAPPING TO FORM A REBATE FOR JOINT SEALANTS



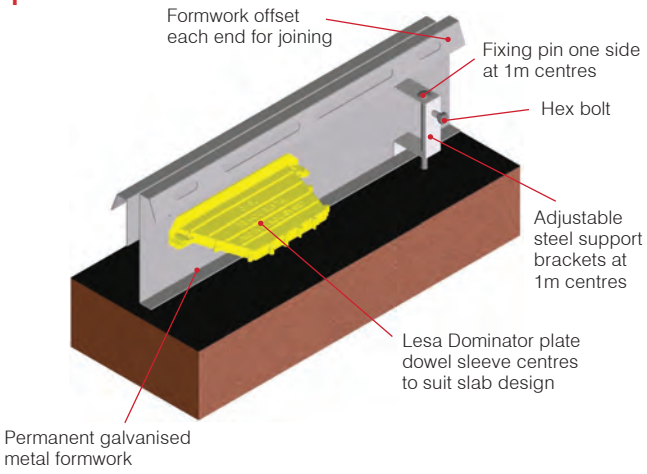
LESA JOINT SYSTEMS

LESA SPEED-FORM

STEEL EDGE PROTECTION FOR EXTERNAL PAVEMENTS

Lesa Speed-Form is a two-piece permanent metal formwork system which provides a light steel protection to the edges of floor joints. It incorporates Lesa's ground pin fixing system for rapid, stable and easy installation to the correct height.

1



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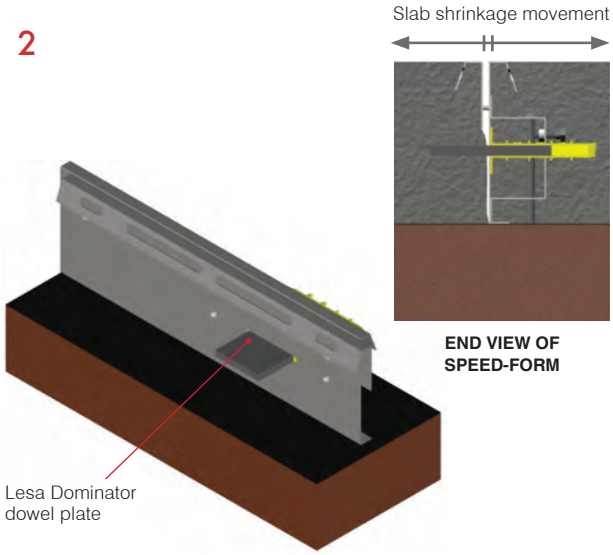
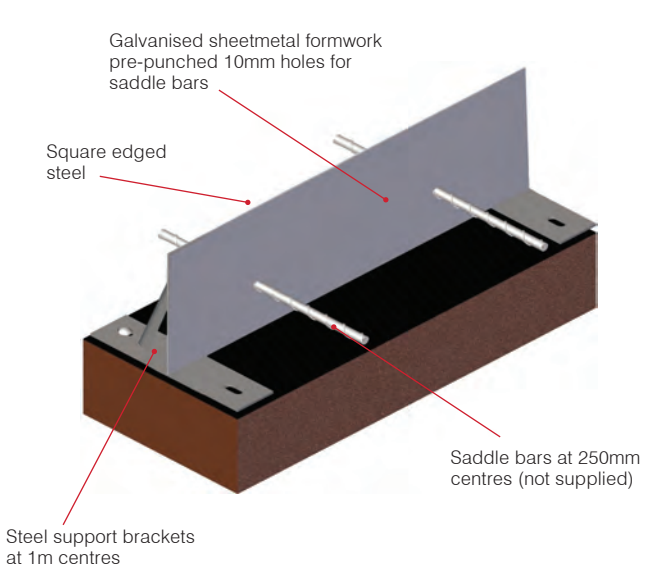
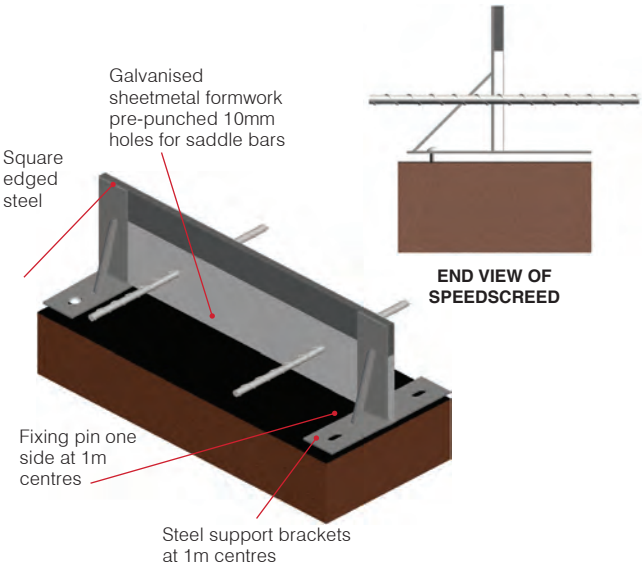


LESA SPEEDSCREED

SCREED RAIL SYSTEM

Lesa Speedscreed is a pre-assembled, self-supporting permanent formwork system designed to support truss screeds for super-flat floors. A square edged steel flat bar ensures accuracy and a permanent sheet metal form is pre-punched for continuity of the reinforcing through the joint.





LESA SYSTEMS
2017 LTD
ENGINEERED CONCRETE FLOOR SYSTEMS

SUSTAINABLE, DURABLE POLISHED CONCRETE FLOORING SYSTEMS

LESA PLATE DOWELS

WHAT ARE PLATE DOWELS?

Plate dowels are concrete shear dowels which use steel flat bars for load transfer across joints in concrete slabs on grade and have now replaced traditional round dowel bars in many installations.

Plate dowels are wider than the round, or square bars they replace, so greater loads can be carried per dowel in many situations since the bearing stresses between steel and concrete are reduced.

Plate dowels are generally quite short and are easy to use in formed or construction joints, where nail-on sheaths are fixed to form boards. Penetration of formwork is avoided, and this simplifies the installation of these dowels. Plate dowels are now the most widely used dowels in industrial and commercial floor construction in countries where advanced construction techniques are used.

FLOOR DESIGN SYSTEMS

Traditional design techniques resulted in floors with many joints (usually a mix of construction joints and sawn joints), and there was little control over the widths of the joints.

Modern floor design methods reduce the number of joints in floors or control the widths of the joints. These methods include post-tensioned floors, jointless steel fibre floors, and controlled movement floors. The increase in the distance between joints increases the widths of the joints in which movement occurs.

Early plate dowel design was based on American floor construction methods which were popular at the time. Thin, heavily tapered dowels do not provide adequate load transfer in wide joints. Lesa Plate Dowels meet the requirements of current floor design systems.

BENEFITS

- Quick and easy to install – no need to drill timber formwork
- Allows for lateral movement
- Efficient load transfer
- Site safe – no long dowel bars protruding from formwork during the pour

LESA SYSTEMS
2017 LTD
ENGINEERED CONCRETE FLOOR SYSTEMS

AUSTRALASIA'S LEADER IN LOAD TRANSFER SYSTEMS AND CONCRETE JOINT PROTECTION

LESA DOMINATOR PLATE DOWEL SYSTEM

LESA DOMINATOR PLATE DOWEL SYSTEM

The Dominator 75/10 plate dowel is the most advanced in plate dowel design, and has the following features:

- A constant width steel plate, and
- A tapered sleeve.

The width and thickness of the Dominator plate dowel have been selected for:

- High bearing capacity (but not excessive bearing capacity) in narrow joint widths,
- High bending capacity for a range of joint widths, and
- Tapered dowel sleeve to allow increasing lateral movement as the joint width increases.

A tapered dowel plate is not used since a tapered plate would rapidly reduce the dowel capacity as the joint width increases.

DOMINATOR PLATE DOWEL VS. TYPICAL PLATE DOWEL

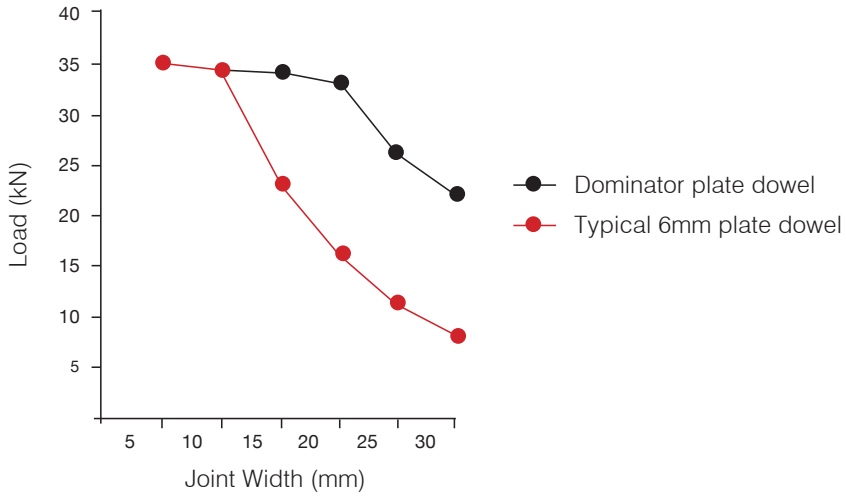
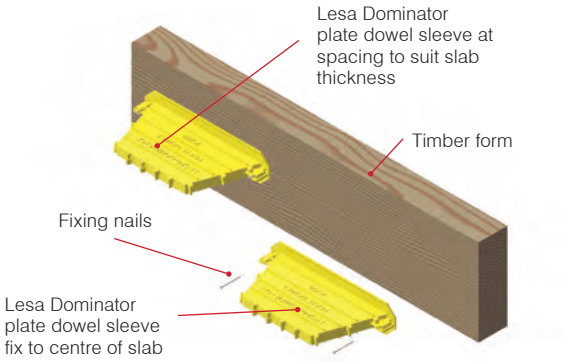


PLATE DOWEL SELECTION

Much of the concrete movement will be perpendicular to the line of the joint as the joint opens. However, some relative movement between the bays of concrete on each side of the joint will also occur along the line of the joint. It is vital that the dowels allow for this relative movement. If the dowels do not allow for this movement, then unnecessary stresses will develop in the slab, and these may contribute to cracking. With the range of floor construction techniques available, the selection of the dowels must suit the design of the floor, and adequately allow for slab movement, while still retaining adequate load capacity.

