

## Southern Depot

Head Office & Accounts  
Russel Gardens  
Wickford  
Essex  
SS11 8BH

T 01268 571571  
F 01268 571555

## Midland Depot

Hunters Lane  
Rugby  
Warks  
CV21 1EA

T 01788 571571  
F 01788 571888

E-mail: [sales@lemon-gs.co.uk](mailto:sales@lemon-gs.co.uk)  
Web Site: [www.lemon-gs.co.uk](http://www.lemon-gs.co.uk)



**Lemon**<sup>TM</sup>  
groundwork supplies

Waterproofing Membranes

**Bitusheet XL**

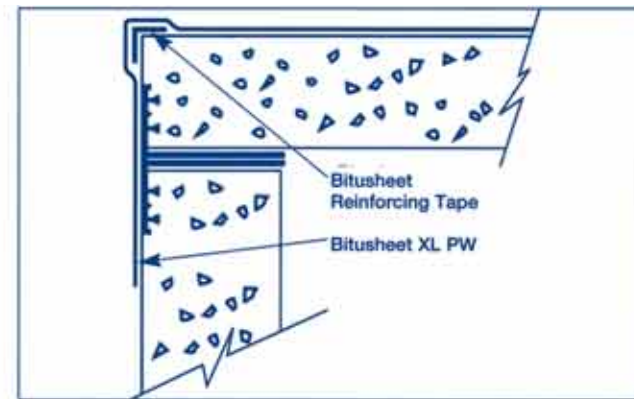
This waterproofing membrane is self bonding and is used in vertical or horizontal applications in tanking below ground structures, subways and retaining walls.

It consists of a self bonding polymer modified bitumen, covered on one side by a tough laminated polythene film and on the other by a release sheet.

This is removed prior to bonding whereupon the membrane can be easily applied by rolled pressure.

Incorporated into the design of this membrane is a 50mm selvedge on one edge to form homogeneous overlap joints.

Available in rolls 19.050 mtrs long x 1.050 mtrs wide.



Earth covered water retaining structure

**Bitusheet Primer**

A one part bituminous solution for brush or spray application, produced to provide the sealing of porous surfaces to promote adhesion of Bitusheet waterproofing membranes.

**Bituflex Fillet**

A preformed 48mm x 48mm triangular compressed wood fibre material impregnated with Bitumen Emulsion used at angles between walls and slabs.

Supplied in 1.22 mtr lengths.

**Double Sided Tape**

A self adhesive double sided tape for fixing membrane protection boards to the membrane, and sealing overlaps between polythene sheets.

Roll widths available 100mm, 150mm, 300mm.

Roll length 15 metres.

**Bituminous Protection Board**

This semi rigid board is designed for use in both horizontal and vertical applications to protect Bitusheet waterproofing membranes against abrasive backfill, poured concrete or foot traffic.

Its composition contains blended bitumens and minerals reinforced with cellulose fibres that are heavily compressed.

Available in 3mm or 6mm thickness to suit the application.

Sheet size 2.130 mtrs x 1.220 mtrs

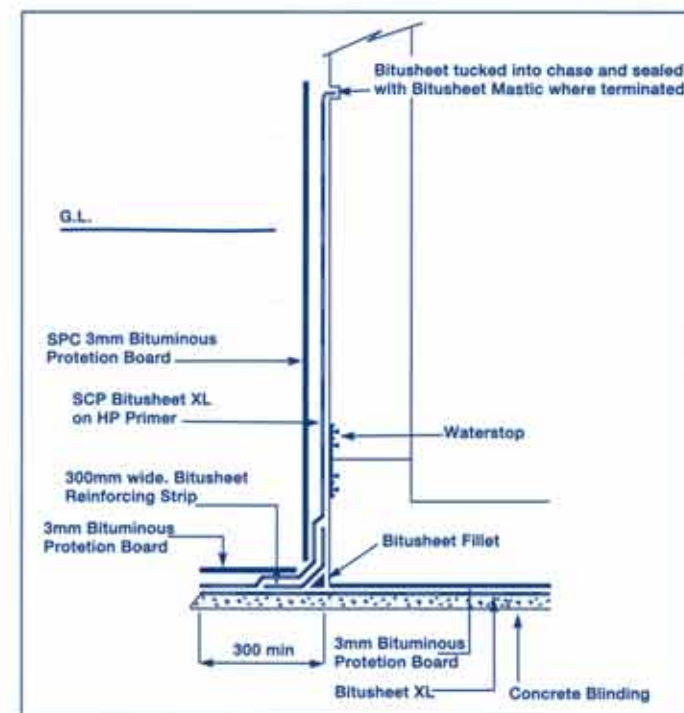
Other self adhesive waterproofing membranes available include:

**Bitusheet Gas Barrier Membrane:**

For use in below ground structures and under ground slabs where it is necessary to prevent the passage of methane or radon gases into the building.

**Bitusheet HPS Moisture sensitive**

For use in below ground structures and retaining walls when the surface is damp to touch and should be used in conjunction with Bitusheet HPS Primer.



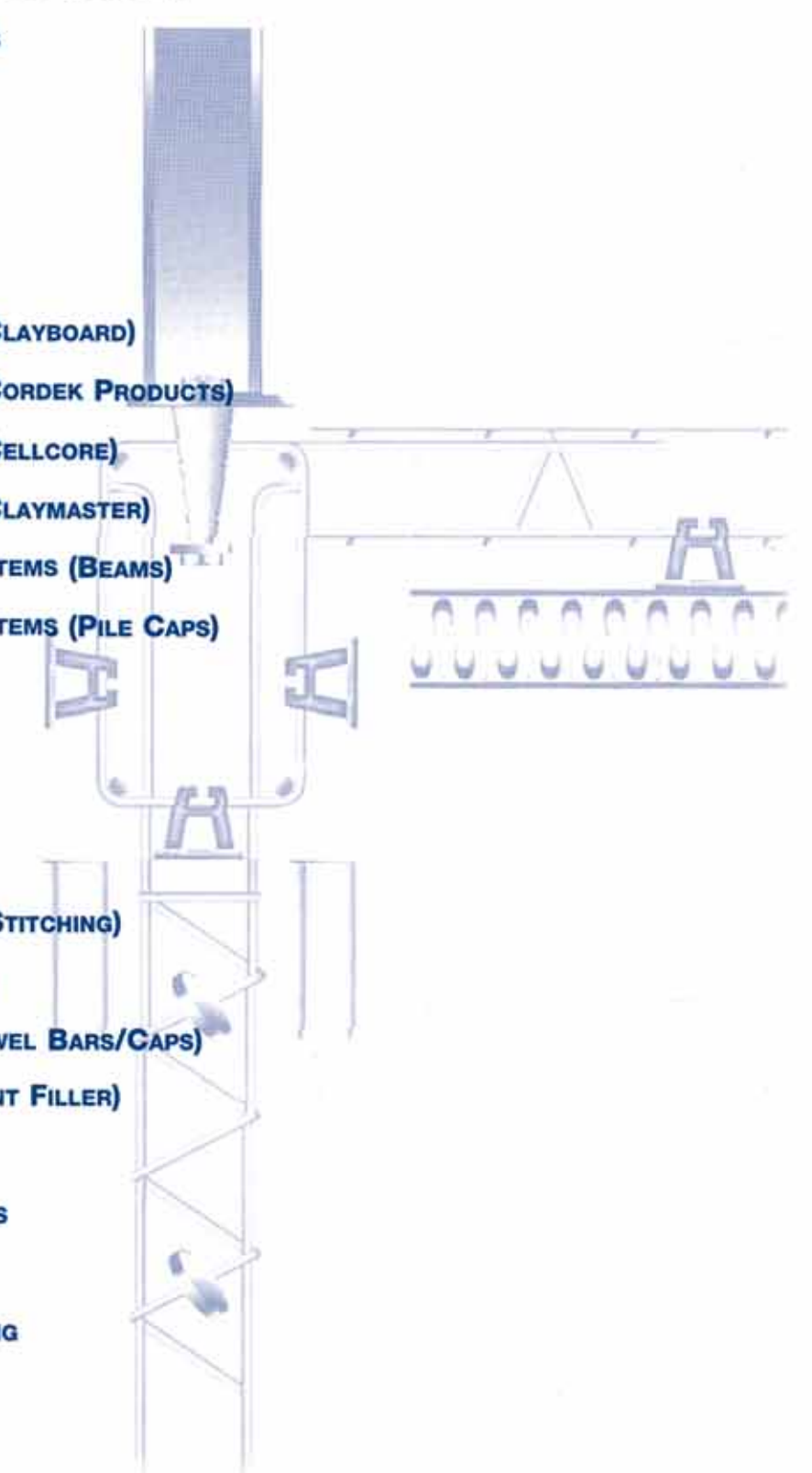
Typical installation of waterproofing products



SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

3. REINFORCING BAR (NEW SHAPE CODES)
4. REINFORCING BAR (OLD SHAPE CODES)
5. REINFORCING BAR SERVICES AND COUPLERS
6. REINFORCING BAR COUPLERS
7. REINFORCING MESH
8. WIRE PRODUCTS
9. PLASTIC SPACERS
10. CONCRETE SPACERS
11. GROUNDHEAVE SOLUTIONS (CLAYBOARD)
12. GROUNDHEAVE SOLUTIONS (CORDEK PRODUCTS)
13. GROUNDHEAVE SOLUTIONS (CELLCORE)
14. GROUNDHEAVE SOLUTIONS (CLAYMASTER)
15. PERMANENT FORMWORK SYSTEMS (BEAMS)
16. PERMANENT FORMWORK SYSTEMS (PILE CAPS)
17. OTHER CORDEK PRODUCTS
18. FORMWORK
19. CHEMICALS
20. CHEMICALS/UNDERPINNING
21. HELIFIX PRODUCTS (CRACK STITCHING)
22. HELIFIX PRODUCTS (RESINS)
23. JOINT FORM PRODUCTS (DOWEL BARS/CAPS)
24. JOINT FORM PRODUCTS (JOINT FILLER)
25. SLAB ACCESSORIES
26. SLAB/STANTION ACCESSORIES
27. WATERSTOPS
28. WATERSTOPS/WATERPROOFING
29. WATERPROOFING
30. DEPOT LOCATIONS



EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

# REINFORCING BAR

## Cut & Bent

### LEMON GROUNDWORK SUPPLIES

Have been awarded a Certificate of Approval for the operation of its Quality system to comply with the requirements of BS EN ISO 9001/2

Approval covers the following BS 4449 and BS 8666 and distribution of BS 4482 and BS 4483



REINFORCEMENT BENDING DIMENSIONS (BS8666)/2000			
SHAPE CODE 00  Length = A	SHAPE CODE 15  Length = A + C Neither A nor C shall be less than A in table below	SHAPE CODE 31  Length = A + B + C + D - 1 1/2 r - 3d Neither A nor D shall be less than A in table below	SHAPE CODE 46  Length = A + 2B + C + E Neither A nor E shall be less than A in table below
SHAPE CODE 11  Length = A + B - 1/2 r - d Neither A nor B shall be less than A in table below	SHAPE CODE 21  Length = A + B + C - 1/2 d Neither A nor C shall be less than A in table below	SHAPE CODE 33  Length = 2A + 3B + 17d A shall not be less than 12d + 30mm B shall not be less than 2r + d	SHAPE CODE 51  Length = 2(A + B + C) - 2 1/2 r - 5d
SHAPE CODE 12  Length = A + B - 1/2 r - d Neither A nor B shall be less than A in table below	SHAPE CODE 25  Length = A + B + E Neither A nor B shall be less than A in table below	SHAPE CODE 41  Length = A + B + C + D + E - 2r - 4d Neither A nor E shall be less than A in table below	SHAPE CODE 67  Length = A
SHAPE CODE 13  Length = A + 0.57B + C - 1.57d Neither A nor C shall be less than A in table below B shall not be less than 2r + d	SHAPE CODE 26  Length = A + B + C	SHAPE CODE 44  Length = A + B + C + D + E - 2r - 4d Neither A nor E shall be less than A in table below	SHAPE CODE 77  C = (A - d) C = no. of turns
SHAPE CODE 99 All other shapes where a standard or combination of standard shapes cannot be used. A 99 shape code shall have a maximum of 4 bends.			