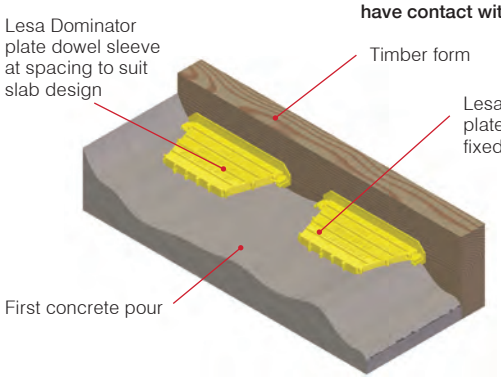
Feel free to contact us for any assistance in dowel selection.

LESA DOMINATOR PLATE DOWEL

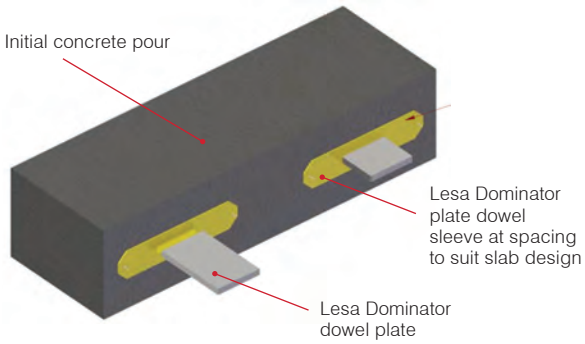


STEP 1: Mark the form for slab centre and Dominator plate dowel spacing. Using nails provided fix the Dominator dowel sleeve to the form.

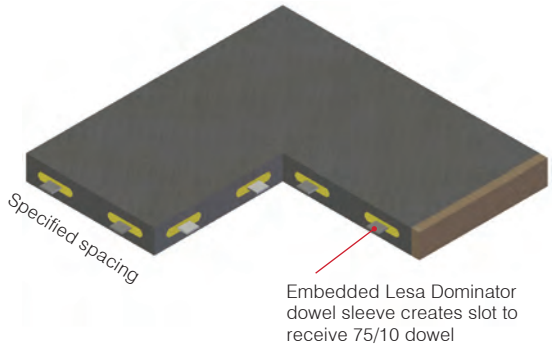
NOTE: Ensure vibrator does not have contact with plastic sleeves.



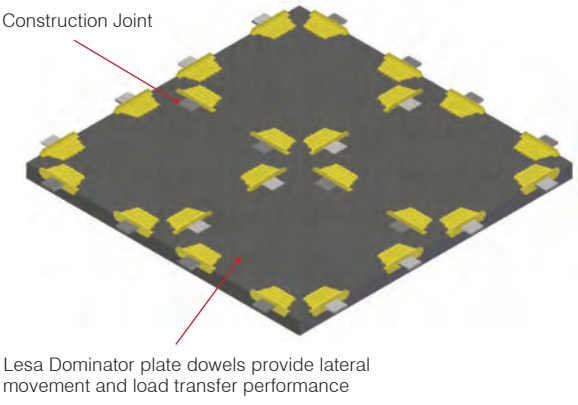
STEP 2: Set the form to line and level as normal. Place and finish concrete. Edge of slab must be vibrated to consolidate concrete around the Dominator sleeve.



STEP 3: Strip the form. Forms should be cleaned and stored for reuse. Insert the 75/10 plate dowel when required prior to concrete pour.



STEP 4: Pours proceed after plate installation.



LESA HI-MOVE PLATE DOWEL SYSTEM

LESA HI-MOVE PLATE DOWEL SYSTEM

The Lesa Hi-Move plate dowel system uses plate dowel technology to replace traditional dowels in shrinkage compensating concrete, stressed slabs and fibre slabs. Hi-Move dowels consist of two parts. The first being a high-quality, high-density, one-piece plastic nail on sleeve. The second being a 10mm parallel side steel plate.

The Hi-Move plate dowel system enables this unique sleeve to be cast into new slabs without having to penetrate formwork, thus eliminating damage to the forms. The built-in ring shank nails make installation quick and easy and also ensure accurate dowel alignment.

This is achieved by the sleeve generating a precise void in the concrete into which the dowel plate can be inserted at the optimum time of construction. The parallel sided steel plate ensures constant bearing at all times while the tapered sleeve allows progressive lateral movement as the concrete shrinks and cures.

The construction of the sleeve is such that it ensures once the dowel plate is inserted into the sleeve an effective seal is formed around the dowel to prevent concrete slurry from entering the sleeve.

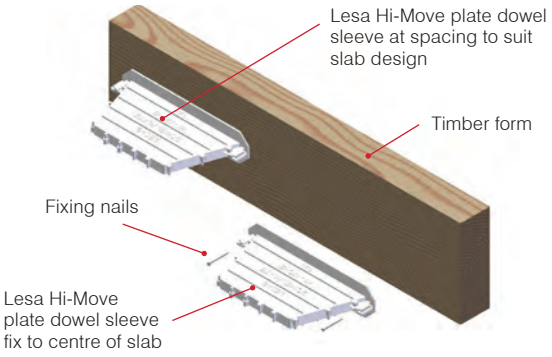
Note: For additional lateral movement requirements, two sleeves can be used, back to back. This is an important issue that is often over-looked when on-site fabrication of dowel sleeves using oversized conduit is used.

Hi-Move plate dowels are available in black steel, stainless steel, or hot-dip galvanised. For spacing of Hi-Move plate dowels, please contact Lesa Systems.

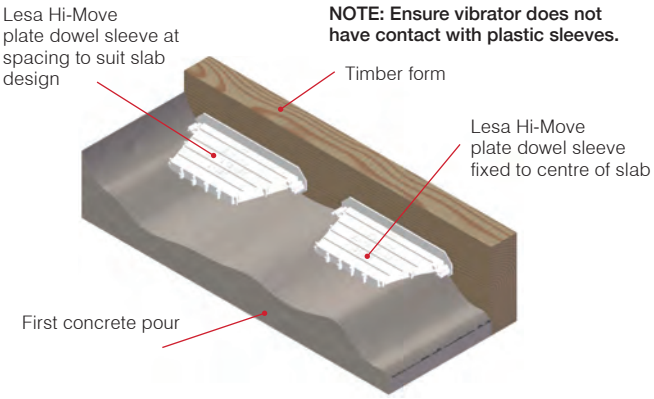
SAMPLE DOWEL CAPACITY CHART
32 MPa Concrete - 150mm SLAB

Joint Opening	Lesa Dominator Dowel 75/10	Lesa Hi-Move Dowel 100/10	Diamond Dowel 6mm	Diamond Dowel 10mm	100/6 Plate Dowel	50 x 6 Load Plate	50 x 10 Load Plate	16mm Square Dowel**	20mm Square Dowel**
5mm	31	32	30	30	26	13	21	16	26
10mm	30	31	29	29	26	13	21	16	26
15mm	30	31	23	29	21	10	21	16	26
20mm	30	31	16	28	16	8	21	16	26
25mm	26	30	11	28	13		17	14	26
30mm	22	29	8	23	10		14	12	23
35mm	19	25		17				10	20
40mm	16	22		13					17
* **Note:** 37 Underline indicates that punching governs									
****Note:** Excludes punching									
Refer to Lesa Systems for specific load requirements									

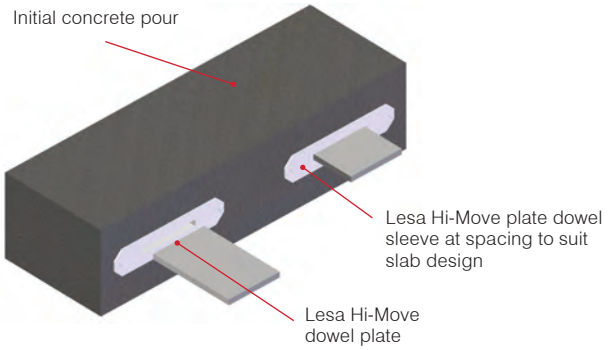
LESA HI-MOVE PLATE DOWEL



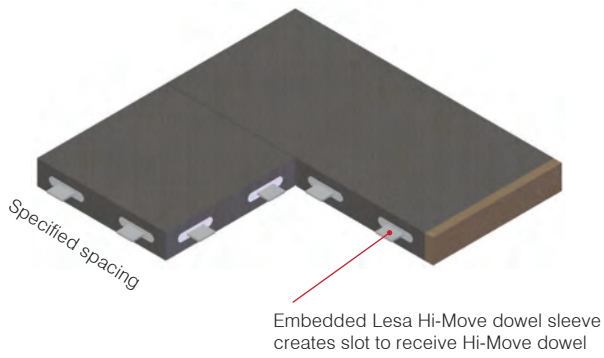
STEP 1: Mark the form for slab centre and Hi-Move plate dowel spacing. Using nails provided fix the Hi-Move dowel sleeve to the form.