- STOCKISTS OF QUALITY MILD AND HIGH TENSILE STEEL REINFORCING RODS TO BS 4449 CUT AND BENT MANUFACTURERS TO BS 8666. BOTH STANDARDS ARE TO THE LATEST SPECIFICATIONS WITH FULL "CARES" APPROVAL
- SUPPLIERS TO MANY MAJOR CIVIL AND RESIDENTIAL CONTRACTORS SINCE 1975
- WE OFFER A SUPERIOR LEVEL OF SERVICE, WHICH IS SECOND TO NONE WITHIN THE INDUSTRY FOR RELIABILITY AND QUALITY, WHETHER SUPPLYING EITHER THE SMALL OR LARGE CONTRACTOR.
- 24 HOUR RAPID BENDING SERVICE AVAILABLE
- SMALL QUANTITIES OF CUT TO LENGTH OR BENT REINFORCEMENT CAN BE MANUFACTURED WHILE YOU WAIT FOR THOSE REAL EMERGENCIES
- HELICALS (BS SHAPE CODE 77) IN STANDARD PILING SIZES AVAILABLE EX-STOCK FOR IMMEDIATE DELIVERY

Minimum Radius, Former Diameters & Bend Allowances for BS 8666		Type R (Grade 250 conforming to BS4449)			Type T and B (Grade 460A and B to BS4449) Type F (Grade 460 to BS4482)(nb.6-12mm only)		
Nominal size (mm)	Weight (kg/mtr)	Min radius for scheduling	Min dia of bending former	Min end dimension	Min radius for scheduling	Min dia of bending former	Min end Dimension
d		r	M	A	r	M	A
6	0.222	12	24	110	12	24	110
8	0.395	16	32	115	16	32	115
10	0.616	20	40	120	20	40	120
12	0.888	24	48	125	24	48	125
16	1.579	32	64	130	32	64	130
20	2.466	40	80	160	70	140	190
25	3.854	50	100	200	87	175	240
32	6.313	64	128	260	112	224	305
40	9.864	80	160	320	140	280	380

SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

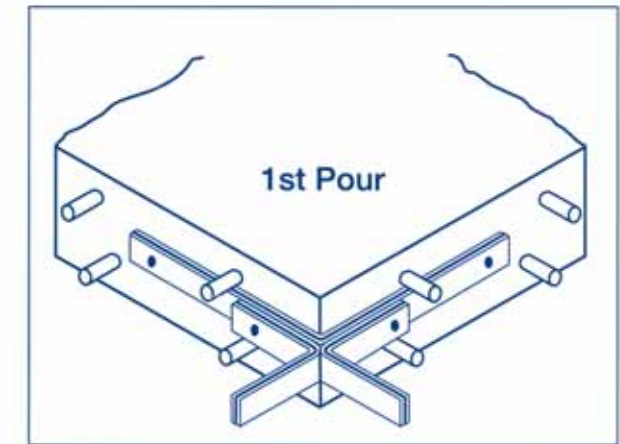
MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

# WATERSTOPS/WATERPROOFING

## Self Swelling Waterstops

### Dual Seal Bentonite Waterstop

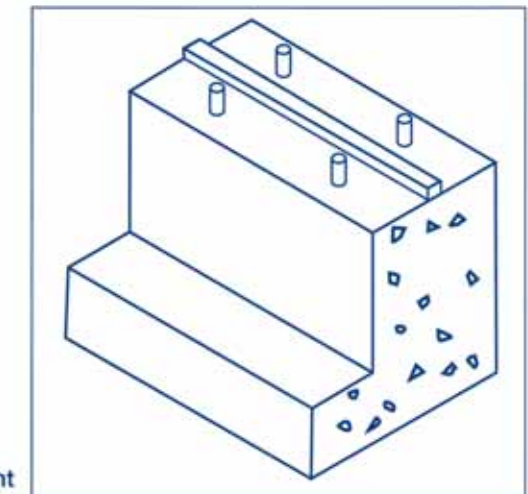
This Bentonite based waterstop reacts on contact with water by swelling to form a watertight seal in concrete structures. It has been specifically designed to seal construction joints against the ingress or outgress of liquids in water retaining or excluding structures therefore protecting steel reinforcement from contact with water. Dual Seal Waterstop is fixed by nailing to the face of the existing concrete pour prior to placing the next pour. It can be placed directly onto scabbled surfaces where the quality bentonite has the ability to swell up to 16 times its dry volume ensuring effective sealing. It can be applied to green concrete, in damp conditions and has been independently tested up to 30 metre head of water. Size. 7mm x 25mm in 8.000 mtr rolls.



Base Construction to Base Construction Joint

### Swellite Hydrophillic Self Swelling Waterstop

This self swelling waterstop provides a watertight seal between pre-cast concrete units such as concrete pipes and tunnel segments. It can also be installed into a previously formed rebate for use in in-situ concrete. It is manufactured from a neoprene polymer based hydrophillic compound and high water resins. Unlike traditional waterstops, Swellite is centrally placed and bonded flat in the joint prior to making a second pour, then when activated by water it will swell up to five times its volume and seals the passage of water by exerting pressure across the joint. Size. 20mm x 5mm in 15.000 mtr rolls.



Also available, Superstop Self Swelling Waterstop. designed to provide a watertight seal in construction joints especially in "box out" applications.

## Waterproofing Membranes

### Dual Seal Waterproofing Membrane

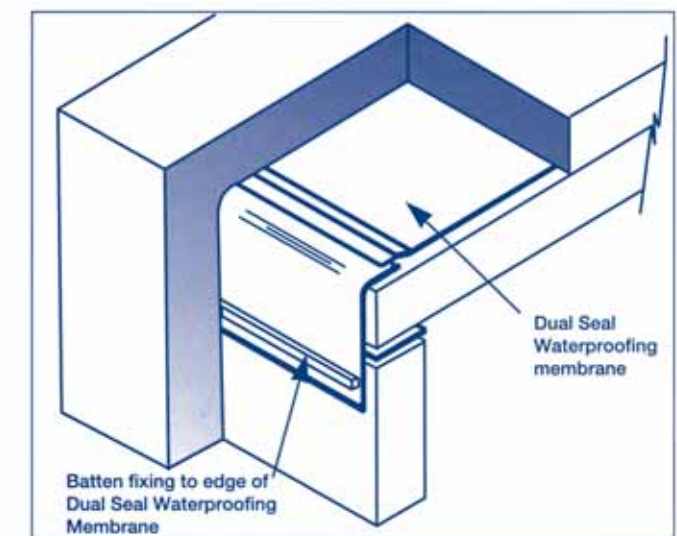
This high performance self swelling, self healing waterproofing membrane has been developed to provide a totally watertight barrier in below ground concrete constructions including basements, underground car parks, plant rooms and access tunnels. Dual Seal is capable of repeated cycles of wetting and drying without deterioration of its sealing properties and has a life expectancy measured in thousands of years.

Additional benefits include:

- The ability to be applied immediately shutters are struck to wet surface.
- No priming required to surface.
- Eliminates need for separate protection board.
- Resistance to Hydrostatic head of water 46 mtrs



Roll size 7.320 mtrs x 1.220 mtrs



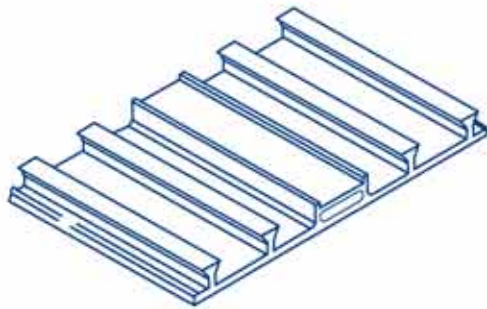
Earth covered reservoir installation

EMAIL: sales@lemon-gs.co.uk

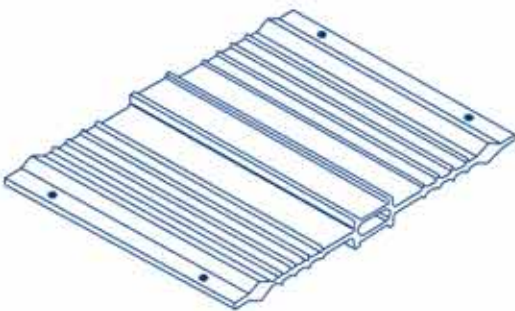
WEBSITE: www.lemon-gs.co.uk

# WATERSTOPS

## PVC Waterstops

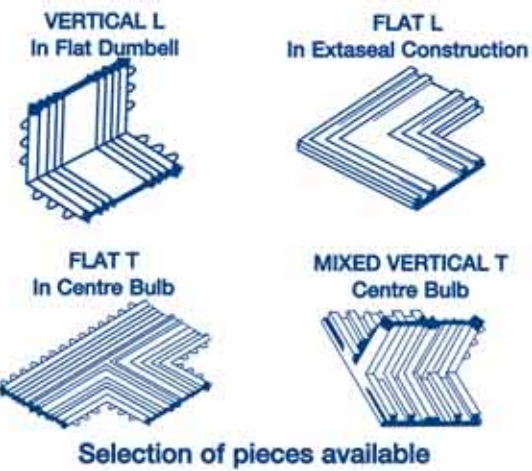


**Extaseal External P.V.C Waterstop** is a high performance, heavy duty profile waterstop. It is specially developed to seal joints in concrete structures at the outside surface thus protecting the reinforcing steel against corrosion attack, in addition to providing a totally watertight seal. These waterstops have been independently tested up to 27 metres head, in construction, expansion and kicker joints in concrete water retaining and excluding structures.



**Flat Dumbbell and Centrebulb Internal P.V.C Waterstop** have been specifically developed with their unique rib and end bulb profiles to provide a totally effective water barrier when cast centrally within concrete wall and floor joints. These waterstops have been independently tested to withstand ingress of water up to 27 metres head in construction and expansion joints for both water retaining and excluding structures.

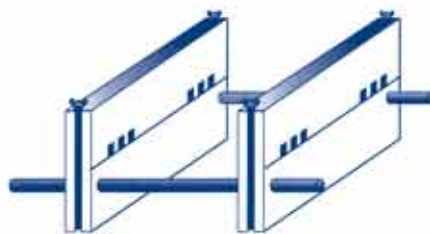
Within both these ranges there are many sizes, styles and grades to your individual application.



**Waterstop Junction Pieces** are available in a full range of designs to suit many different installations and can be easily fitted to the straight edge of the waterstop to form a variety of junctions such as corners, tee's and crosses in vertical and flat applications.



**Electric Hot Jointing Knife** is placed on the straight edge of the waterstop whereupon it melts the ends prior to pushing them together. The joint will form once the waterstop has cooled down.



**Jointing Jigs** are available to help the ease of installation. They are designed to clamp the waterstop firmly in position prior to jointing taking place.

**If required a full advisory and design service on the use and application of all waterstops is available upon request.**



# REINFORCING BAR

## Cut & Bent

Shape codes were revised in May 2000 and brought in line with European standards. Before this date shape codes complied to BS4466/1989. These are still used substantially throughout the industry, so we have included these in our brochure for your easy reference.

REINFORCEMENT BENDING DIMENSIONS (BS4466)/1989			
SHAPE CODE 20 Length = A	SHAPE CODE 32 Length = A + b	SHAPE CODE 33 Length = A + 2b	SHAPE CODE 34 Length = A + b
SHAPE CODE 35 Length = A + 2c	SHAPE CODE 37 Length = A + B - 1/2r - d	SHAPE CODE 38 Length = A + B + C - 1/2d	SHAPE CODE 39 Length = A + 0.57b + C - 1.57d
SHAPE CODE 41 Length = A + B + C	SHAPE CODE 42 Length = A + B + c	SHAPE CODE 43 Length = A + 2b + C + E	SHAPE CODE 45 Length = A + B + C - 1/2r - d
SHAPE CODE 48 Length = A + B + C	SHAPE CODE 51 Length = A + B - 1/2r - d	SHAPE CODE 52 Length = A + B + C + D - 1/2r - 3d	SHAPE CODE 53 Length = A + B + C + D + E - 2r + 4d
SHAPE CODE 54 Length = A + B + C - r - 2d	SHAPE CODE 55 Length = A + B + C + D + E - 2r - 4d	SHAPE CODE 61 Length = 2(A + B) + 12d	SHAPE CODE 62 Length = A + C
SHAPE CODE 65 Length = A	SHAPE CODE 77 Length = 2A + B + 20d	SHAPE CODE 78 Length = 2A + B + C + 3d	SHAPE CODE 79 Length = 2A + 3B + 10d
SHAPE CODE 82 Length = 2A + 2B + 18d	SHAPE CODE 85 Length = A + B + 0.57C + D - 1/2r - 2.57d	SHAPE CODE 87 Min hook dimension = (A + D) (L < 12m)	SHAPE CODE 89 All other shapes

Another commonly used old shape code:



Minimum Radius, Former Diameters & Bend Allowances for BS 4466	Type R (Grade 250 conforming to BS4449)			Type T and S (Grade 460 conforming to BS4449)		
	Nominal size (mm)	Weight (kg/mtr)		Min radius for scheduling	Min bend dimension	Min hook dimension
d			r	n	h	
6	0.222	12	100	100	100	100
8	0.395	16	100	100	100	100
10	0.616	20	100	100	100	110
12	0.888	24	100	110	100	140
16	1.579	32	100	150	100	180
20	2.466	40	100	180	110	220
25	3.854	50	130	230	100	350
32	6.313	64	160	290	128	450
40	9.864	80	200	360	160	560

## REINFORCING BAR SERVICES AND COUPLERS

### Prefabrication & Fixing Service

To enhance our cut & bent supply operation we can offer the following services to reduce your site labour costs.

#### Prefabrication

From our premises, we offer a prefabrication service for steel reinforcement into ground beams, columns or pile cages. These finished cage assemblies are manufactured in accordance with the engineers specifications and are delivered direct to site for placing into position.

The advantages to the contractor include:

- Reduction in site labour costs for fixing.
- Fully labelled cages appertaining to clearly marked drawings for ease of correct placement.
- Valuable site space is not used by storing unmade steel prior to fixing.
- Ease of planning site time cycles irrespective of weather conditions.
- Limited working space for fixing is alleviated.

#### Site Fixing

We can also supply a full on site fixing service using skilled operatives.

Once on site, we can offer additional services to place ground heave and shuttering products.

This will eliminate the need for different trades to be on site and gives the advantage of dealing with only one supplier for both materials and labour.

### Lenton Couplers

At Lemon Groundwork Supplies we can offer the Erico Lenton Coupler service which includes specialist taper threading of the reinforcement bars and the supply of a range of couplers to suit your requirements.

Couplers allow for easy connection of bars when concrete has to be stopped for continuation at a later date and are designed for use with steel in tension, compression, stress reversal and cyclic loading.

They comply with BS 8110 and achieve the full specified strength of the bar.

#### Type A12

For use in situations where one, or both of the bars to be joined are free to be turned into the coupler.

This is the most common of all applications and covers over 90% of all coupler usage.

Where bars are very close together or where space is severely restricted the A12 coupler provides a splice of absolutely minimum dimensions.



#### Type P13 & P14

For use in situations where neither bar is moveable so the coupler is turned into the bar.

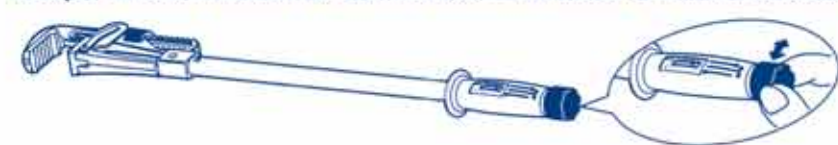
P type couplers are manufactured to a high specification to ensure that 'slip' under maximum design load will be very small, no matter what loading pattern is imposed.

The couplers are manufactured in two parts with a connecting locking ring.



#### Lenton Torque Wrench

The Lenton taper thread performs well over a range of tightness' and even hand tight can give excellent characteristics. However, to ensure the correct level of tightness is achieved when fixing this system, the Lenton Torque Wrench should be used where a full table of recommended settings is available for use.



**OTHER TYPES OF COUPLERS TO SUIT ALTERNATIVE APPLICATIONS ARE AVAILABLE UPON REQUEST**

## SLAB/STANTION ACCESSORIES

### Polythene Sheeting

Polythene is available in three grades:

All rolls are 4m x 25m

CODE	QUALITY	GAUGE
DPM250P	Pifa 6/83A:1995	1000
DPM300P	Pifa 6/83A:1995	1200
DPM250BR	Building Regs	1000
DPM300BR	Building Regs	1200
GPPS	General Purpose	500



**Pifa Polythene** is a top quality product that is recognised as one of the best available in the industry. It has a high resistance to puncturing and under Building Regulation Standards will not be affected by materials in concentrations normally found on contaminated sites.

1000 gauge is recommended as a Damp Proof Membrane

1200 gauge is more durable and suitable for use as a gas control membrane.

**Building Regs Polythene** is a damp proof membrane complying to the General 1991 Regulations.

**General Purpose Polythene** is an economical polythene for general use.

### Adhesive Tapes



This high quality PVC tape is supplied in rolls, 33 metres long and 50mm wide. Specially developed with a matt finish it is both waterproof and pressure adhesive.

Suitable for damp proof membranes and all types of formwork, this tape has excellent adhesion where residual release agent is present on the form face. It can be used in all climates where it retains its flexibility.

Standard Quality Tape is used in general applications

CODE	DESCRIPTION
HQT	High Quality Waterproof Tape
SQT	Standard Quality Tape

### Waxed Cardboard Bolt Boxes



Conical Bolt Boxes are manufactured from waxed cardboard. When used with a holding down bolt it will provide a conical void for easy bolt location adjustment, with minimum displacement of reinforced concrete. They can be re-used by leaving 25mm of the box protruding and rotating them before the concrete is completely set. Applications include fixing stantion and machine bases.

Polystyrene Bolt Boxes are also available upon request.

CODE	LENGTH	TAPER
CB 1	229mm	70/20
CB 2	305mm	92/20
CB 3	380mm	108/25
CB 4	457mm	114/30
CB 5	535mm	118/30
CB 6	610mm	133/30
CB 7	762mm	133/30

### Holding Down Bolts



A comprehensive range of holding down bolts, complete with nut and plate washer are available.

CODE	DIA	SIZE
16HDB	16mm	All
20HDB	20mm	Lengths
24HDB	24mm	Available

### Grouts

CODE	DESCRIPTION	PACK
EG 01	Expanding Grout	1 kg

#### EXPANDING GROUT

Expanding grout is a powder that once added to cement provides an economical way of producing an expansive grout. Expansion will take place before initial set and a built in delaying action allows time for placing and compaction. This will ensure a permanent high bond to all contact surfaces.

CODE	DESCRIPTION	PACK
NSG 25	Non Shrink Grout	25kg

#### NON-SHRINK GROUT

This non-shrink, high strength cementitious grout is used where it is essential to obtain complete filling of a gap between a structure and a fitting. Ideal applications include grouting beneath machine and stantion bases, crane and transporter rails, holding down bolts and dowel bars. Supplied pre-mixed and ready for use with the addition of water.

## SLAB ACCESSORIES

### Crack Inducers



This two part top crack inducer is manufactured from heavy duty PVC and is designed to induce a controlled crack, therefore forming a stress relief joint in continuously poured concrete slabs.

When pushed into the finished level of wet concrete, the top section is then removed to form a void of approximately 25mm deep into which sealer is then applied.

#### Application

The crack inducer should be between 1/4 and 1/3 of the slab depth and eliminates the need for a base crack inducer in slabs where the depth is less than 300mm.



The base crack inducer is required in slabs exceeding 300mm in depth and is placed directly below the line of the top crack inducer to form the stress relief joint.

CODE	SIZE	LENGTH
CIT 50/10	50mm x 10mm	5.000mtrs
CIT 75/10	75mm x 10mm	5.000mtrs

CODE	SIZE	LENGTH
CIB 40	40mm	5.000mtrs
CIB 75	75mm	5.000mtrs

### Void Formers



Void formers are made from rigid PVC and are used to form grooves in concrete that can easily be fixed by nailing directly on to shuttering.

Designed to withstand expected site conditions, they can be re-used several times. The slight tapered shaping stops the void former from adhering to the concrete and therefore allows easy removal to provide a clean void

#### Application

The half void is used against a stop end and the full section to complete the detail.

CODE	SIZE	LENGTH
VH20	20mm half	3.000mtrs
VF20	20mm full	3.000mtrs
VH25	25mm half	3.000mtrs
VF25	25mm full	3.000mtrs

### Sealants

4254 Two Part Polysulphide Sealant is supplied as either pouring or gun grade applications for sealing horizontal and vertical joints where movement is expected. It is ideal for expansion joints in reinforced concrete structures such as bridges, reservoirs and sea walls, as well as in floors which are subject to heavy use where a high resistance to damage will be required. This form of sealing possesses outstanding resistance to deterioration from weathering, ozone or ultra violet light as well as attack from dilute acids, oils, alkalis, greases and other solvents.

A range of sealant accessory tools are also available

CODE	TYPE	PACK
4254 GG	Gun Grade	2.25 litres
4254 PG	Pouring Grade	4.50 litres
4254 PR	Primer	1.00 litre

### Plastic Screed Chairs



These plastic screed chairs are designed to support screedboards or scaffold poles for accurate levelling of concrete slabs. They should be placed at approximately 500mm centres and can be adjusted by 50mm in height to achieve the correct level.

As these chairs are made completely from plastic, they can be left in the concrete either in part or as a complete unit without the risk of corrosion. Once concreting is complete, the scaffold board or tube can then be removed.

CODE	DESCRIPTION
PSCSAD	Saddle
PSCCOL	Collar
PSCSHA	Shaft
PSCBAS	Base

### Frost Blankets



Frost blankets are a polyethylene thermal blanket used to protect concrete slabs against frost in their early stages. They have a proven performance record at extremely low temperatures but can also be used in the summer to prevent excessive heat or wind moisture evaporation from the surface.

## REINFORCING BAR COUPLERS

### Ancon CCL Bar Couplers

#### MBT ET Range

This range of couplers provides a cost effective method of joining reinforcing bar, particularly when one of the bars which requires joining is already in place.

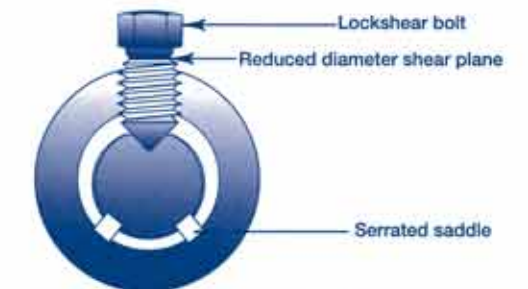
Neither bar end preparation to form threads or bar rotation is required with MBT couplers, making them a very easy and versatile product to install, suitable for a variety of applications.

These couplers are designed and manufactured in accordance with BS EN ISO 9001 regulations and achieve failure loads higher than 115% of the characteristic yield strength of high tensile grade 460 reinforcing bar.

To install, simply tighten the lockshear bolts whereupon the conical ends embed themselves into the bar. The heads will then shear off the bolts when the correct torque has been met, giving an instant visual check for correct installation. A ratchet wrench is recommended for this process but an air powered nut runner is best for larger sizes.



Bar Diameter	10	12	14	16	20	25	28	32	40
External Diameter d	33.4	33.4	42.2	42.2	48.3	54	66.7	71	81
Total Length l	100	140	160	160	204	258	312	312	484
Socket Size A/F (ins)	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
No. of Bolts	4	6	6	6	8	8	10	10	14
Approx Weight (kg)	0.52	0.72	1.25	1.25	1.96	3.00	5.8	6.5	11.30



Section showing the embedment of the lockshear bolts and saddles into the bar and shell of the coupler.



#### MBT Transition Series

This coupler works in the same way as the standard coupler but allows bars of different diameters to be connected.

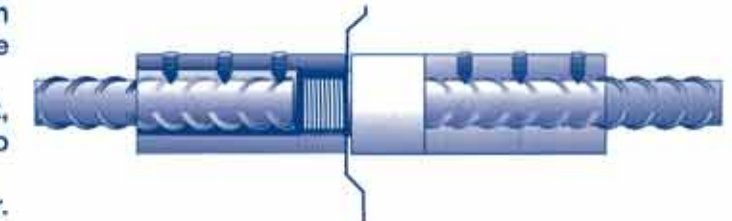
These couplers are non-standard and have to be made to order.

#### MBT Continuity Series

This system allows reinforcement to be extended in construction joints without the need to drill or deface the formwork at joint locations.

The female part of the coupler is fixed to the formwork, then once removed, the male section can be screwed into the female to complete the connection.

These couplers are non standard and have to be made to order.



### Rebar Safety Caps



#### LemCaps

A large dome-topped reinforcing bar end cap manufactured in high visibility fluorescent yellow plastic. Designed to fit securely onto the ends of protruding rebar to protect site personnel from injury.

CODE	SUIT BAR DIA (mm)
LCS	6-18
LCB	18-32

## REINFORCING MESH

### Standard Fabrics

**LEMON GROUNDWORK SUPPLIES**  
stock a full range of Reinforcing Mesh  
Fabric with Cares Approval to the latest  
BS4483 Specification.



REINFORCING MESH FABRIC								
B.S. Ref	Mesh sizes Nominal Pitch of Wires		Size of Wires		Cross Sectional Area per Meter Width		Nominal Mass per Square Metre	Approx. No. of Sheets per Tonne
	MAIN mm	CROSS mm	MAIN mm	CROSS mm	MAIN mm <sup>2</sup>	CROSS mm <sup>2</sup>	kg	
<b>SQUARE MESH FABRIC</b>								
A 393	200	200	10	10	393	393	6.16	15
A 252	200	200	8	8	252	252	3.95	22
A 193	200	200	7	7	193	193	3.02	29
A 142	200	200	6	6	142	142	2.22	39
A 98	200	200	5	5	98	98	1.54	56
<b>STRUCTURAL FABRIC</b>								
B1131	100	200	12	8	1131	252	10.90	8
B 785	100	200	10	8	785	252	8.14	11
B 503	100	200	8	8	503	252	5.93	15
B 385	100	200	7	7	385	193	4.53	20
B 283	100	200	6	7	283	193	3.73	24
B 196	100	200	5	7	196	193	3.05	29
<b>LONG MESH FABRIC</b>								
C 785	100	400	10	6	785	70.8	6.72	13
C 636	100	400	9	6	636	70.8	5.55	16
C 503	100	400	8	5	503	49.0	4.34	20
C 385	100	400	7	5	385	49.0	3.41	26
C 283	100	400	6	5	283	49.0	2.61	34
<b>WRAPPING FABRIC</b>								
D 49	100	100	2.5	2.5	49.0	49.0	0.77	113
<b>STANDARD SHEET SIZE 4.8m LONG X 2.4m WIDE</b>								
A142 also available in sheet size 3.6m x 2.0m								

### Special Fabrics

#### Strip Fabric

This service is ideal for many applications including Strip Footings, Ground Beams, Ring Beams and applications in refurbishment contracts that have a limited access for standard sheets.

The advantages of buying fabric pre-cut to width include:

- Valuable labour saving costs that would normally be used on site to cut the fabric.
- Correct planning of site time cycles.
- Material arrives ready for placing directly into foundations.
- Valuable site space not taken up storing full size sheets.
- Optimum sheet size minimises waste.

Flexibility in sizes available make this a very cost effective alternative to standard sheets.

Minimum width available: 150mm  
Maximum width available: 1200mm  
Maximum length available: 12.000mtrs

#### Flying End Fabric

For larger contracts, fabric with flying ends can be manufactured for a cost effective method of lapping long continuous runs of areas.

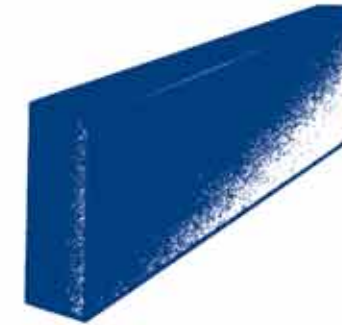
This alleviates thickening in areas of the slab where many sheets have to lap together.

## JOINT FORM PRODUCTS

### Fillerboards

#### Bituflex

Bituflex is a low cost, general purpose joint filler, consisting of wood fibre material, impregnated with bitumen emulsion. It is mainly used in non critical joints in slab and brick wall constructions.



#### Expansionthene

Expansionthene is a closed cell expanded polyethelene foam fillerboard that is tough and versatile which provides a rot proof, non absorbent and non extruding fillerboard.

It has low load transfer properties and is resistant to attack from most acids and alkalis.

Expansionthene is supplied in sheets or in strip form where the outer edge is undercut to allow for easy removal prior to sealing.