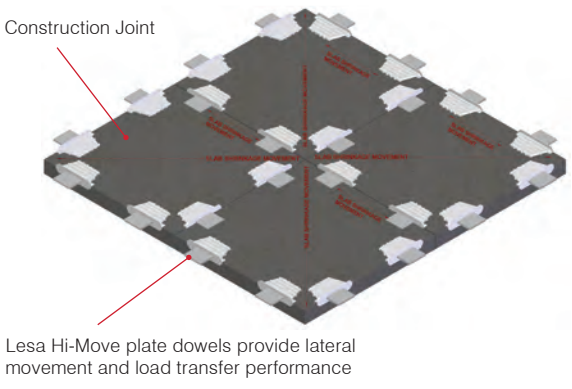
STEP 2: Set the form to line and level as normal. Place and finish concrete. Edge of slab must be vibrated to consolidate concrete around the Hi-Move sleeve.

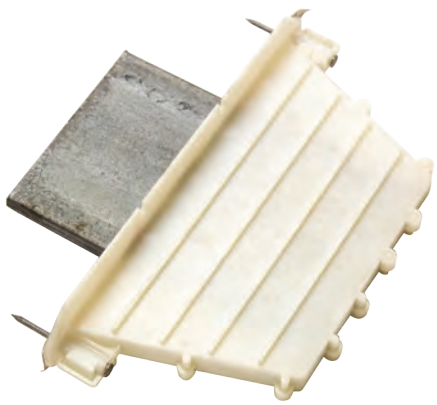


STEP 3: Strip the form. Forms should be cleaned and stored for reuse. Insert the Hi-Move plate dowel when required prior to concrete pour.



STEP 4: Pours proceed after plate installation.





LESA SQUARE DOWEL SYSTEM

LESA SQUARE DOWEL SYSTEM

The Lesa square dowel system has an extensive history throughout Australasia and consists of two parts. The first being a high-quality, high-density plastic square dowel sleeve. The second being a high-quality plastic nail on base plate.

The square dowel system enables square dowels to be cast into new slabs without having to penetrate formwork, thus eliminating damage to the forms. This design also increases the accuracy of the dowel alignment.

This is achieved by the sleeve generating a precise void in the concrete into which the dowel can be inserted at the optimum time of construction. The square sleeve can also be used in dowel ladders, dowel baskets or between existing new slabs.

The Lesa square sleeves are designed to allow lateral movement of the dowel joint as the concrete cures and shrinkage occur. The sleeve is designed with an additional 5mm void which provides lateral movement.

The construction of the sleeve is such that it ensures once the dowel is inserted into the sleeve an effective seal is formed around the dowel to prevent concrete slurry penetrating the 5mm void and reducing lateral movement capacity.

Note: This is an important issue that is often overlooked when on-site fabrication of dowel sleeves using over-sized conduit is used or with sleeves without seals.

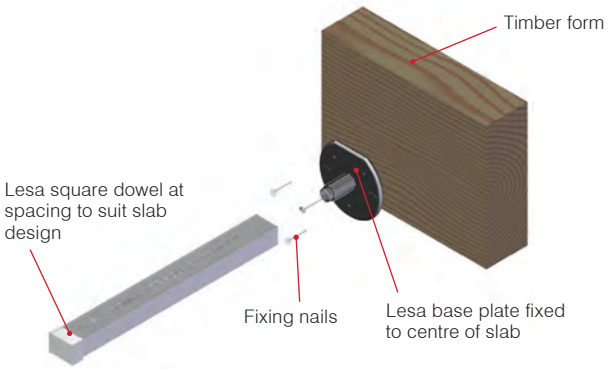
The square sleeves are available in standard lengths 225mm and 300mm to suit the following sizes:

- 16mm
- 20mm
- 25mm

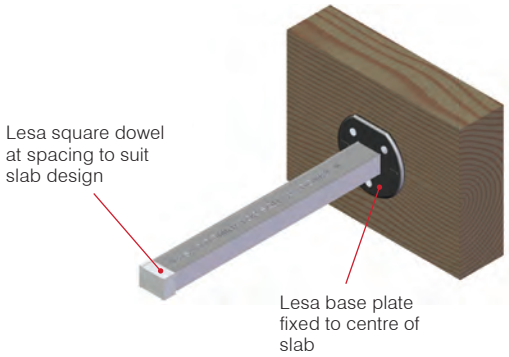
Special lengths can also be made to order.

Dowels are supplied in black steel, stainless steel, hot-dip galvanised, or fibreglass to suit sleeve lengths.

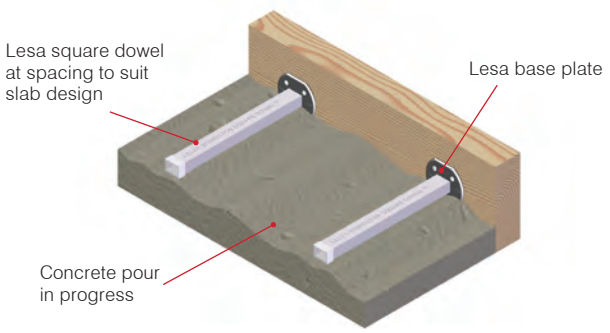
LESA SQUARE DOWEL



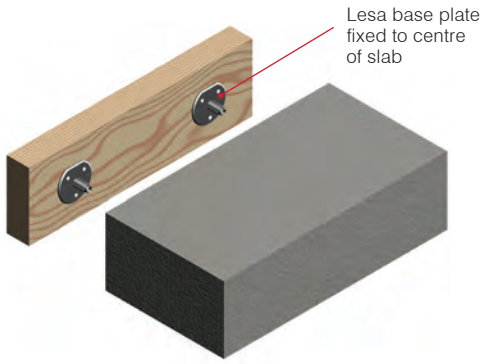
STEP 1: Mark the form for slab centre and sleeve spacing. Using three suitable nails or screws fix the base plate to the form.



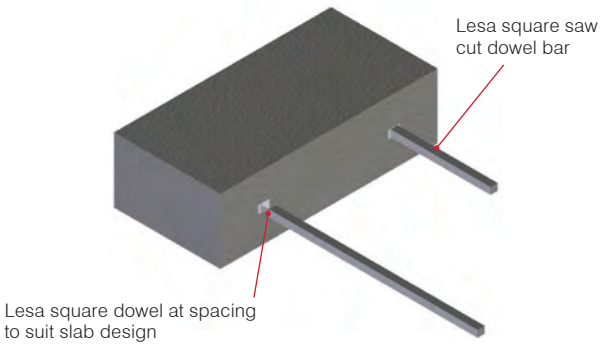
STEP 2: Set the form to line and level as normal. Slide the sleeve on to the base ensuring that it is flush with the base plate. Dowel support may be required to ensure the sleeve is not dislodged during concrete placement.



STEP 3: Place and finish the concrete. Edge of slab must be vibrated to consolidate concrete around the square dowel. (Care must be taken to ensure the sleeve is not dislodged).



STEP 4: Strip the form. This is best accomplished by starting at one end and working along the form.



STEP 5: Insert the burr free end of the dowel bar into the square sleeve. Second concrete pour can now proceed.

NOTE: Base plate differs from the diagram.

LESA ROUND DOWEL SYSTEM

LESA ROUND DOWEL SYSTEM

The Lesa round dowel system has an extensive history throughout Australasia and consists of two parts. The first being a high-quality, high-density plastic round dowel sleeve. The second being a high-quality plastic reusable nail on base plate.

The round dowel system enables round dowels to be cast into new slabs without having to penetrate formwork, thus eliminating damage to the forms. This design also increases the accuracy of the dowel alignment, a critical detail when using round dowel bars. The sleeve eliminates the need to grease or tape round dowel bars and limits compression. The built-in internal end cap will stop any ingress of grout while allowing for any slab expansion, so additional expansion caps are not required.

This is achieved by the sleeve generating a precise void in the concrete into which the round dowel can be inserted at the optimum time of construction. The round sleeve can also be used in dowel ladders, dowel baskets or anywhere a round dowel is specified.

Round dowels are quick and easy to install with the Lesa reusable nail on base plate and the sleeves can also be used on existing dowels if required.

Note: Round dowels do not allow lateral movement. If in doubt, contact your local Lesa Systems representative for confirmation on the appropriate system for use.

Sleeves are available in standard lengths 225mm and 300mm to suit the following diameters:

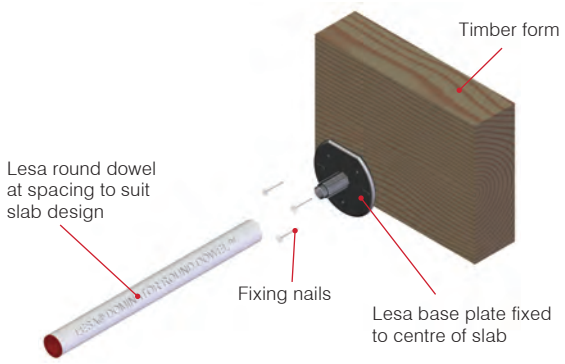
- 12mm
- 16mm
- 20mm
- 25mm
- 38mm

Special lengths can also be made to order.

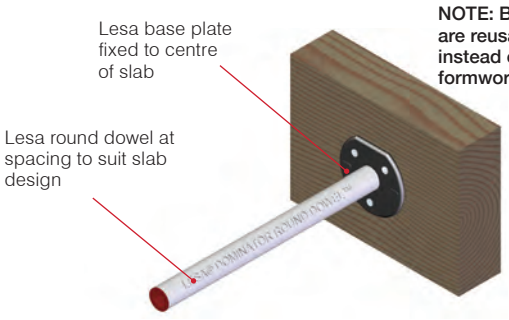
Dowels are supplied in black steel, stainless steel, hot-dip galvanised, or fibreglass to suit sleeve lengths.

Lesa Systems also has round dowels with shrink-wrapped debonding material.

LESA ROUND DOWEL

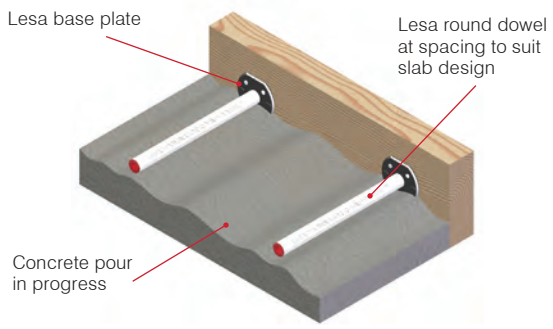


STEP 1: Mark the form for slab centre and sleeve spacing. Using three suitable nails or screws fix the sleeve base plate to the form.

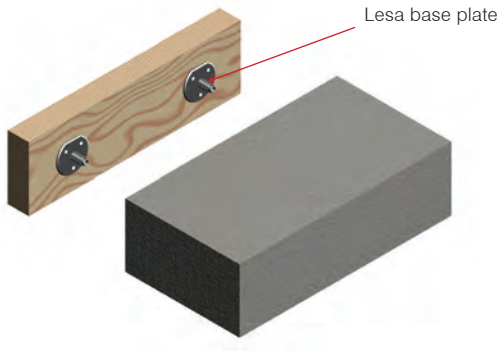


NOTE: Base plates are reusable (optional) instead of nailing to formwork use screws

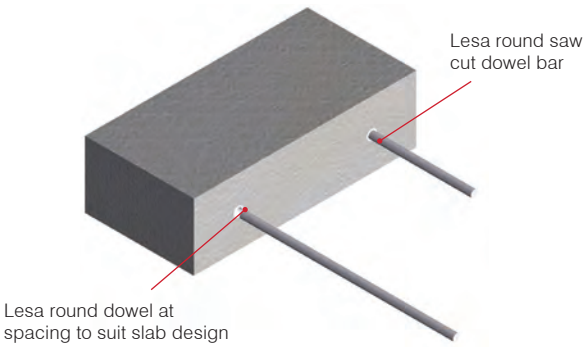
STEP 2: Set the form to line and level as normal. Slide the sleeve onto the base ensuring that it is flush with the base plate. Dowel support may be required to ensure the sleeve is not dislodged during placement.



STEP 3: Place and finish the concrete. Edge of slab must be vibrated to consolidate concrete around the sleeve. (Care must be taken to ensure the sleeve is not dislodged).



STEP 4: Strip the form. This is best accomplished by starting at one end and working along the form. Forms with base plates attached should be cleaned and stored for reuse.



STEP 5: Insert the burr free end of the dowel bar into the Sleeve. Second concrete pour can now proceed.

LESA HI-MOVE SQUARE METAL DOWEL SYSTEM

LESA HI-MOVE SQUARE METAL DOWEL SYSTEM

The Lesa Hi-Move square metal box dowel system uses square dowel technology to transfer loads in wide joints. These are typically in shrinkage compensating concrete, stressed slabs and highly loaded slabs.

Hi-Move square metal dowels consist of two parts. The first being a high-quality, fabricated nail on rectangular sheet metal sleeve to suit the dowel size and required lateral movement. The second being a burr free square dowel bar.

The Hi-Move square metal dowel system enables this unique sleeve to be cast into new slabs without having to penetrate formwork, thus eliminating damage to the forms. This enables rapid installation and ensures accurate dowel alignment.

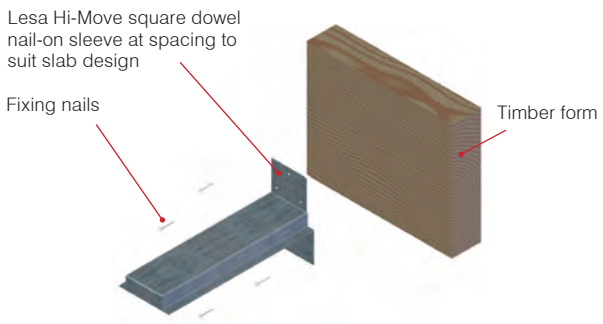
This is achieved by the sleeve generating a precise void in the concrete into which the dowel bar can be inserted at the optimum time of construction. Lesa Systems can fabricate any length and width combination to suit project specifics.

The construction of the sleeve is such that it ensures once the square dowel is inserted into the sleeve an effective seal is formed around the dowel to prevent concrete slurry from entering the sleeve, thus allowing lateral movement and freedom of movement as the concrete cures and shrinks.

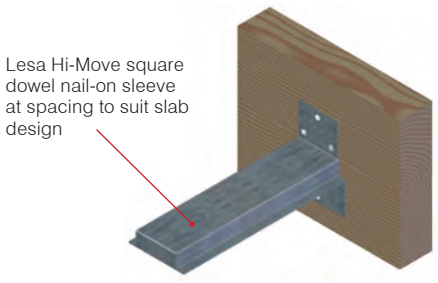
Note: Where a high movement sleeve is required for existing to new slabs, use the Lesa Hi-Move clip. Hi-Move dowels are available in black steel, stainless steel, or hot-dip galvanised.

For spacing of Hi-Move square metal dowels please contact Lesa Systems.

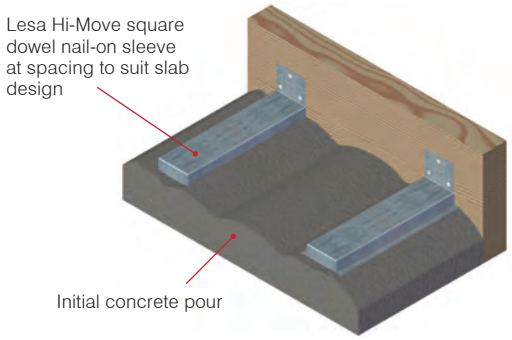
LESA HI-MOVE SQUARE METAL DOWEL



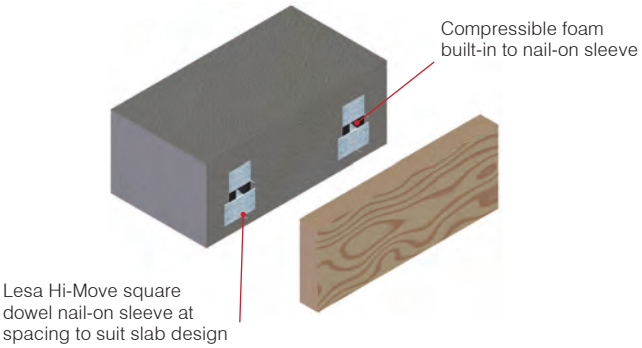
STEP 1: Mark the form for slab centre and nail-on sleeve spacing. Using four suitable nails or screws fix the HI-Move square dowel - sleeve to the form.



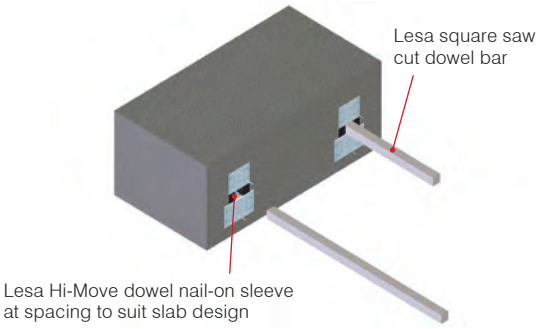
STEP 2: Set the form to line and level as normal.



STEP 3: Place and finish the concrete. Edge of slab must be vibrated to consolidate concrete around the Hi-Move square dowel.



STEP 4: Strip the form. This is best accomplished by starting at one end and working along the form. Forms should be cleaned and stored for reuse.



STEP 5: Insert the burr free end of the dowel bar into the nail-on sleeve. Second concrete pour can now proceed.

LESA TAPERED PLATE DOWEL SYSTEM

LESA TAPERED PLATE DOWEL SYSTEM

The Lesa tapered plate dowel system uses plate dowel technology to replace traditional dowels in concrete slabs where final joint widths will not exceed 15mm. The Lesa tapered plate dowel system consists of two parts. The first being a high-quality, high-density, one-piece plastic nail on sleeve. The second being a 6mm tapered steel plate.

The tapered plate dowel system enables the sleeve to be cast into new slabs without having to penetrate formwork, thus eliminating damage to the forms. The built-in ring shank nails make installation quick and easy and also ensure accurate dowel alignment.

This is achieved by the sleeve generating a precise void in the concrete into which the tapered dowel plate can be inserted at the optimum time of construction. The tapered sleeve allows progressive lateral movement as the concrete shrinks and cures.