Uses include isolation joints between concrete slab and walls around columns and brickwork expansion joints.



• ALSO AVAILABLE,  
FILLERBOARDS FOR  
CIVIL AND SPECIALIST  
APPLICATIONS

#### Resin Bonded Cork Expansion Joint Fillerboard

This fillerboard consists of cork granules bound together with a synthetic resin to produce an expansion joint fillerboard that is very resilient.

It provides a firm support to sealant with excellent recovery properties that is used in sewage treatment works, sea defences, bund walls etc..



CODE	THICKNESS	WIDTH	LENGTH
BF 12/100	12mm	100mm	2.440mtrs
BF 12/150	12mm	150mm	2.440mtrs
BF 12/175	12mm	175mm	2.440mtrs
BF 12/200	12mm	200mm	2.440mtrs
BF 12/1220	12mm	1220mm	2.440mtrs
BF 20/100	20mm	100mm	2.440mtrs
BF 20/150	20mm	150mm	2.440mtrs
BF 20/175	20mm	175mm	2.440mtrs
BF 20/200	20mm	200mm	2.440mtrs
BF 20/1220	20mm	1220mm	2.440mtrs
BF 25/100	25mm	100mm	2.440mtrs
BF 25/150	25mm	150mm	2.440mtrs
BF 25/200	25mm	200mm	2.440mtrs
BF 25/1220	25mm	1220mm	2.440mtrs

CODE	THICKNESS	WIDTH	LENGTH
EXP 10/100	10mm	100mm	10.000mtrs
EXP 10/150	10mm	150mm	10.000mtrs
EXP 10/175	10mm	175mm	10.000mtrs
EXP 10/200	10mm	200mm	10.000mtrs
EXP 10/1500	10mm	1500mm	2.200mtrs
EXP 12/100	12mm	100mm	10.000mtrs
EXP 12/150	12mm	150mm	10.000mtrs
EXP 12/175	12mm	175mm	10.000mtrs
EXP 12/200	12mm	200mm	10.000mtrs
EXP 12/1500	12mm	1500mm	2.200mtrs
EXP 20/100	20mm	100mm	2.200mtrs
EXP 20/150	20mm	150mm	2.200mtrs
EXP 20/200	20mm	200mm	2.200mtrs
EXP 20/1500	20mm	1500mm	2.200mtrs
EXP 25/100	25mm	100mm	2.200mtrs
EXP 25/150	25mm	150mm	2.200mtrs
EXP 25/200	25mm	200mm	2.200mtrs
EXP 25/1500	25mm	1500mm	2.200mtrs

#### Bitubond Cork Joint Fillerboard

This strong chemically resistant board is manufactured from granulated cork. It is premixed and securely bonded together using a hot bituminous mixture. This is evenly formed between two sheets of heavy asphalt saturated felt paper which produces a board especially resistant to insect, fungal decay and bacterial attack. Main uses include concrete storage tanks, sewage treatment works, basements, subways and all forms of structural work. It also has excellent impact resistant properties which prove ideal for use in concrete paved areas where heavy traffic is expected.

SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

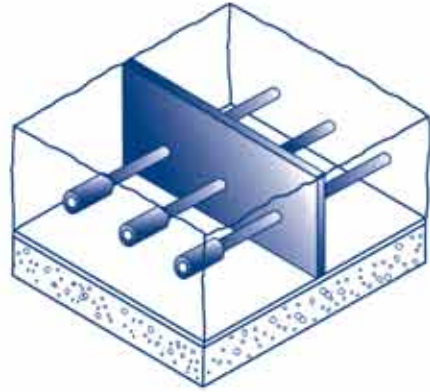
MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

## JOINT FORM PRODUCTS

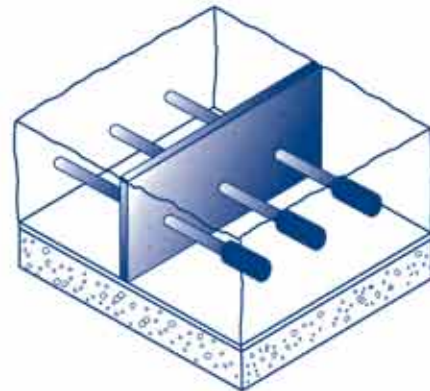
### Dowel Bars



Plain round mild steel, high yield and stainless steel dowel bars are available, supplied with either cropped or sawn ends. All sizes and lengths supplied to individual requirements.

CODE	DIA (mm)
12 DB	12
16 DB	16
20 DB	20
25 DB	25
32 DB	32

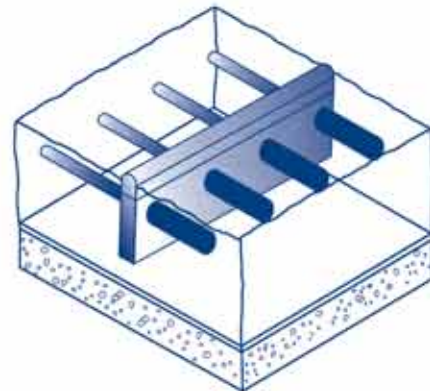
### Expansion Dowel Caps



A rigid PVC tube, 100mm long with 25mm of compressible cork filler, which is designed to give a tight fit thus allowing expansion of dowel bars in construction joints.

CODE	BAR (mm)
12 DC 100	12
16 DC 100	16
20 DC 100	20
25 DC 100	25
32 DC 100	32

### Dowel Bar Sleeves



A flexible PVC sleeve, closed at one end that pushes over the end of dowel bars quickly and easily to give an efficient way of debonding mild steel dowel bars. They can be fitted at any time to suit the contractor and should cover at least half the length of the bar.

CODE	BAR DIA.	LENGTH
12 DBS 450	12mm	450mm
16 DBS 300	16mm	200mm
20 DBS 300	20mm	300mm
25 DBS 300	25mm	300mm
32 DBS 375	32mm	375mm

### Debonding Compound



A bitumen based compound that can be brush applied to dowel bars. In expansion joints this provides a break in the bond with its surrounding concrete to create the controlled amount of movement required.

This product complies with the DoT specification for Road and Bridge Works.

CODE	PACK
DB 05	5 litre
DB 25	25 litre

## WIRE PRODUCTS

### Tying Wire & Associated Products



#### TYING WIRE

1.6mm (16swg) fully annealed soft tying wire used with plain reinforcement.

1.2mm (18swg) stainless wire for use with stainless reinforcing bar and where there is a danger of wire off-cuts being left on the formwork, which may cause the concrete to be stained.

CODE	PRODUCT	PACK
TW25	Black Annealed Tying Wire (16swg)	20kg
STW	Stainless Steel Tying Wire (18swg)	per kg



#### FIXING NIPS

Both high and standard quality fixing nips for tying reinforcing bars together with tying wire.

CODE	PRODUCT
QFN	High Quality Fixing nips
SFN	Standard Quality Fixing nips

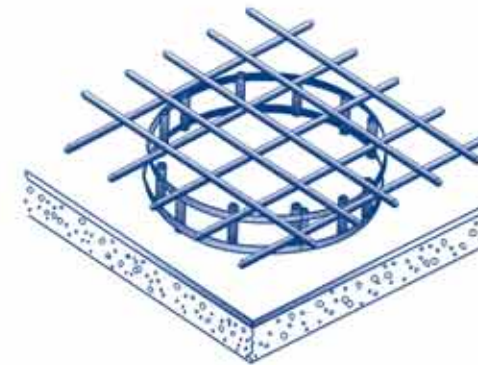


#### LOOP TIES & TOOLS

An alternative method of tying reinforcement together. Loop ties are manufactured from 16 swg annealed wire and easily fixed using the ratchet system tying tool.

CODE	PRODUCT	PACK
LT 150	150mm Loop Ties	1000
LT 200	200mm Loop Ties	1000
TT	Tying Tool	Each

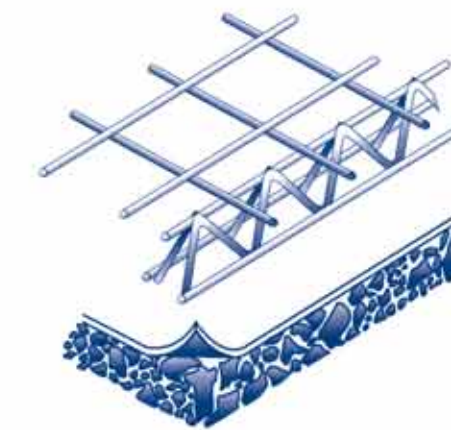
### Circular Spacers



Circular spacers provide a quick, easy and economical method of supporting reinforcement in concrete slabs, both under or between top and bottom layers of bar or mesh. They are delivered in 3.2 mtr lengths which are formed and tied to make a circle of approx 1.02 mtrs dia before placement.

CODE	HEIGHT (mm)	PACK
CS 50	50	20
CS 60	60	20
CS 75	75	20
CS 90	90	20
CS 105	105	20
CS 120	120	20
CS 135	135	20
CS 150	150	20
CS 165	165	20
CS 180	180	20
CS 200	200	20

### Continuous Hystools



Continuous hystools are supplied in 2.0 mtr lengths and are particularly suitable for ground floor slabs as their unique design eliminates any danger of puncturing damp proof membranes. They are also used as a spacer between layers of bar or mesh in slabs or vertically in wall reinforcement.

CODE	HEIGHT (mm)	PACK
DK 50	50	50 mtr
DK 60	60	50 mtr
DK 75	75	50 mtr
DK 90	90	50 mtr
DK 105	105	50 mtr
DK 120	120	50 mtr
DK 135	135	50 mtr
DK 150	150	50 mtr
DK 165	165	50 mtr
DK 180	180	50 mtr
DK 200	200	50 mtr



## PLASTIC SPACERS

### Plate Spacers



A popular double cover spacer that has been designed for use in ground beams and slabs. It's large base area prevents puncturing of polythene or groundheave products and provides a stable support to the reinforcing steel.

CODE	COVER (mm)
25 MF 30	25 & 30
40 MF 50	40 & 50
65 MF 75	65 & 75
90 MF 100	90 & 100

### Clip Spacers



A lightweight range designed for the precaster to take bars up to 16mm dia and a heavy duty range for bars up to 25mm dia. Both can be fixed horizontally or vertically.

CODE	COVER (mm)	BAR DIA.
20 LC 16	20	4-16
30 LC 16	30	4-16
40 LC 16	40	4-16
50 LC 16	50	4-16
60 LC 16	60	4-16
20 HC 25	20	8-25
30 HC 25	30	8-25
40 HC 25	40	8-25
50 HC 25	50	8-25

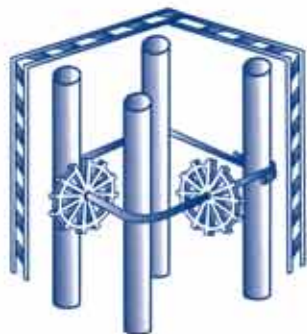
### Tric-Trak



A continuous plastic spacer in 2.0 mtr lengths that is ideal for supporting bottom reinforcement in suspended slabs and gives side cover on Cellform and Groundform permanent shuttering systems. It is also particularly suitable for use on metal decking.

CODE	COVER (mm)
TT 20	20mm
TT 30	30mm
TT 40	40mm
TT 50	50mm

### Wheel Spacers



A comprehensive range of clip-on plastic wheel spacers that provide cover through a full 360 degrees and are therefore ideal for columns, walls and beams.

CODE	COVER (mm)	BAR DIA.
20 WS 12	20	8-12
30 WS 12	30	8-12
30 WS 20	30	12-20
40 WS 12	40	8-12
40 WS 20	40	12-20
50 WS 12	50	8-12
50 WS 20	50	12-20

### Pile Cage Spacers



Clip-on pile cage spacers that provide a quick reliable method of spacing for bored piling and diaphragm walling.

CODE	COVER (mm)	BAR DIA.
40 PCS 12	40	6-12
50 PCS 12	50	6-12
70 PCS 12	70	6-12

## HELIFIX PRODUCTS

### Grouts

#### HeliBond Grout

A high performance, injectable, non-shrink thixotropic, cementitious grout for bonding HeliBar and CemTies to masonry. It is a two-part grout which is mixed in the pail and then injected via a hand held applicator. HeliBond grout flows easily under pressure to fill voids, where necessary, and rapidly develops compressive strength that reaches 80N/mm<sup>2</sup> within 28 days.

CODE	PACK
HBG3	3 litre

#### CrackBond TE

A high performance, injectable, non-shrink thixotropic, epoxy resin used for crack injection, bonding masonry and strengthening porous masonry. It can be successfully injected into cracks 2mm-20mm via a hand held applicator, and will rapidly cure to create a high strength bond. CrackBond TE can be supplied in 2.5 litre pails or in kit form, which includes cartridges and an applicator gun.

CODE	DESCRIPTION	PACK
TEB	Bulk Pack	2.5 litres
TEK	Bulk Kit	2.5 litres

#### PolyPlus Resin

A two-part 'mix in the nozzle' polyester based resin ideal for fixing Helifix remedial ties; RetroTie, ResiTie, BowTie. It has excellent adhesion properties to all types of masonry and concrete. It is also suitable for grouting in dowel bars and general purpose fixing.



CODE	DESCRIPTION	PACK
PPRES	PolyPlus Resin	380ml
PPN	Nozzle	Each

### Accessories

#### CS Pointing Gun

Hand held crack stitching pointing gun used to inject HeliBond grout into the mortar bed. It is also used for simultaneous grout and CemTie installation by way of a special nozzle extension. A complete range of stainless steel mortar nozzles and stock sleeves are available.