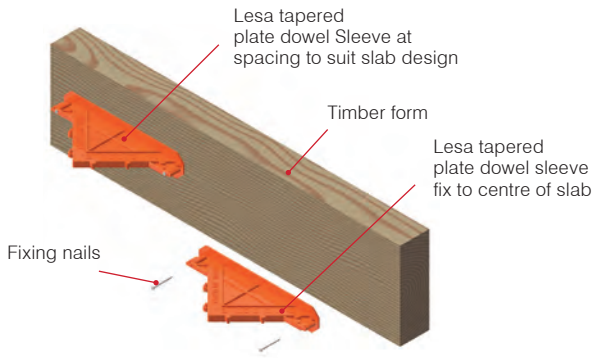
The construction of the sleeve is such that it ensures once the dowel plate is inserted into the sleeve an effective seal is formed around the dowel to prevent concrete slurry from entering the sleeve.

Note: Where joint widths are expected to be greater than 15mm, use Lesa System's Dominator or Hi-Move plate dowel system.

Dowels are available in black steel, stainless steel, or hot-dip galvanised. For spacing and suitability of Lesa tapered plate dowels, please refer to Lesa System's dowel charts.

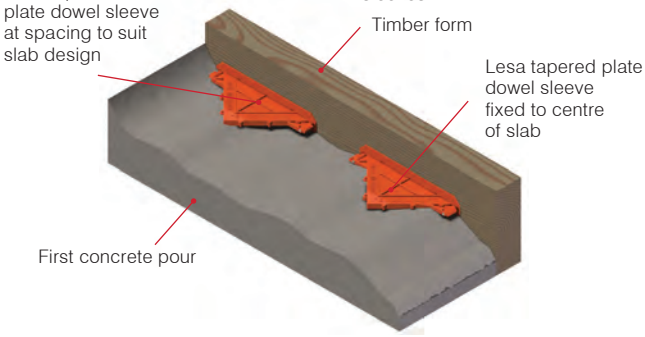
Note: Lesa tapered plate dowels are not available in all countries and equivalent dowels may be substituted.

LESA TAPERED PLATE DOWEL

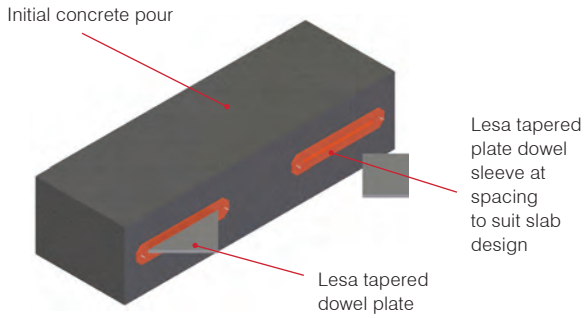


STEP 1: Mark the form for slab centre and tapered dowel sleeve spacing. Nail the sleeves to the form using the nails supplied in the sleeves.

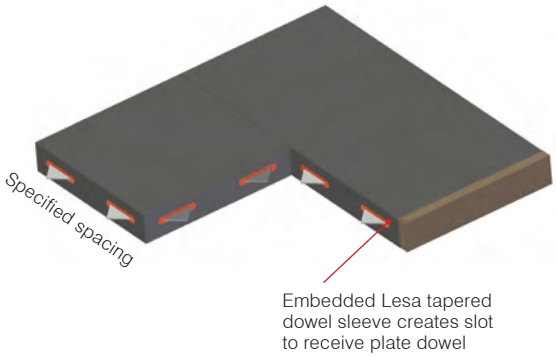
NOTE: Ensure vibrator does not have contact with plastic sleeves.



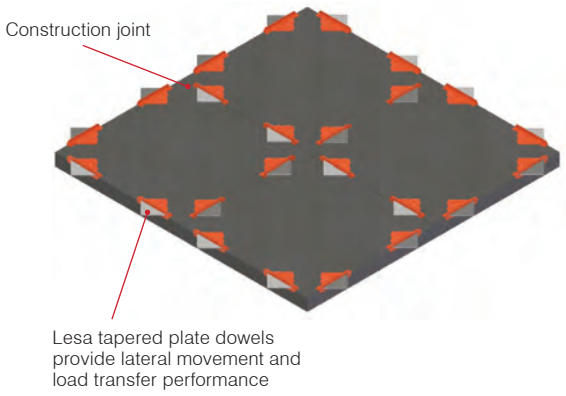
STEP 2: Set the form to line and level as normal and finish concrete. Edge of slab must be vibrated to consolidate concrete around the tapered dowel sleeve.

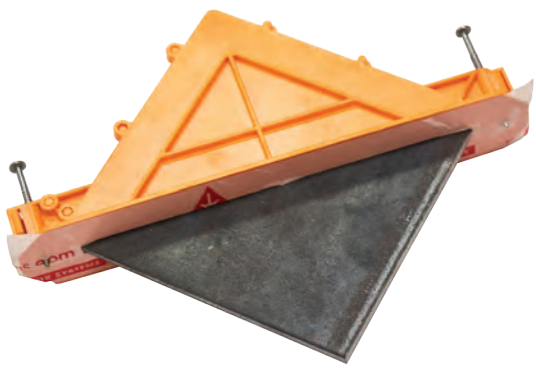


STEP 3: Strip the form. Forms should be cleaned and stored for reuse. Insert the tapered plate dowel when required prior to concrete pour.



STEP 4: Pours proceed after plate installation.





LESA DOWEL ASSEMBLIES

LESA DOWEL CRADLE SYSTEM

The Lesa Dowel Cradle system is a high-quality welded pre-fabricated dowel support assembly for use beneath sawn joints. The system is designed to ensure that dowels are pre-set to height in a self-supporting frame and that the dowels are aligned and at the correct centre spacing, thus avoiding the potential for slab lock up.

The advantage of Lesa's Dowel Cradle system is that it takes the guesswork out of dowel alignment and offers rapid placement. Lesa Dowel Cradles have been used throughout Australasia for many years due to their simplicity, ease-of-use and affordability.

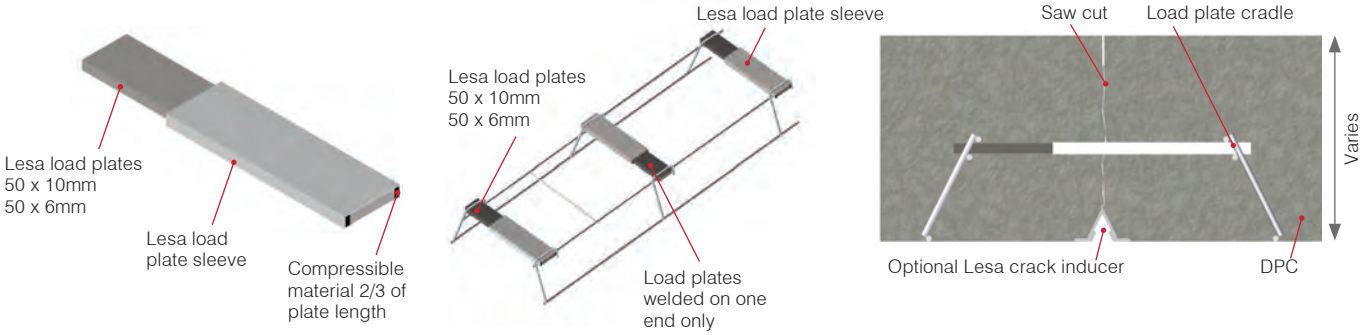
All Lesa Dowel Cradles are supplied to site fully assembled in standard lengths and are ready to install. Dowels are supplied with sleeves which are designed to ensure effective dowel movement and maximise dowel efficiencies. Lesa Dowel Cradles are the preferred systems by engineers and contractors around the world.

Lesa Dowel Cradles can be placed as the pour proceeds or laid out prior to the pour. Dowel cradles can be manufactured with Lesa round dowels, square dowels or load plates at required diameters, length and centres to suit engineered slab design.

Dowels are supplied in black steel, stainless steel, hot-dip galvanised or fibreglass with special lengths and sizes available to order.

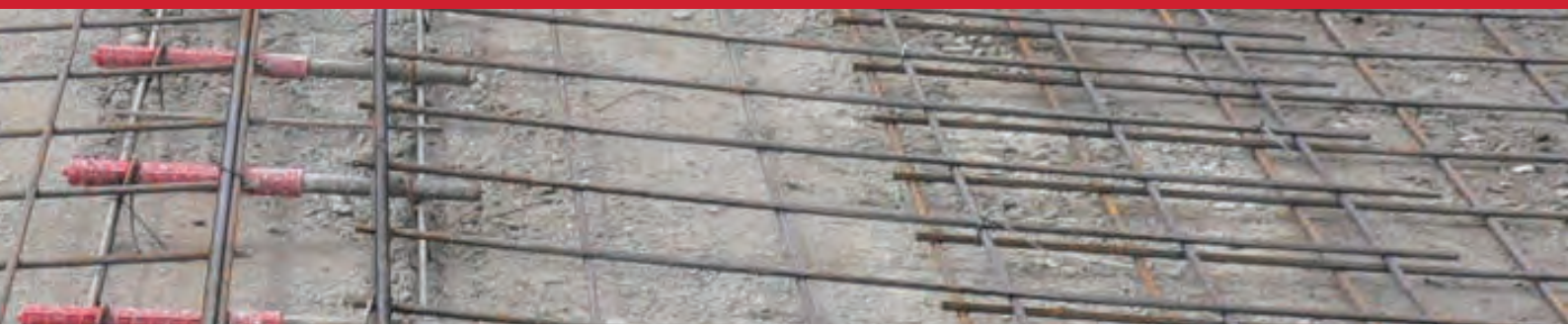
Note: When using dowels in two directions ensure dowel sleeves with a lateral movement capability are specified. All Lesa cradles are fabricated with a temporary transit tie which requires cutting once in place. If in doubt, contact your local Lesa Systems representative for confirmation on the appropriate system for use.

INSTALLATION STEPS



LESA LOAD PLATE CRADLE AND BASKETS

All Lesa Dowel Cradles or Ladder support systems are available with plates, square or round dowels. A full range available for all slab thicknesses. (See Lesa Systems Dowel Chart). Square dowels in sizes 16mm, 20mm and 25mm. Round dowels sizes from 12mm to 38mm. Optional Lesa crack inducers available.



LESA DOWEL LADDER SYSTEM

The Lesa Dowel Ladder system is a high-quality welded pre-fabricated dowel support assembly. The system is designed to ensure that dowels are aligned beneath sawn joints. This system ensures that the dowels are aligned and at the correct centre spacing, thus avoiding the potential for slab lock-up.

The advantage of Lesa's Dowel Ladder system is that it takes the guesswork out of dowel alignment and offers rapid placement. The Lesa Dowel Ladder system has been used throughout Australasia for many years due to its simplicity, ease-of-use and affordability.

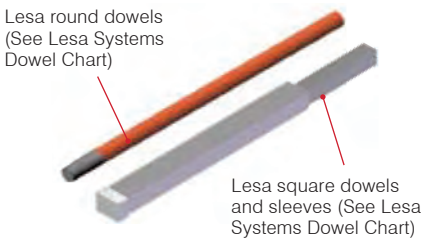
All Lesa Dowel Ladder systems are supplied to site fully assembled in standard three-metre lengths and are ready to install. Dowels are supplied with sleeves which are designed to ensure effective dowel movement and maximise dowel efficiencies. Lesa Dowel Ladder systems are supported on standard reinforcing supports which can be supplied as separate components or are readily available from your preferred supplier.

Lesa Dowel Ladders can be placed as the pour proceeds or laid out prior to the pour and chaired up as required. Lesa Dowel Ladder systems are available with Lesa round dowels, square dowels or load plates, all in standard diameters, lengths and at centre spacings to suit the slab thickness.

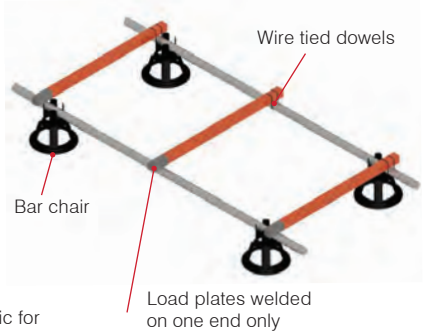
Dowels are supplied in black steel, stainless steel,hot-dip galvanised or fibreglass with special lengths and sizes available to order.

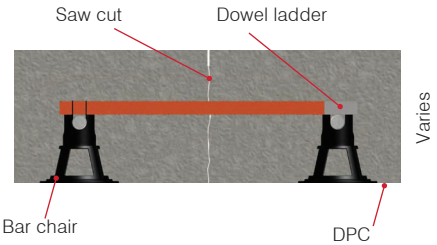
Note: When using dowels in two directions ensure dowel sleeves with a lateral movement capability are supplied. If in doubt, contact your local Lesa Systems representative for confirmation on the appropriate system for use.

INSTALLATION STEPS



Round dowels are shrink-wrapped in polythene plastic for easy slippage and convenient handling on site





LESA SQUARE AND ROUND DOWELS LADDER SYSTEMS

All Lesa Dowel Cradles or Ladder support systems are available with plates, square or round dowels. A full range available for all slab thicknesses. (See Lesa Systems Dowel Chart). Square dowels in sizes 16mm, 20mm, 25mm. Round dowels sizes from 12mm to 38mm. Optional Lesa crack inducers available.

LESA GENERAL CONSTRUCTION

LESA COMPOSITE FLOOR BRACKET SYSTEM

SET-DOWN

A galvanised steel bracket system which permits the continuous pouring of composite floor slabs which have a step in them, e.g., balconies, shower recesses etc.

The Lesa Composite Floor Bracket system was developed to speed up construction when forming set-downs on Comflor and Tray-dec Suspended Composite Flooring Systems. The Lesa Composite Floor Bracket system is a stay in place galvanised bracket that enables the contractor to achieve a monolithic pour (pouring the set-down area of the slab at the same time as the main slab even though the two slabs are at different elevations).

LESA RAFT FORM

FOR CONSTRUCTION JOINTS IN RAFT SLAB APPLICATIONS

Is a permanent metal formwork system that is used in polystyrene or plastic raft floor systems to create a movement joint. Lesa Raft Form is supplied with adjustable bracket feet to ensure the system is supported in the correct location. Optional capping is also available.

Polystyrene raft floors are widely used for house floors and are used increasingly for motels, retirement villages, workshops, light commercial buildings, retail stores and hospitals.

Lesa Raft Form allows planned movement joint control in these floors.

Available in two standard sizes: 280mm - 300mm, 380mm - 400mm.

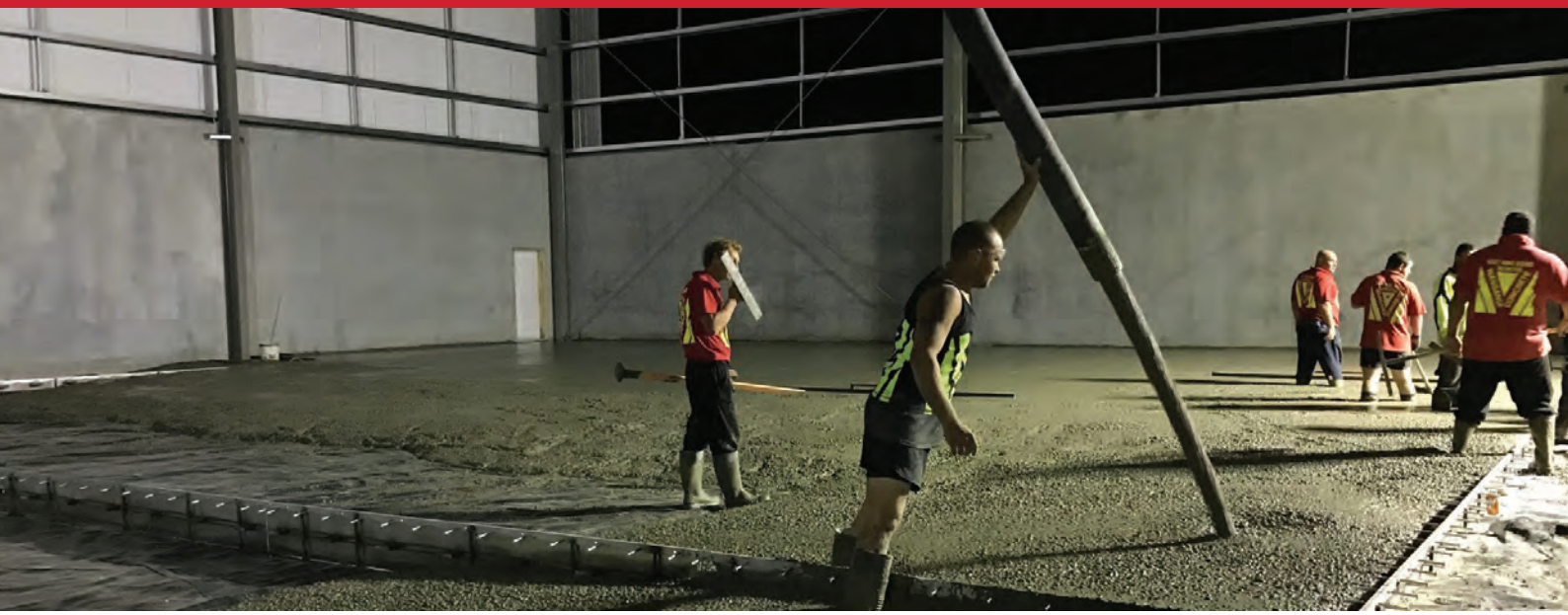
KEY JOINT

LIGHTWEIGHT FREE JOINT FORMWORK SYSTEM

Key joint is the lightest full depth permanent formwork system in the Lesa product range. Key joint is supplied in standard lengths to suit various slab sizes and is complete with fixing kits. Provisions for round or square dowels are by way of pre-punched knockouts at 150mm O.C. intervals.

Capping not included as standard.

FIBERCON STEEL AND SYNTHETIC FIBRES



STEEL FIBRES

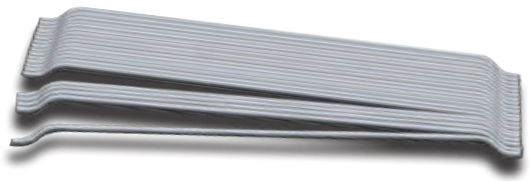
The principle of all Fibercon steel fibre reinforced concrete is to provide discrete, discontinuous reinforcement and effective crack control. Fibercon steel fibres are available in various shapes and sizes to suit different applications.