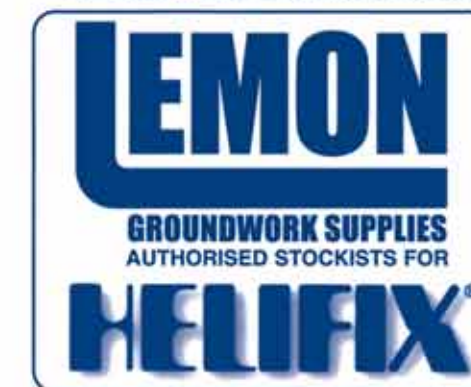
#### Skeleton Gun

A hand held applicator gun with a 10:1 ratio for use with 380ml resin cartridges such as PolyPlus Resin. A 150ml sealant gun is also available.

#### Installation Tools

A comprehensive range of hand held and power driven support tools can be supplied to assist in the installation of all the various ties and fixings.

- DryFix Power Driver Attachment & extension
- RetroTie power tool and extension
- ResiTie hand tool and pneumatic spoil cleaner
- MorTie power and hand tool
- BowTie power tool
- CemenTie fabric sock sleeve
- StarTie power and hand tool
- TimTie power and hand tool
- TurboFast power and hand tool
- InSkew power and hand tool
- Wall chaser and vacuum attachment
- SDS and rotary percussion drills
- Drill bits
- Load test unit
- Endoscope



## HELIFIX PRODUCTS

### Crack Stitching

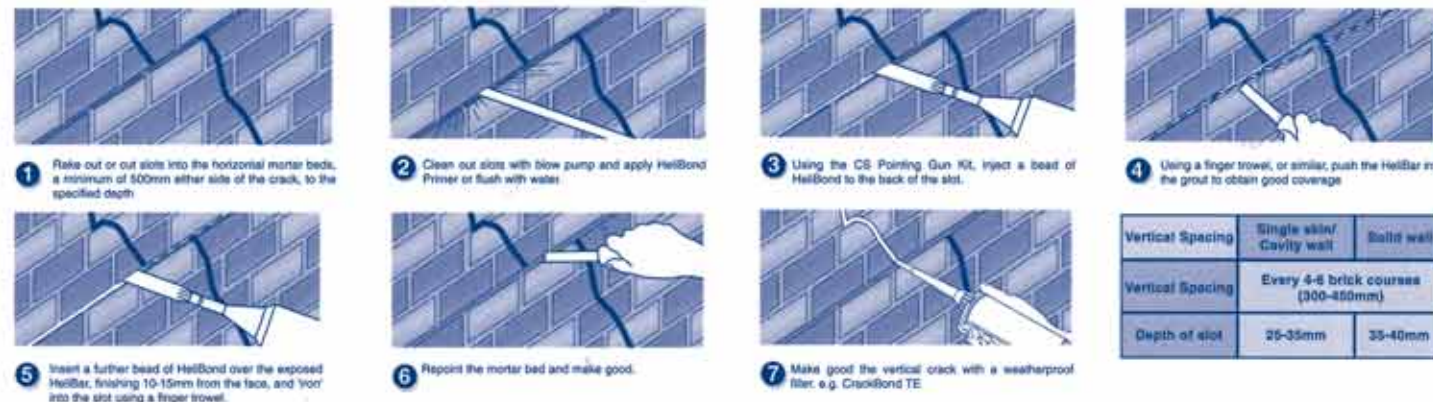
#### HeliBar

HeliBar is a structural reinforcing rod manufactured from austenitic stainless steel for use in crack stitching. It provides a fast, simple and cost effective solution of reinstating the structural integrity to buildings where ground movement or weathering has caused the masonry to crack and fail.

Used in conjunction with HeliBond cementitious grout, HeliBar ties the brickwork together and redistributes loads along the masonry, which minimises the chances of the crack developing and prevents further cracking nearby.

- Quick, simple, effective and permanent repair
- Fully concealed and non-disruptive
- HeliBar and HeliBond grout combine to produce excellent bond strength within the substrate
- Stress-free. Masonry remains flexible enough to accommodate natural building movement
- Independently tested and approved

CODE	DIAMETER (mm)	GRADE
4.5HB304	4.5mm	304
6HB304	6mm	304
8HB304	8mm	304
10HB304	10mm	304
4.5HB316	4.5mm	316
6HB316	6mm	316
8HB316	8mm	316
10HB316	10mm	316



Vertical Spacing	Single skin/ Cavity wall	Build wall
Vertical Spacing	Every 4-6 brick courses (300-450mm)	
Depth of slot	25-35mm	35-40mm

### Remedial Wall Ties

#### CemTie

This is a very simple and versatile masonry repair technique that can provide a low cost method of stabilising solid walls, rubble filled masonry walls, pinning multi-layer brick rings arches, reconnecting separated internal and external walls, securing delaminated masonry, parapets, cornices, fascias etc. The CemTie is pushed into the grout filled nozzle of the pointing gun which is inserted into a pre-drilled hole. As the grout is injected, the tie is carried with it and the nozzle is forced back out of the hole leaving a fully grouted tie. CemTies can be supplied in grade 304 and 316 stainless steel.

#### DryFix

DryFix is an extremely fast and economical method of wall tie replacement and for tying or pinning multiple layers of masonry without the use of grouts, resins or mechanical expansions. The DryFix tie is simply driven into the masonry, via a small pilot hole, to provide an effective repair for failed or omitted wall ties or where masonry has become delaminated. DryFix can be used in all forms of cavity and solid masonry construction. DryFix ties are manufactured in grade 316 stainless steel.



#### RetroTie

Another very versatile remedial wall tie, which can be used for all of the applications of the DryFix tie. It is installed by being power driven into the far leaf via a pre-drilled hole in the near leaf. The RetroTie is then resin bonded into the near leaf, which makes it particularly suitable for contracts where the outer leaf is of poor quality and may not be able to hold a mechanical fix, or where local authorities insist on a resin fix. Available in grade 304 and 316 stainless steel.

A full range of Helifix ties are available on request

- Remedial**
- ResiTie - resin/resin fix replacement wall tie
  - BowTie - restraining bowed walls
  - CemenTie - hollow block remedial wall tie

- New Build**
- MorTie - wall tie
  - TimTie - timber frame wall tie
  - TurboTie - masonry to block wall tie
  - StarTie - new to existing wall tie

## CONCRETE SPACERS

### Double Block Spacers



A range of fibrous reinforced cement spacer blocks to give cover to reinforced bar or mesh in both horizontal and vertical applications. Their strength is equal to the surrounding concrete and has the same expansion characteristics as concrete, therefore eliminating potential weaknesses.

Triple cover spacers allow excellent concrete flow in vertical applications and also minimises the area of spacer at the finished surface.

CODE	COVER (mm)
SB 15/20	15 & 20
SB 25/30	25 & 30
SB 30/40	30 & 40
SB 35/45	35 & 45
SB 40/50	40 & 50
SB 50/60	50 & 60
SB 60/75	60 & 75
SB 35/40/50	35, 40, 50

### Square Bar Spacers



A heavy duty 1 metre long concrete bar for supporting steel on bridge decks and other areas where high load points can be expected. They can also be used as formwork spacers.

CODE	COVER (mm)
SQ25	25
SQ30	30
SQ35	35
SQ40	40
SQ50	50
SQ60	60
SQ75	75

### Mesh Blocks



A heavy duty concrete spacer for supporting mesh reinforcement in ground floor slabs. Ideal for use on polythene membranes and blinding.

CODE	COVER (mm)
MM 40/50	40 & 50

### Concrete Screed rails



"L" shaped concrete screedrails are a cost effective and economical method of slab construction. Left insitu, any adjacent bay construction becomes quicker to construct. The material strength is in excess of 50N/mm<sup>2</sup>. Preformed holes are provided to accommodate dowel bars.



Metal top screed rails are a combination of concrete and galvanised steel and are ideal for achieving a super flat surface as they provide a more stable base from which to screed.

#### STANDARD SCREED RAIL

CODE	HEIGHT	LENGTH
SSR50	50mm	3mtrs
SSR100	100mm	3mtrs
SSR150	150mm	3mtrs

#### METAL TOP SCREED RAIL

CODE	HEIGHT	LENGTH
MTSR65	65mm	3.9mtrs
MTSR90	90mm	3.9mtrs
MTSR115	115mm	3.9mtrs
MTSR140	140mm	3.9mtrs
MTSR165	165mm	3.9mtrs

SOUTHERN DEPOT

TELEPHONE: (01268) 571571 FAX: (01268) 571555

MIDLAND DEPOT

TELEPHONE: (01788) 571571 FAX: (01788) 571888

EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

Clayboard



CODE	DEPTH	SOIL TYPE	VOID CREATED	SIZE (mtrs)
C30/60	60mm	Low Shrinkage	50mm	2.440 x 1.000
C30/85	85mm	Medium Shrinkage	75mm	2.440 x 1.000
C30/110	110mm	Medium Shrinkage	100mm	2.440 x 1.000
C30/160	160mm	High Shrinkage	150mm	2.440 x 1.000
C90/60	60mm	Low Shrinkage	50mm	2.440 x 1.000
C90/85	85mm	Medium Shrinkage	75mm	2.440 x 1.000
C90/110	110mm	Medium Shrinkage	100mm	2.440 x 1.000
C90/160	160mm	High Shrinkage	150mm	2.440 x 1.000

CODE	DESCRIPTION	SIZE
VPS	Void Pack System	Lengths to suit depth

Clayboard is a unique void former and foundation stabiliser made from a biodegradable honeycomb core, set between lightweight polypropylene facings. It is suitable for use under slabs in industrial and commercial buildings and is recognised by the NHBC as an appropriate void former for residential properties. Consequently it has been awarded British Board of Agreement Certification.

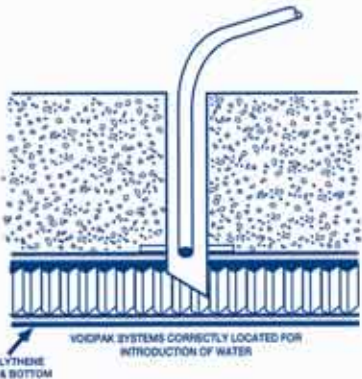
The Clayboard thickness required is decided by soil analysis that determines which Plasticity Index rating the shrinkage potential of the soil falls into.

When installing Clayboard, it must be wrapped in polythene to keep it dry, enabling it to support the weight of concrete. Once the concrete is poured and set, moisture is introduced using the void pack system. This will degrade the Clayboard to make it collapse, therefore leaving a void to accommodate expansion without exerting pressure on the structure above.

Other advantages of Clayboard include less soil excavation being required as it is a slimmer product than some other methods available and it can easily be cut to fit on site.

**Labour Saving Services:-**  
We offer a full service to not only cut Clayboard to size to suit your ground beam widths but then to seal the pieces in polythene bags for installation. This is performed at our premises before delivery to site, which not only saves time and labour but acts as a useful protection against moisture damage on site.

Manufactures technical and installation details are available upon request.



Clayboard Polythene Bags

Polythene bags are available ex-stock. These are designed specifically to encase Clayboard which protects it from moisture damage in the ground. They are supplied in 2.440 mtr lengths to suit a full range of widths

CODE	TO SUIT WIDTHS
PB400	Up to 400mm wide
PB600	Up to 600mm wide
PB900	Up to 900mm wide
PB1220	Up to 1220mm wide

Southern Depot  
Telephone: (01268) 571571 Fax: (01268) 571555

Midland Depot  
Telephone: (01788) 571571 Fax: (01788) 571888

Chemicals Cont

Concrete Standard Set Plasticiser

The inclusion of this product in a concrete mix, facilitates up to 25% reduction in added water content. It's properties will increase strength without loss of workability and maintain specified strength with reduced cement content. It will provide easier and speedier placing and compaction, reduced shrinkage and minimal cracking with a superior finish.

CODE	PACK
CSP 205	210 litres
CSP 025	25 litres

Resin Cleaning Solvent

This cleaning solvent is ideal for removing unhardened resin and solvent based materials from tools and equipment. It is also ideal to remove any residual release agent from formwork.

CODE	PACK
RCS 25	25 litres
RCS 05	5 litres

Expanded Polystyrene Solvent Emulsifier

This specially formulated solvent has been developed to safely dissolve away and emulsify unwanted expanded polystyrene box outs, void formers and inserts. Once applied it will visibly eat away and dissolve the polystyrene without adversely affecting the surrounding concrete.

CODE	PACK
PSE 205	210 litres
PSE 025	25 litres
PSE 05	5 litres

Sprayers

Two types of spray applicator are available that are suitable for applying chemicals such as release agents, curing compounds etc. Plastic Type with a 7 litre working capacity. Metal Type with a 9 litre working capacity.

CODE	TYPE
PS7	Plastic Sprayer 7 litres
MS9	Metal Sprayer 9 litres

This is a selection of the most popular chemicals available. Should you have a requirement for products not listed above please contact our office for further assistance.

Steel Underpinning Jacks

These versatile jacks are used to support the weight of existing structures in underpinning applications.

The foundations are broken away underneath the structure to allow the jack to be positioned.

The height of the jack is adjusted by way of the nut to suit the correct height required to support the structure above, whilst works are carried out to the foundations.

They are manufactured from heavy duty components consisting of steel studding, a large nut, loose tube and top and bottom support plates.

The stud is placed inside the tube and moves up and down as adjustment takes place with the plates forming the solid support area.

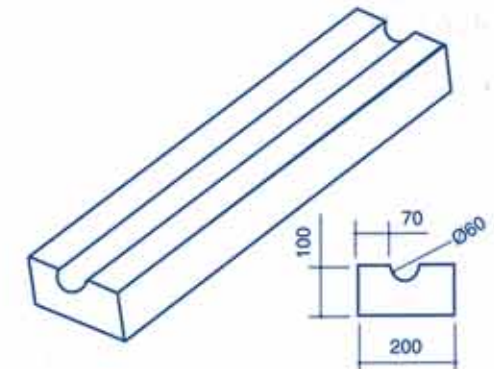
Standard jacks held in stock are suitable for heights between 300mm and 500mm. Alternative sizes can be manufactured to suit your requirements upon request.