Fibercon works because unlike mesh reinforcing, the steel fibres reinforce in three dimensions throughout the entire concrete matrix.

The fibre functions to reinforce and restrain micro-cracking, essentially acting as "miniature reinforcing bars". Thus the earlier the crack is intercepted and its growth inhibited, the lower the chance of it developing into a major flaw.

ADVANTAGES

- Eliminate steel mesh reinforcement, saving both materials and labour onsite
- Save time and reduce costs
- Increase safety by not having to replace reinforcing in difficult situations
- Reduced edge damage as the fibres distribute completely through the concrete



HOOK END FIBRES 65/60

Hook End Fibres 65/60 is a steel fibre cold-drawn wire for reinforced concrete. Hook End Fibres 65/60 is designed in order to avoid balling issues and to improve the durability of the concrete.

The most important parameter of fibres is their ability to transfer stresses across cracked sections rather uniformly. Hook End Fibres can replace all conventional reinforcing methods for concrete or can be used in combination with them.

Hook End Fibres 65/60 is suitable for reinforcing warehouses and heavy-duty yard slabs.

Hook End Fibres come in bags of 20kg.

STEEL FIBRES S38/S50

The fibres are made from hard-drawn low carbon high tensile steel wire and are continuously deformed conforming to the provisions of ASTM 820 type 1.

Steel Fibres S50 are suitable for heavy-duty concrete slabs.

Steel fibres come in bags of 20kg and 60kg bags per 1200kg pallet.

SYNTHETIC FIBRES

Synthetic fibres can be used in a wide range of applications from secondary shrinkage reinforcement to primary reinforcing in underground shotcrete.

ADVANTAGES

- Faster, cheaper and safer than conventional mesh
- Crack control in plastic and hardened states
- High degree of post crack load capacity
- Excellent dispersion and easy to pump
- Ductile concrete
- Quick, efficient and easy-to-use
- Good finished surface results - broom, float or street trowel
- No corrosion or durability issues

FIBERCON MP47

Fibercon MP47 is a macro-structural synthetic fibre that provides optimum performance and strength.

Fibercon MP47 is ideally suited to any external slab on grade applications as well as precast and shotcrete. It is also ideal for corrosive environments as it will not corrode.

Easy handling, recycled packaging leaves no waste onsite as the entire box is thrown into the mix during batching. The fibre is evenly dispersed through the matrix ensuring no balling or pumping problems occur.

It substantially speeds up construction and reduces labour time by completely eliminating the need for steel mesh reinforcement.

Fibrecon MP47 fibres come in 3kg boxes.

METZGER MCGUIRE JOINT FILLERS AND REPAIR PRODUCTS

METZGER MCGUIRE INDUSTRY STANDARD JOINT FILLERS AND REPAIR PRODUCTS

Lesa is the authorised distributor of Metzger McGuire world-leading range of industrial floor joint fillers and repair products in New Zealand and Australia.

Metzger McGuire has led the way in the development of concrete floor joint protection systems for more than 45 years.

Metzger McGuire floor joint fillers and concrete repair products are specially engineered to provide optimum protection in a range of concrete floor settings from heavy duty warehouse/distribution centre facilities to the stained and polished concrete floors widely used in retail stores and schools.

JOINT FILLERS

As the foundation of your business, company or warehouse, your concrete flooring needs to be durable and strong. A high-quality joint filler is a pivotal part in making that happen.

When you are discerning about the kind of joint filler product you're using, that means that you're selecting the appropriate solution for the task at hand. This may include considering how heavily trafficked the area is, how long you have to get the job done, as well as the building temperature.

Selecting a high-quality and compatible joint filler is also a smart investment. When you choose right the first time, you'll decrease the expense of replacing filler or repairing joints later due to a subpar product. You will also be taking the proper steps to keep your concrete flooring dependable against cracking over time and properly protect joints against spalling.

SPAL-PRO RS88

Spal-Pro RS88 is a rapid setting polyurea polymer liquid of 100% solids content. When cured it is a semi-rigid, rubber-like solid with a Shore Hardness of A88-92. It was developed to fill and protect joints in trafficked industrial and retail concrete floors. Its primary function is to support such traffic and protect joint edges. It is also ideal for filling random cracks in industrial floors. It contains no VOCs. It comes in a range of colour-fast colours (UV stable).

Product supplied in 600ml dual cartridges or bulk. Pumps available for hire or purchase for the bulk product.

SPAL-PRO 2000

Spal-Pro 2000 is a rapid setting two-component polyurea, which cures to a charcoal grey solid with a hard rubber-like hardness of A-95. It is ideal for repair of spalled joints, filling random cracks and patching gouges, holes and surface defects. It is used to fill and protect joints in industrial concrete floors that are subject to hard wheels and heavy loads. Its primary function is to support such traffic without deflecting. It is however not UV resistant, and UV rays may cause discolouration. Can be used in ambient or freezer applications as low as -35˚C.

FIX INDUSTRIAL CONCRETE FLOORS WITH CRACK, SPALLS AND GOUGES

STRUCTURAL REPAIR PRODUCTS

Damaged joints, deteriorating cracks and surface areas in concrete floors are a major problem encountered in virtually all buildings at some stage during their service life. The problems created by floor defects are many, including:

- Reduced productivity from material handling vehicle slow down
- Excessive wear and tear on material handling vehicle wheels and components
- Potential for safety hazards including trip and fall, load tipping, etc
- Potential for sanitation or pest concerns

Timely concrete floor repairs are essential in the industrial and commercial sectors. Even a small crack or surface defect can create a hazardous situation, especially in locations where forklifts or other transport vehicles frequently operate.

RAPID REFLOOR

Rapid Refloor is a two-component polyurethane/polyurea hybrid. When cured, it results in a rigid structural polymer with a Shore D Hardness of 70-75. It was developed to repair random cracks and surface spalls/pop-outs and other surface defects in industrial concrete floors that are subject to wheeled traffic. It should not be used as a joint filler. It should not be used below 0˚C. The floor is ready for trafficking in 15-30 minutes. It is virtually odourless.

ARMOUR HARD XTREME

Armour Hard Xtreme is a two-component epoxy system developed for the repair of industrial concrete floors subject to hard wheeled vehicle traffic. As a mortar, it can be used for large spall repairs/rebuilding of joint shoulders, as a topping for delaminated slabs, or for filling potholes, gouges, ruts and pop-outs. It can be used down to -7˚C. It is quick setting - foot traffic in one hour, normal traffic in two hours. It has superior wear and impact resistance. It is low odour.

LESA PENTRA FLOOR SYSTEMS

PENTRA FLOOR - NANO-LITHIUM CONCRETE FLOOR TREATMENTS

Convergent superior lithium technology provides unmatched performance in protecting substrates against wear, dusting, sweating, efflorescence, scaling, surface ASR and damaging alkalis.

- Forms a superior protective surface layer that is breathable, dense and abrasion resistant.
- Creates a stronger, more impenetrable, and resistant finish that is dust-proof and resistant to staining and deterioration.
- Reduces maintenance, cleaning costs and costly repairs.
- Conforms to "Green Leaf / LEED Qualifying" and is one of the industry's most environmentally friendly coatings.

Pentra-Sil's unique reactive chemistry forms an insoluble bond with the free lime forming extremely strong tri-calcium silicate compounds that bind together microparticles (lime and fine aggregate) forming a non-expansive gel that rapidly cures into inorganic cement that is stronger, more durable than the cement itself. Pentra-Sil's unique atomic structure (Particle Size) and lower viscosity to conventional treatments provides superior penetration within the capillary channels providing a more consistent and uniform cure.

PENTRA-SIL NL HD+C

CONCRETE HARDENER, SEALER, DENSIFIER AND CURING AID

HD+C (hardening/densifying/curing) combines advanced nano lithium silicate hardening with an engineered non-ionic emulsion for curing. It meets and exceeds modified ASTM C156. It provides single no-rinse application, good hardening and densification, and a good curing membrane. It is an environmentally safe, waterborne system. It protects and cures the concrete slab during construction.

Available in 20L, 200L, 1000L.

PENTRA-SIL NL (NANO LITHIUM)

CONCRETE HARDENER, SEALER AND DENSIFIER

Pentra-Sil NL treatment forms an extremely hard, dense protective surface layer that is breathable, dense and abrasion resistant. The hardener, sealer, densifier creates a stronger, more impenetrable, and better-looking finish (satin - glossy) that is dust-proof and resistant to staining and deterioration.

Available in 5L, 20L, 200L, 1000L.

PENTRA-SIL 244+

SALT PROTECTION, DUST-PROOFER, HARDENER, SEALER AND DENSIFIER

Pentra-Sil 244+ hardens, seals and densifies concrete and masonry surfaces creating the ability to maintain a salt ion screen and water-repellent characteristics even through regular maintenance, pressure washing, pedestrian and traffic wear. Substrates become resistant to staining, spalling, weathering, efflorescence, water intrusion, fungi and mildew, deterioration, freeze-thaw scaling and reinforcing steel corrosion.

Available in 5L, 20L, 200L, 1000L.

PENTRA-GUARD HP

HIGH PERFORMANCE INDUSTRIAL FLOORING SURFACE HARDENER AND PROTECTIVE CLEAR COAT

Pentra-Guard HP is the optimum coating system designed for harsh and high abuse conditions. This advanced, versatile, low VOC treatment offers high-durability and bond strength, and the ability to withstand UV, abrasion, chemical spills and heavy traffic. This industrial grade treatment provides rapid curing and attractive, glossy finish for facilities that require maximum protection and little-to-no downtime.