Jack Protection

These pre-formed polystyrene sections are designed to create a void around steel underpinning jacks. This is achieved by placing two halves together around the scaffold tube. Once concrete has been poured to the foundations, the polystyrene can be disposed of to allow the removal of the jacks for re-use.

Standard size is 100mm x 200mm with a 60mm diameter hole to centre to accommodate a standard scaffold tube, although any size profile can be manufactured on request.



EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

**Chemicals For Formwork**

**Mould Oil** Coverage 20-30 m2 per litre Brush or spray applied  
Concrete Mould Release Oil is ideal for general site and precast use to provide a top quality concrete finish in most applications. The oil forms a physical barrier between the formwork surface and the concrete therefore providing a uniform stain free surface once the formwork is removed. It is suitable for use on all types of formwork in all climatic conditions, is resistant to removal by rain showers and is even suitable for use on untreated timber formwork.

CODE	PACK
MO 205	200 litres
MO 25	25 litres
MO 05	5 litres

**Chemical Release Agent** Coverage 35-50 m2 per litre  
Concrete Chemical Release Agent is used on formwork and shuttering where a superior finish to cast concrete is required. It's composition not only facilitates easy formwork release with a first class concrete finish but maintains a degree of formwork cleanliness beyond that generally obtained by other release agents, virtually eliminating concrete deposits being left on the forms.

CODE	PACK
CRA 205	210 litres
CRA 25	25 litres
CRA 05	5 litres

**Concrete Surface Retarders** Coverage 12-15 m2 per litre  
Concrete Surface Retarders are supplied in two types of applications (as described below) to provide an exposed aggregate finish to concrete either as an attractive architectural feature, or as a key for subsequent pours or renders.

**Type MF: For application to mould face prior to placing of concrete.**  
Provides a firm adhesion to the mould face therefore no displacement takes place during concrete placement and consequently avoids unretarded patches. It is suitable for use on heated moulds and will not discolour concrete.

CODE	PACK
CSR 25MF	25 litres
CSR 25TF	25 litres

**Type TF: For application to top face.**  
This retarding agent will not discolour concrete or impair the bond of concrete to reinforcement if accidental contact takes place between the two.

CODE	PACK
SF8	8 kg
SF2	2 kg
SFH	Tube

**Shutterfill**  
A twin pack polyester resin based paste used to repair surface damage on most types of formwork. It has rapid set and hardening properties and is easy to sand and smooth. Extra tubes of hardener are available.

**Chemicals For Concrete**

**Curing Compound (Resin Based)** Coverage approx 5.5m2 per litre  
This resin based curing compound physically "locks" moisture into freshly cast concrete surfaces to allow full hydration of the cement thus allowing the concrete to fully "cure". This is achieved by covering the surface of the concrete with a resin film which prevents moisture leaving the surface because it prevents premature drying of the concrete. The risk of surface cracking and dusting is reduced and the durability of the concrete surface is improved. This spray applied product will achieve 75% curing efficiency and is suitable for use on potable water projects.

CODE	PACK
CCR 205	210 litres
CCR 025	25 litres

**Curing Compound (Silicate Based)** Coverage approx 5.5m2 per litre  
This silicate based curing compound physically "locks" moisture into freshly cast concrete by blocking the pores in the concrete surfaces with a silica gel. This gel has been specially developed to dry out over a period of approximately seven days whereby it gradually shrinks and unblocks the pores in the concrete to give access to the capillaries which allows uninhibited uptake of subsequent surface treatments. As this compound prevents premature drying of the concrete, the risk of surface cracking and dusting is reduced and the durability of the concrete surface is improved. This product is also guaranteed not to adversely affect the bond of additional coatings, screeds or renders and is suitable for use on potable water projects.

CODE	PACK
CCS 205	210 litres
CCS 025	25 litres

**Concrete Surface Hardener & Dustproofers** approx 5-6m2 per litre  
This surface treatment for both new and existing concrete floors greatly extends its life and durability. It will dustproof the floor and increase the resistance to oil, grease and dilute acids, while case hardening to provide a tougher surface which reduces subsequent floor maintenance.

CODE	PACK
CSH 205	210 litres
CSH 025	25 litres
CSH 05	5 litres

**Bitumen Rubber Latex Waterproofing Coating** 1.1-1.7m2 per litre  
This alkali resistant cold applied rubberised bitumen emulsion has excellent adhesion to sound building materials including asphalt when used to provide a flexible waterproof membrane. It retains flexibility in low temperatures, is resistant to softening in warm conditions and may be used as a flexible crack filler. Main applications include: waterproof coating to bridge abutments, concrete roofs and walls.

CODE	PACK
BWC 205	210 litres
BWC 025	25 litres
BWC 05	5 litres

SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

**Cordek Products**

Cordek Ltd are one of the leading manufacturing companies to pioneer products designed specifically to deal with the problems of ground movement and clayheave.

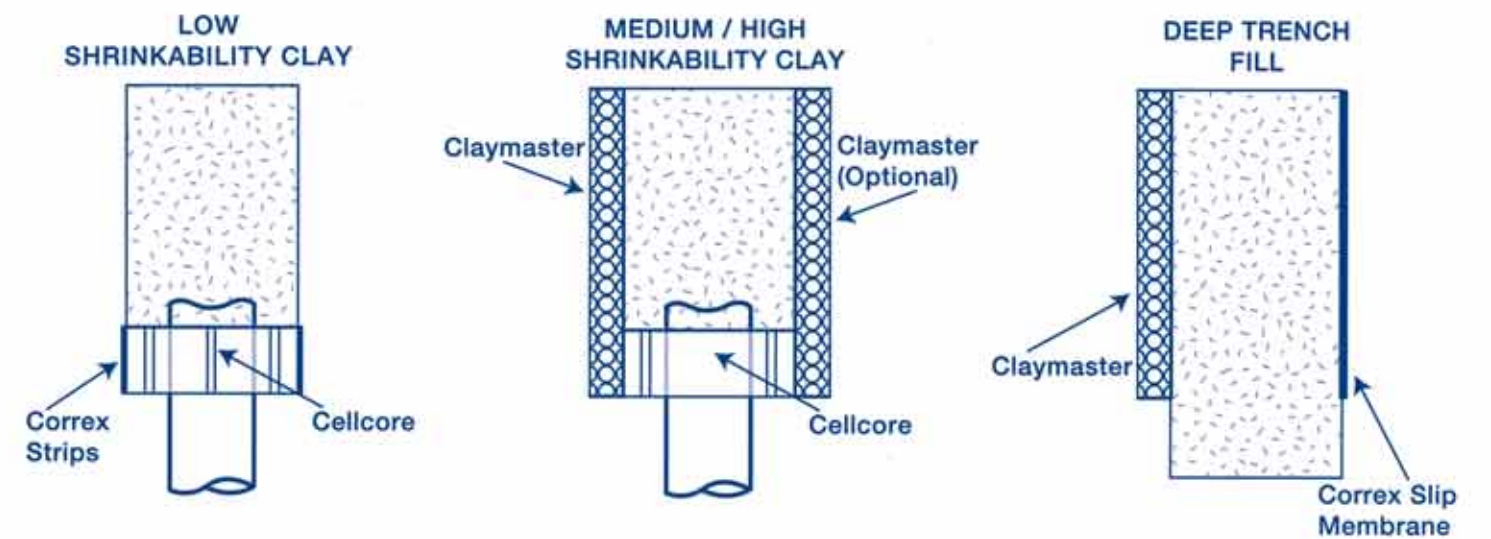
**LEMON GROUNDWORK SUPPLIES are a major supplier of these products throughout the United Kingdom ALWAYS OFFERING THE BEST POSSIBLE ADVICE, SERVICE AND PRICES AVAILABLE**

The information shown below and in the following pages, are a guideline to the main products designed to overcome these problems and their general applications in ground beams, trench fill and slabs.

**Cellcore**  
Is a honeycomb of inter-locking polystyrene section that compresses and buckles.

**Claymaster**  
is a low density expanded polystyrene that compresses under load.

They both reduce the pressure transmitted to foundations and ground floor slabs



All grades and depths/thickness will be dependant on the following:

- The Plasticity Index which is determined by the shrinkage potential of the soil.
- The thickness of concrete to be poured on top.

There are also other associated products that can be used to help the structural engineer or contractor in overcoming the distinct characteristics in different applications which include:

- |                      |                                       |
|----------------------|---------------------------------------|
| Ancillary products   | And the permanent shuttering systems: |
| Pile Collars         | Groundform                            |
| Correx Slip Membrane | Cellform                              |

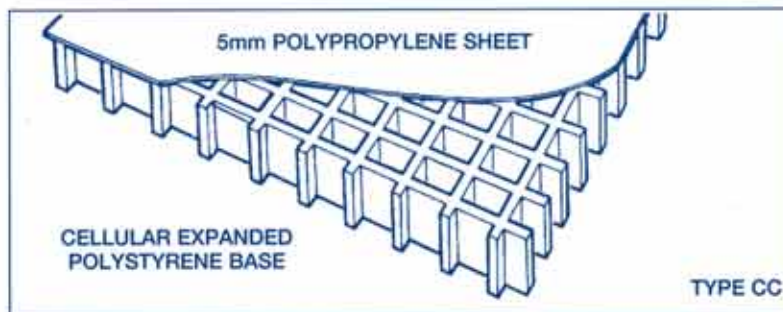


EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

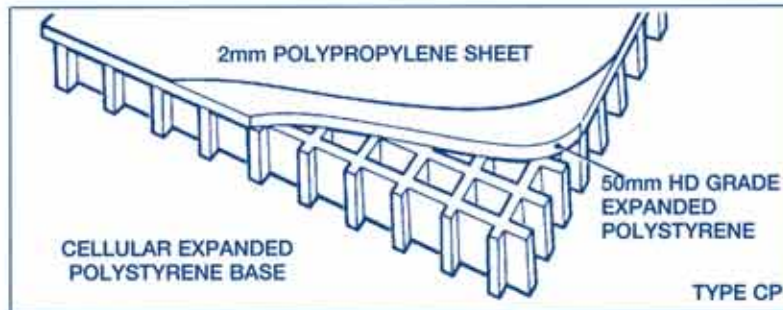
## GROUND HEAVE SOLUTIONS

### Cellcore



Cellcore is designed to relieve the effects of groundheave in an increasing number of applications including piled beams, ground floor slabs and rafts. Manufactured from inter-locking polystyrene it is produced with two different tops.

**Type CC** has a heavy duty polypropylene sheet and is normally used under piled beams and rafts. Alternatively, under very heavy slabs, where a 50mm concrete blinding is required on top of the Cellcore.



**Type CP** has a 50mm thick, heavy duty sheet of expanded polystyrene protected by a 2mm polypropylene board. It's main use is beneath heavily reinforced ground floor slabs where the polystyrene sheet acts as a blinding.

Both types have been given certification by the British Board of Agreement and are manufactured using BS 5750 quality assured products.

Cellcore will support the weight of a given concrete thickness using a live load allowance of 1.5kN/m<sup>2</sup> during the curing period which is known as the SAFE LOAD. If ground movement occurs, Cellcore will collapse when a pre-determined load is applied, known as the FAIL LOAD.

The type, depth and grade used are determined by the thickness of concrete to be laid on top and the expected ground movement/compression at the fail load measured by the Plasticity Index.

Cellcore has become widely recognised throughout the industry, being used extensively on commercial applications, protecting suspended ground floor slabs and domestically in the housing market under piled ground beams.

Obvious advantages of using Cellcore include the following:

- Ultimate compression is reached at far lower loads than standard compressible fill.
- Capable of taking massive loads (up to 55 kN/m<sup>2</sup>) without compression.
- Totally water resistant allowing use in the most severe conditions.
- Can be manufactured exactly to the size required therefore minimising waste.
- Light and easy to handle on site and is readily cut with a fine toothed saw.

We offer an installation service for Cellcore prior to placing of steel reinforcement if required.

Although each application for Cellcore is designed to suit, as authorised area stockists and distributors, we are the only company to keep the most popular types and widths in stock at our premises, ensuring no hold ups on site should additional quantities be required at short notice.



O/ALL DEPTH (mm)	TYPE AVAILABLE
100	CC
150	CC & CP
175	CC & CP
200	CC & CP
225	CP
250	CC & CP
300	CC & CP
350	CP

Standard Sheet size  
2.440 x 1.220 mtrs

GRADES SAFE LOAD/FAIL LOAD KN/m <sup>2</sup> / kN/m <sup>2</sup>	Max. Concrete DEPTH
8/12	270 mm
10/15	350 mm
15/22	550 mm
17/24	640 mm
20/30	770 mm

Also available up to  
55kN/m<sup>2</sup> safe load,  
75kN/m<sup>2</sup> fail load

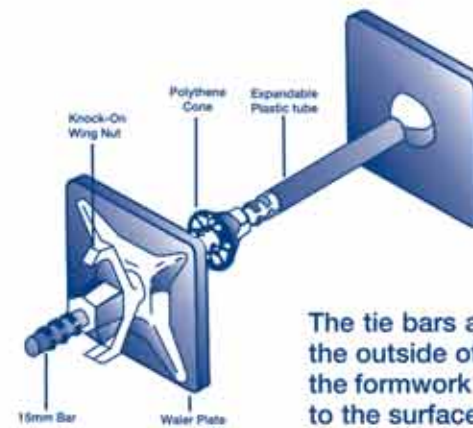
CODE	SIZE (mm)	APPLICATION
GSP120	120 X 120	CP
GSP150	150 X 150	CC

### Spreader Plates

Galvanised steel spreader plates are available to stand reinforcement spacers on to disperse the weight distribution. Therefore, this will stop the spacers pushing through the top of the Cellcore and giving an incorrect concrete cover.