Available in 5L, 25L.

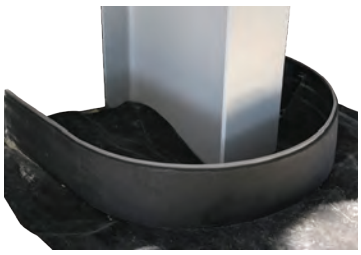
PENTRA FINISH HG

ADVANCED HIGH GLOSS, STAIN AND WEAR RESISTANT FINISH COAT

Pentra-Finish HG is a patented, high-gloss, stain and wear resistant finish for improving the sheen, hardness and chemical resistance of natural and cast stone, terrazzo, masonry, and other cement-based surfaces. This water-based, lithium fortified chemical polish dries quickly to a clear, extremely hard, microcoating that tenaciously bonds and reacts with the substrate forming an insoluable bond. This novel treatment eliminates the need for floor waxes, liquid polishes and conventional resin-based coatings.

Available in 5L, 25L.

LESA GENERAL CONSTRUCTION



STAY IN PLACE COLUMN ISOLATION FORM

The innovative Column Isolation Form was developed to optimise programme flexibility, minimise forming time, eliminate stripping and deliver a superior floor finish.

It is a robust galvanised steel leave-in-place profile that is manufactured to any shape including square, half-square, round and half round. The former is left in place, so no stripping is required.

LESA LOW FRICTION BEARING STRIP

This low friction bearing strip is the preferred system by contractors and engineers for under Pre-cast Hollow-core units to help seating and reduce failure in the event of an earthquake.

Available in 2.4-metre lengths and 50mm and 75mm widths.

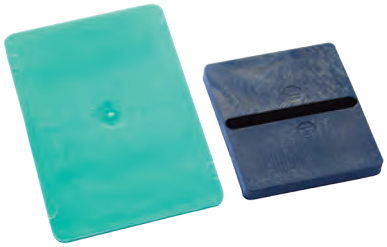
GROUND CRACK INDUCER

This crack inducer is often used to induce a crack from the bottom of a slab upwards. Available in two sizes (25mm and 50mm).

Available in standard 3-metre lengths.

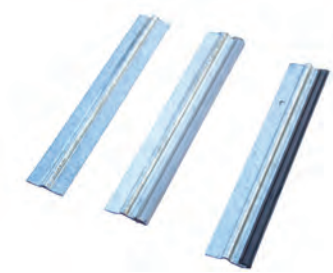
BAR CHAIRS

A range of plastic bar chairs are available for slab on grade, precast and tilt-up applications.



PANEL SHIMS

Panel shims are available in a variety of sizes. They have many uses around the construction site 1mm, 3mm, 6mm, 10mm, 15mm, 20mm including levelling of precast and tilt-up concrete panels.



CRACK-A-JOINT

Crack-A-Joint is a crack inducer. It is set into the surface of concrete floors and paving immediately after screeding. It is especially good for exterior paving, uncovered pours and high temperature pours. It is an alternative to saw-cutting and is often cheaper. The optional permanent Rip-A-Strip capping with peel-off surface strip gives a sealed joint finish.

REO-CAP

Lesa Reo-Caps are inexpensive and totally reusable. The Reo-Cap system is used by more contractors throughout New Zealand and Australia than any other safety cap. Because of its unique long neck, you get a cap that stays on the bar, rather than sits on an angle and falls off. This equates to much better protection and re-use, saving you money.

These brightly coloured plastic caps can be easily seen and are used in a variety of applications. They are transportable from one site to the next and require very little storage space.

Our Reo-Caps will accommodate bar sizes 12mm - 25mm (yellow), 25-32mm (orange).

BUILDING SAFETY AND PROTECTION SYSTEMS

Bollards have been used for hundreds of years to restrict access, improve security and control traffic. While many bollards provide aesthetic benefits, typically, bollards are used to protect buildings and people from moving vehicles.

REMOVABLE BOLLARD

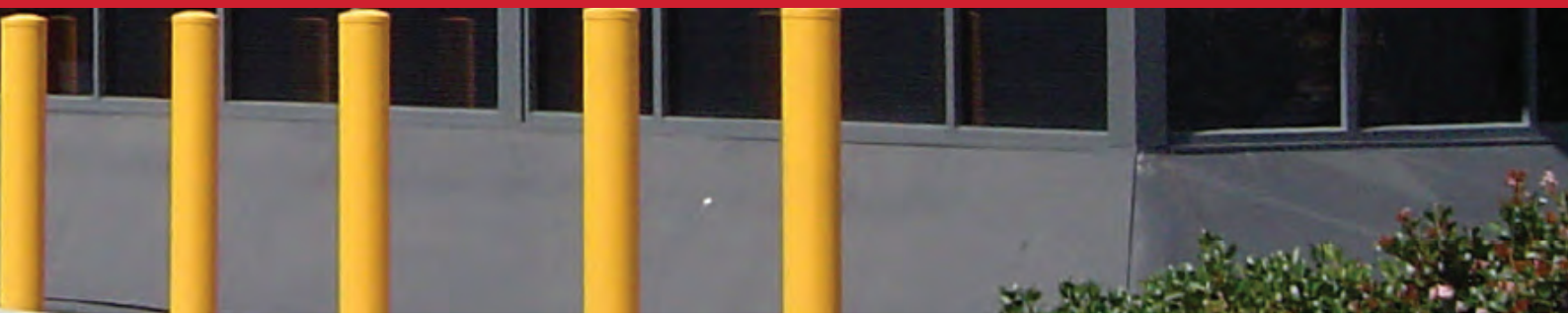
Lesa removable bollards have a separate cast-in ground mount that doubles as a locking device to the bollard. The hinged lid folds down flush to ensure a safe and smooth transition when the bollard is removed. Available in 100mm and 125mm diameters.

BOLT DOWN BOLLARD

Lesa bolt down bollards are available in standard 1100mm lengths or can be custom made to order. They have 8 hole round plate flanges. Sizes from 100mm to 600mm diameters in all finishes can be supplied. (Fixing bolts not included).

CAST-IN BOLLARDS

Lesa cast-in bollards are available in standard 1700mm lengths or can be custom made to order. Cast-in bollards are supplied complete with welded anchor bars and have the option of top caps. Sizes from 100mm to 600mm diameter in all finishes can be supplied.



Lesa Systems 2017 Limited supplies one of the largest ranges of bollards and down pipe protectors in Australasia.

FOLD-DOWN BOLLARDS

Fold-down bollards have been designed for applications such as vehicle access, control and parking space protection. In the lay flat position, it stands only 80mm high with a broad flat face of 150mm wide for greater visibility. The flat face allows optional signage or reflective tape to be attached. Available as surface mounted. Fold-down bollards are supplied with all necessary fixings. (Padlock not included).

POST AND CHAIN BOLLARDS

All bollards can be manufactured with optional chainrings or brackets for attaching wire rope or chain.

DOWNPIPE PROTECTORS

Lesa downpipe protectors are available in standard or custom sizes and are complete with pre-punched fixing holes. All are available in hot dip galvanised or powder coated finish.

POST AND RAIL SYSTEM

Lesa post and rail system is ideal for use in car parks, factories, shopping centres, etc, or anywhere where vehicles and pedestrians need segregating. The galvanised or powder coated surface mounted posts are 1050mm high, and the rails are available in 2, 3, or 6-metre lengths. The post and rail system can be installed on sloping ground and is supplied with all necessary fixings to install. (Ground fixing bolts not included).

LESA CLEANING PRODUCTS

Lesa Systems has worked with contractors, in both cleaning and grinding and polishing industries, to offer a cost-effective solution to any bare concrete floor.

The following products have been designed specifically for use in cleaning and maintaining polished concrete floors.

PENTRA FLOOR - NANO-LITHIUM CONCRETE FLOOR TREATMENTS

We have a range of products specifically tailored for use on Pentra floors, from residential through to commercial and industrial for light daily cleaning through to heavy duty scrubbing for mop applications and auto scrubbers.

They help preserve the life and appearance of the floor.

LESA CLEANING KITS

Lesa cleaning kits are available from Lesa Systems including microfibre mops, pads and cleaning products, to help keep the floor looking great.

ETC GORILLA DIAMOND PADS

Used in sequence, the Gorilla system of white (800 grit) and yellow (1500 grit) burnishing pads will turn a dull, rough, scratched stone, marble, granite or concrete floor into a brilliant, shiny polished floor. This new dynamic, low-cost method works with your existing floor buffer, scrubber, auto scrubber or high-speed burnisher equipment. Compare the diamond content to any other pad - Gorilla outperforms.

LISOTOP OWR (OIL AND WATER REPELLENT)

The perfect Oleo Phobic and water-proofing product. It combines the advantages of three different polymers, i.e. silane, siloxane and fluoro polymers, and is an excellent sealer designed to be a superior water and oil repellent, with anti-stain and anti-graffiti properties, for all concrete and masonry surfaces (bricks, marble, natural stones porous or non-porous).

WE'VE GOT YOU COVERED

ANYTIME, ANYWHERE

At **LESA SYSTEMS,** we like to say that email is for information and the phone is for communication, but what beats them all is face-to-face.

For the right concrete solution for your next project contact us today!

LESA SYSTEMS 2017 LTD

ENGINEERED CONCRETE FLOOR SYSTEMS

VERSION 1

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