## FORMWORK

### Formwork System



This quick release formwork tie system is produced from high tensile steel.

It is designed to enable the main parts of the system to be re-used many times with the expendable items being at a minimal cost.

CODE	DESCRIPTION
TB 15	15mm Tie Bar
WN 15	Wing Nut
WP 15	Water Plate
TBS 22	Tie Bolt Sleeve
TBC 22	Tie Bolt Cones
FORMPLUG	Tie Hole Plug

The tie bars are inserted through the PVC sleeve and cone. The water plates are secured to the outside of the formwork using the Wing Nut. The cones can be removed once striking of the formwork has taken place and the hole filled with Formplug to produce a watertight repair to the surface of the finished concrete.

### Chamfer Edge Profiles



CODE	DESCRIPTION	SIZE
CEP25P	Plain Type Profile	25mm
CEP25F	Nailing Flange Profile	25mm

These extruded plastic sections are designed to form chamfered corners in both columns, beams and expansion joints on walls.

To provide easy fixing to corner moulds, the nailing flange type chamfer is the most suitable option, which allows safe stripping and ensures maximum re-use.

### Hy-Rib

Hy-Rib is a galvanised permanent shuttering system with a unique design incorporating mesh and roll formed ribs. This system retains poured concrete and achieves a significant reduction in the pressure of concrete normally associated with conventional formwork.

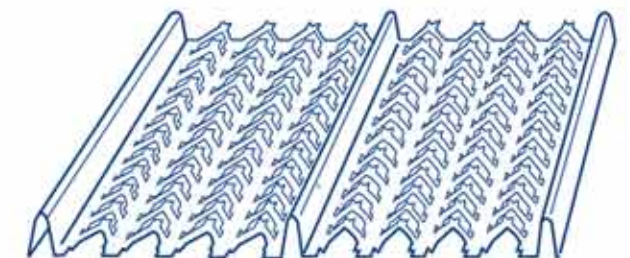
It can be placed before reinforcing rods which are installed after by piercing them through the mesh area in the Hy-Rib. This light and versatile product can be cut and bent to shape, therefore suiting many applications and can be fitted in less time than traditional formwork.

The advantages of Hy-Rib are that no stripping or preparation work to the joint is necessary before bonding to any adjacent pour. Also, if reinforcement is in place it will allow continuation of fixing without a break.

Hy-Rib applications include construction joints, stop ends and retaining walls where the surface finish to the concrete is not important but is also suitable for installation in water retaining structures and is recommended for use with water bars

If required, radial formwork can be supplied by curving the Hy-Rib along the rib axis at the factory or on site.

Supplied ex-stock in 4.000 mtr lengths but other sizes are available on request.



CODE	THICKNESS	WIDTH
HR 2411	0.750mm	445mm
HR 2611	0.575mm	445mm
HR 2811	0.400mm	445mm

SOUTHERN DEPOT

TELEPHONE: (01268) 571571 FAX: (01268) 571555

MIDLAND DEPOT

TELEPHONE: (01788) 571571 FAX: (01788) 571888

EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

## OTHER CORDEK PRODUCTS

### Scottlay

Scottlay is a polypropylene textile specially developed for use on haul roads and soft ground access, allowing vehicles onto sites that would not normally be accessible.

It minimises the thickness of hardcore or granular material required in both unpaved and high performance paved roads such as expressways and motorways.

When installed between the hardcore and formation soil, trafficking will form acceptable rut depths, then tension is transferred from the hardcore to the Scottlay. This in turn strengthens the hardcore and the tensile strength in the Scottlay will support part of the wheel load, consequently reducing stresses in the formation soil.

Correx is a ribbed polypropylene protection board that has been adopted by the construction industry as a standard method for many types of protection and is also widely used as a slip membrane.

It is supplied in a variety of weights, thickness and colours from 2mm/200gm/m<sup>2</sup> to 6mm/1400gm/m<sup>2</sup> to suit individual requirements.

Advantages include:

- Lightweight and easy to position
- Tough, durable and impact resistant
- Non toxic, resistant to chemicals, waterproof and does not stain.
- Available in both flame retardent and non flame retardent grades.

Colours available are black, translucent and white.

Standard sheet size 2.440 x 1.230 mtrs

### Correx (Temporary Protection)

Ventform has been specifically developed to provide a simple cost effective method of venting harmful gases away from underneath buildings.

Two designs are available:

- The round legged type is generally used beneath suspended ground floor slabs when a high degree of ventilation is required.
- The square legged type is particularly suitable under ground bearing applications and domestic or smaller commercial applications where less ventilation is required.

Available in various application's and grades to suit the individual needs.

This product is accepted by the NHBC, has been fully tested by WIMLAS, is completely CFS and HCFC free, inert and non-biodegradable.

Advantages include:

- Provides an ideal surface on which to lay gas protection membrane.
- Quick and easy to lay.
- Easily cut to suit on site using basic hand tools.
- Fully compatible with most perimeter venting systems.
- Can be manufactured to provide a load capacity of up to 50kN/m<sup>2</sup>
- Will not deteriorate if exposed to sunlight or wet conditions.
- Manufactured from flame retardant material.

### Insulation/Flooring Polystyrene

A standard grade polystyrene sheeting manufactured to provide lightweight thermal insulation in many applications.

These include:

Floors, walls, roof linings, core material for partitions, permanent shutter lining plus many more.

CODE	THICKNESS
SD25	25mm
SD50	50mm
SD75	75mm
SD100	100mm
SD150	150mm

Standard sheet size 2.400 mtrs x 1.200 mtrs

This polystyrene sheeting is manufactured from recycled materials and is suitable for many general purpose uses.

CODE	THICKNESS
RD25	25mm
RD50	50mm
RD75	75mm
RD100	100mm
RD150	150mm

Standard sheet size 2.440 mtrs x 1.220 mtrs

**OTHER GRADES FOR HEAVY DUTY APPLICATIONS AVAILABLE ON REQUEST**

SOUTHERN DEPOT

TELEPHONE: (01268) 571571 FAX: (01268) 571555

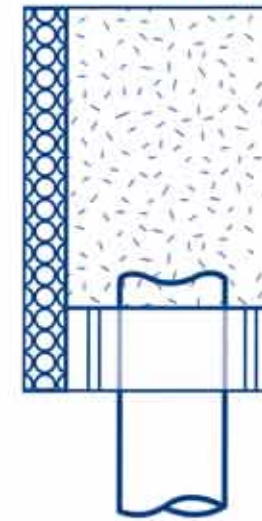
MIDLAND DEPOT

TELEPHONE: (01788) 571571 FAX: (01788) 571888

## GROUND HEAVE SOLUTIONS

### Claymaster

#### TYPICAL APPLICATION



Claymaster is a low density compressible expanded polystyrene product used to relieve the effect of groundheave. It is coloured PINK for ease of identification to ensure the correct specified material is used and has become a proven product successfully installed by major contractors over the years.

It's main applications are to the vertical face of ground beams in piled construction and trench fill foundations.

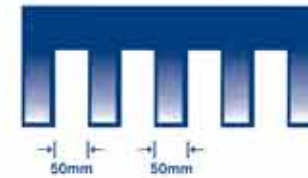
Advantages of claymaster are:

- Negligible compression during concrete casting. (subject to correct specification)
- Will not degrade in the presence of groundwater or precipitation.
- Light and easy to handle on site and is readily cut with a fine toothed saw.
- Can be manufactured exactly to the size required therefore minimising waste & reducing costs.

CODE	THICKNESS
CM50	50 mm
CM75	75 mm
CM100	100 mm
CM150	150 mm
CM175	175 mm
CM200	200 mm
CM225	225 mm
CM250	250 mm
CM300	300 mm

Standard sheet size 2.400 mtrs x 1.200 mtrs

### Castellated Claymaster



Castellated Claymaster's unique design is recommended for use under lightweight beams or in situations where downward loads on the beams are relatively small.

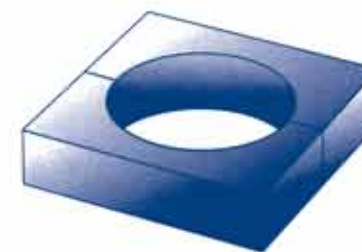
The thickness required will be less than using solid claymaster due to the compression characteristics of this product.

Advantages are the same as solid claymaster.

CODE	THICKNESS
CAS100	100 mm
CAS150	150 mm
CAS200	200 mm

Standard sheet size 2.400 mtrs x 1.200 mtrs

### Pile Collars



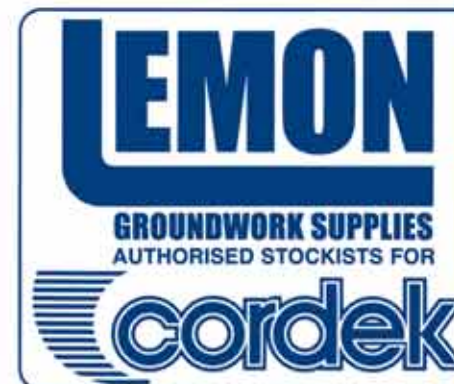
Pile Collars are supplied for placing around piles to prevent the effects of clayheave with all Cordek manufactured groundheave products.

CODE	DEPTH	SIZES
PC100	100 mm	All sizes and pile diameters available upon request
PC150	150 mm	
PC175	175 mm	
PC200	200 mm	
PC250	250 mm	
PC300	300 mm	

These formers are produced efficiently on specialised equipment eliminating time consuming cutting of groundheave products to circular shapes on site, which is usually to a poor standard.

Pile Collars are available in all depths, widths and pile diameters to suit the individual application and are supplied in two halves which are placed either side of the pile and then pushed together.

This system allows the straight edge of the groundheave products to be butted flush against the pile collar alleviating concrete seepage around the piles and providing a quick, easy and neat finish.



EMAIL: sales@lemon-gs.co.uk

WEBSITE: www.lemon-gs.co.uk

## PERMANENT FORMWORK SYSTEMS

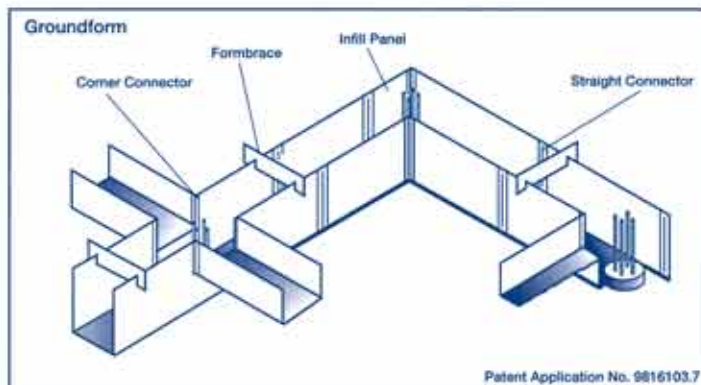
### Groundform

#### AN EASY FIT, COST EFFECTIVE ALTERNATIVE TO TRADITIONAL SHUTTERING

Groundform is a very competitive alternative to traditional formwork and other proprietary systems in both time and costs when constructing in-situ reinforced concrete ground beams.

It is manufactured from a heavy duty polypropylene that is quick and simple to install and can be easily modified on site to provide a grout tight formwork.

Groundform consists of panels 2.440 mtrs long and various standard components which are assembled to create the beam arrangement required.



#### Labour Saving Properties:

- Reduces the width of the dig and therefore the amount of muck away required.
- Eliminates the need for additional labour to erect, strike and remove shuttering from site.
- This system is grout tight, therefore the concrete quantities required can be calculated more accurately as the wastage is minimal.

#### Project Design and Ordering:

- Each project is tailor made to suit, therefore to order this system, simply provide us with the general arrangement drawing whereupon our skilled staff will design a full system which will arrive on site including all the components required.

#### Other Site Benefits

- When delivered, it stores flat and therefore takes up minimal storage space.
  - Full on site technical support can be given on your first installation
  - Adapted to suit easily, using nothing more than basic hand tools
- We offer a full on site fitting service if required**

### Cellform

#### HOW TO DEAL WITH GROUNDHEAVE AND SHUTTERING IN ONE SYSTEM

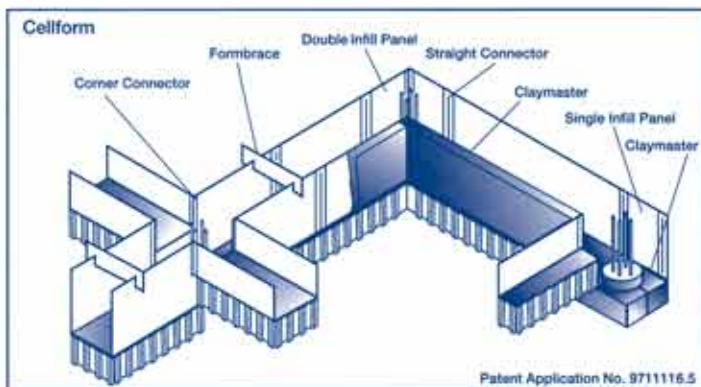
Cellform is similar to Groundform but combines with Cellcore and Claymaster to provide a permanent shuttering system with all the benefits of groundheave solutions in one.

The Cellcore element comes already fitted to the bottom of the Groundform whilst the Claymaster is attached to the vertical side of the Cellform on site. Therefore, when fitting this system, you are solving the groundheave and shuttering problem in one quick and easy installation.

The amount of time and costs saved by using this system is so significant that many large, established house builders have been converted.

Lemon Groundwork Supplies are pleased to have been associated in the development of these products.

For a full brochure please contact our office.



ANOTHER CONSTRUCTION SOLUTION BY **cordek**

SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

## PERMANENT FORMWORK SYSTEMS

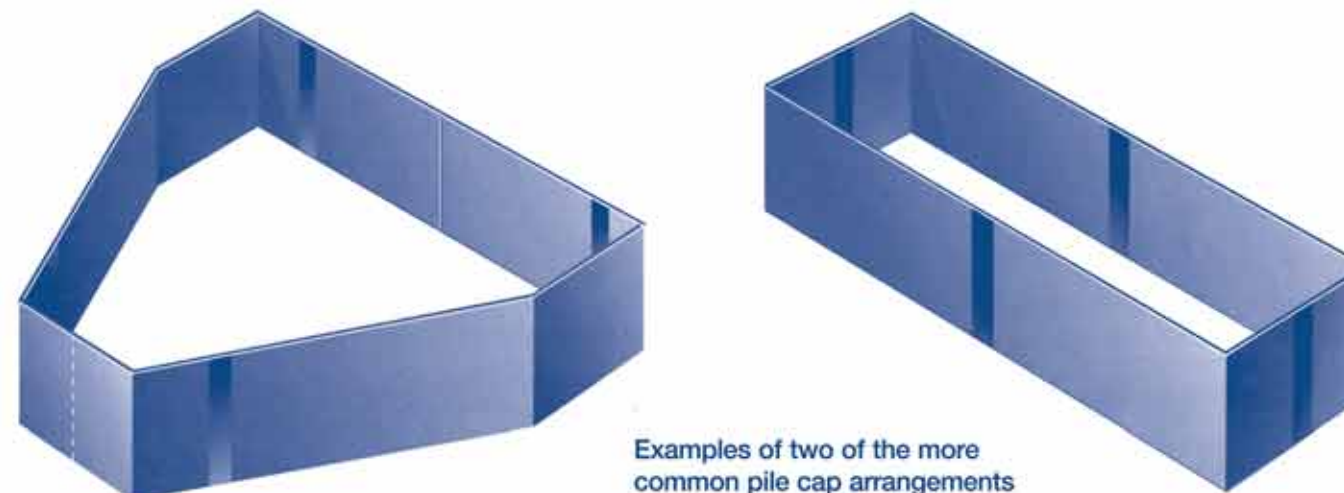
### Pile Caps

#### A SIMPLE AND MODERN WAY TO CONSTRUCT IN-SITU REINFORCED CONCRETE PILE CAPS

This extremely versatile product is an addition to the ever popular Groundform and Cellform permanent shuttering systems. Groundform pile caps are made from the same tough, heavy duty 8mm polypropylene and combine seamlessly with Groundform and Cellform to provide permanent formwork to pile caps.

The pile caps are manufactured off-site in a factory environment to ensure accuracy of the shutter. They can be pre-fabricated to virtually any size and shape required and all joints are welded for strength.

This unique system arrives flat packed and pre-fabricated as a complete unit ready for immediate placing. It simply needs to be pulled into shape and installed. No on-site construction of pile caps is required, therefore reducing labour cost and any chance of errors occurring during the construction of a pile cap which could result in material wastage and additional time spent on site. Pile caps can be modified easily with basic hand tools to accommodate site variations.



Examples of two of the more common pile cap arrangements

- Arrives tailor made for your project
- Lightweight and easily handled
- Can be tied to the reinforcement and lowered into the excavation as a whole unit

### Formwork Components

These components come standard with Groundform and Cellform permanent shuttering systems and can be used to connect beams to pile caps. Additional items can be supplied or omitted at your discretion.

#### Plastic Connectors

For joining Groundform & Cellform pannels



#### Metal Clips

For additional fixing strength. Used in conjunction with the plastic connectors.

#### Formbrace

For maintaining formwork profile during construction



EMAIL: [sales@lemon-gs.co.uk](mailto:sales@lemon-gs.co.uk)

WEBSITE: [www.lemon-gs.co.uk](http://www.lemon-gs.co.uk)

# LEMON GROUNDWORK SUPPLIES

## Company profile

Lemon Groundwork Supplies have been established since 1978 in the Construction Industry as both a supply and supply and fix company for steel reinforcing bar, mesh and groundheave products along with a full range of associated accessories and services. We have evolved into a "ONE STOP" supplier for all types of contractors on all types of contracts no matter how large or small they may be.

The success of our company has been largely associated with our policy to supply a service that cannot be equalled for its unique range and diversity of products and services. This is coupled with the reliability, quality products, technical support, experience and prices you should expect.

Our sales staff are knowledgeable and have the experience to give advice on products, assist with taking quantities from engineers drawings and helping with understanding specifications. **ONE PHONE CALL** will leave you assured that your project is being handled by a motivated sales team backed up with our own production and delivery facilities.

Customers can also be reassured that the reinforcing bar and mesh they receive on site is to the highest standard as our manufacturing facilities comply to BS EN ISO 9001/2 with approval from C.A.R.E.S, the UK certification authority for reinforcing steels.

No other "one" company provides all these products and services and that is why we are proud to call ourselves:

### THE COMPLETE STEEL REINFORCEMENT AND GROUNDWORK SUPPLY COMPANY

Why waste time waiting for different products to arrive from different companies when we can deliver the full package on our own fleet of lorries where most deliveries arrive on our own crane off-load vehicles. This gives us the flexibility to deliver materials to suit your individual on site requirements and ensures your contract/project runs smoothly and on schedule.

We also offer a rapid response to express requirements when time is critical, for all the products shown in this catalogue.

**FOR AN IMMEDIATE QUOTATION OR ADDITIONAL INFORMATION REGARDING SERVICES, PRODUCTS OR ADVICE, PLEASE TELEPHONE OUR SALES ADVISORS WHO WILL BE PLEASED TO HELP YOU.**

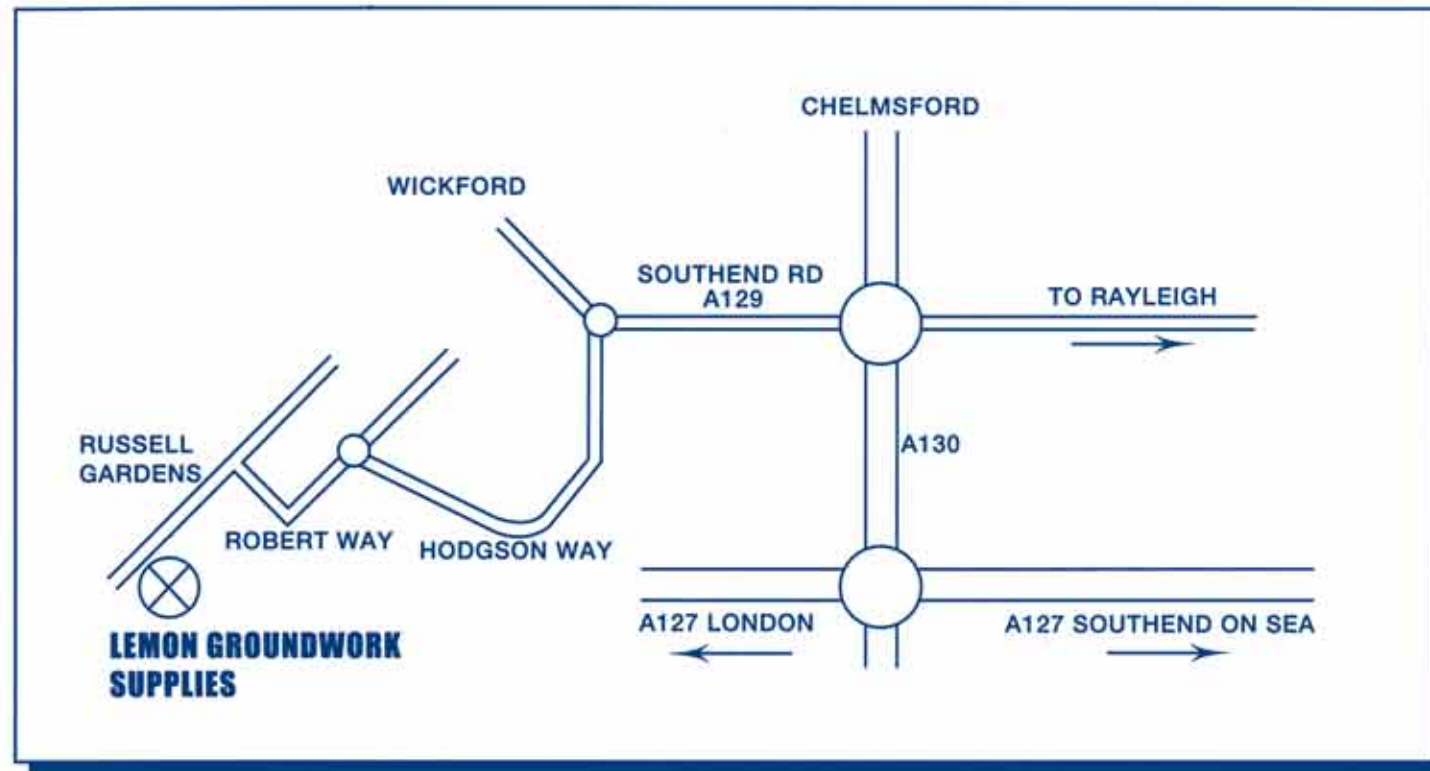


SOUTHERN DEPOT  
TELEPHONE: (01268) 571571 FAX: (01268) 571555

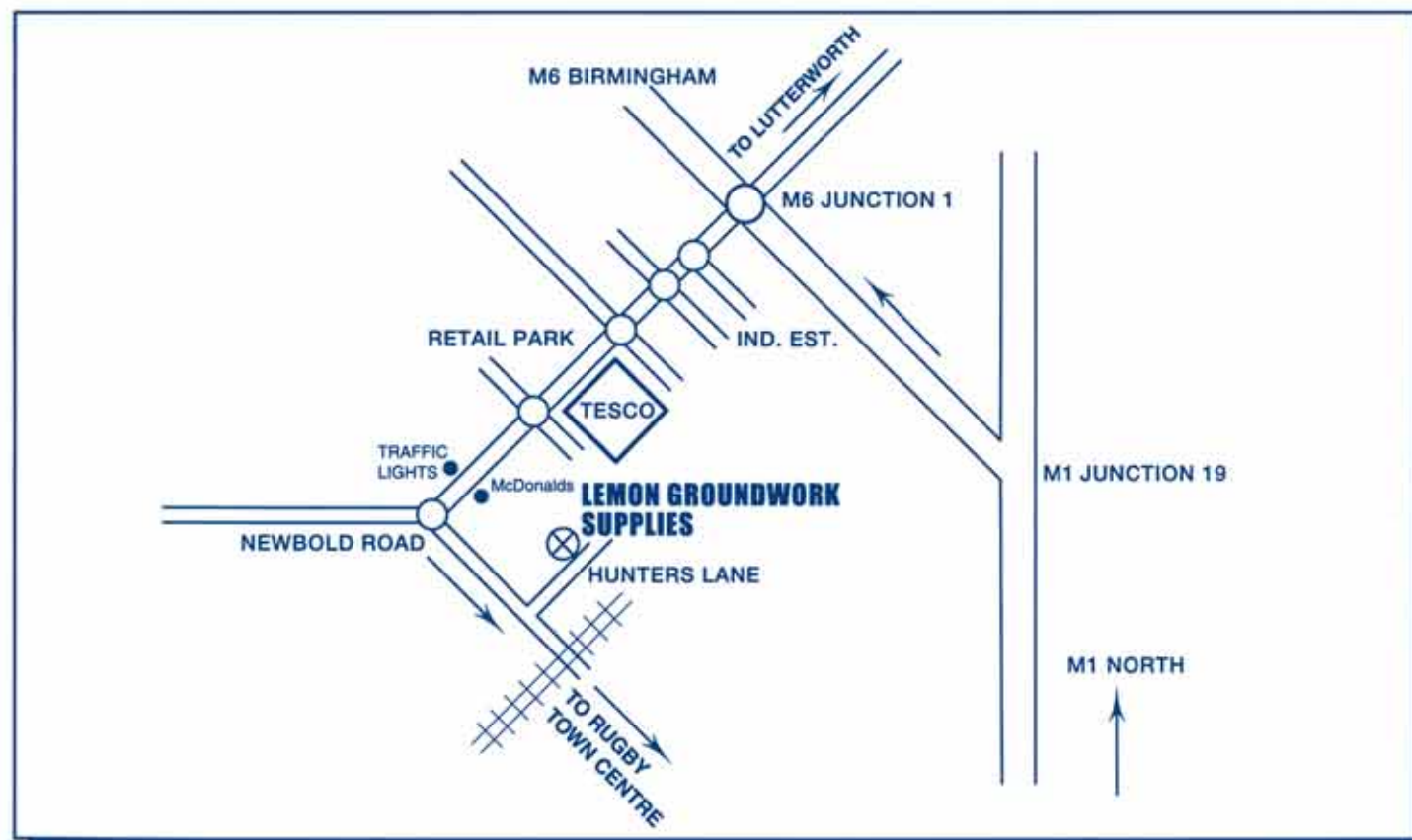
MIDLAND DEPOT  
TELEPHONE: (01788) 571571 FAX: (01788) 571888

# DEPOT LOCATIONS

## Southern Depot (Wickford, Essex)



## Midlands Depot (Rugby, Warks)



EMAIL: [sales@lemon-gs.co.uk](mailto:sales@lemon-gs.co.uk) WEBSITE: [www.lemon-gs.co.uk](http://www.lemon-gs.co.uk)