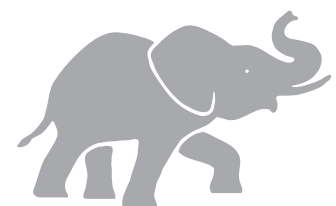


Elephant QuickBrace® Systems Supplementary Document

Key Features:

- No more Large Head Bracing Nails or Screws
- Quicker and Easier to Install
- Lower Cost Solutions
- Increased Performances
- All Systems start at 400mm wide
- A Revised and more Logical Numbering System



Elephant

Plasterboard

STRENGTH WITH STYLE



Elephant QuickBrace® Systems October 2010

This Elephant QuickBrace Systems October 2010 Supplementary Document is to be used in conjunction with the Elephant Plasterboard Bracing Systems April 2008 Technical Manual.

Key Changes

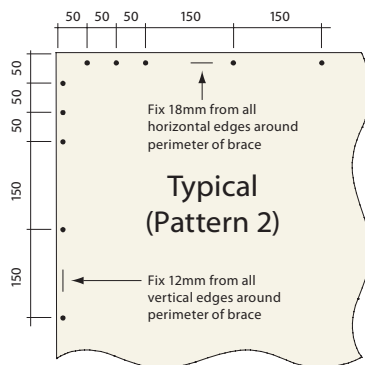
- All Systems use Small Head Fixings only
- A new Set of Braced Corner Fixing Patterns
- All Systems start at 400mm wide
- A revised and more logical Numbering System

The New Set of Braced Corner Fixing Patterns:

The Typical Braced Corner Fixing Pattern

The Condensed Braced Corner Fixing Pattern

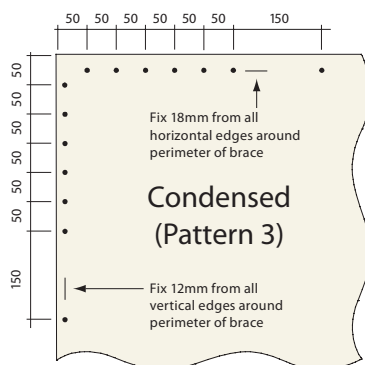
The Typical Braced Corner Fixing Pattern#



The most common Braced Corner Fixing Pattern has been referred to in our past literature as Pattern 2. Other plasterboard manufacturer's bracing systems also use Pattern 2. This is the "Typical" Braced Corner and perimeter pattern.

NB: The ES, ESa, ESS and ESP systems now also require this Typical Braced Corner Pattern.

The Condensed Braced Corner Fixing Pattern##



Bracing System names containing the suffix 'c', E.g. EXSc, EXMSc, etc. require this slightly more condensed Braced Corner Pattern on at least one Plasterboard side.

NB:

- The perimeter spacing is the same as with Pattern 2; i.e. 150mm centres.

Key Benefits

No more Large Head Bracing Nails or Large Head Bracing Screws

The single most beneficial result is that all Elephant Plasterboard QuickBrace® Systems no longer require "Bracing Nails or Bracing Screws" (large head fixings). All bracing systems now only require the use of small head fixings; i.e. 30mm x 6g Drywall Screws or 30mm x 2.8mm Clouts (minimum).

This has a number of benefits over Large Head Bracing Nails and Large Head Bracing Screws;

- The small head fixings are about 60% lower in cost.
- The small head fixings are usually 3 times faster to drive in.
- This results in some cases over \$3.00 per sqm saving.

Not only that, Large Head Bracing Nails and Large Head Bracing Screws often make a mess, break the paper or stick out proud. All of which make it difficult for the plasterer to get a top quality finish.

Increased Performance

The new Set of Braced Corner Fixing Patterns have resulted in significant increases in bracing performance.

- Reducing the need for higher cost boards like Multiboard
- Reducing the overall number of Bracing Elements required

All Systems start at 400mm wide

All bracing elements can start at 400mm wide on both single and double sided wall bracing systems, giving the designer or engineer full flexibility.

Current 2008 Systems

The current 2008 Elephant Plasterboard Bracing Systems remain valid.

If a current 2008 'EM' system set (Large Head Fixings, Pattern 2) has been specified, this can be changed to an 'EXMc' system set (Small Head Fixings, Pattern 3), as it outperforms the 'EM' system set.

All other aspects of these bracing systems remain the same and are as per the current manual Elephant Plasterboard Bracing Systems April 2008. Note that the fixing of the ply requires 40mm x 2.8mm flat head galvanised or stainless steel nails.

A new technical manual is being produced which will detail more features of these innovative solutions.

Elephant QuickBrace® Software

We strongly recommend the use of the Elephant QuickBrace® Software. This will often provide higher bracing performance than those published in the table overleaf. The Software can be downloaded from our web site: www.elephantplasterboard.co.nz or you can request a copy by phoning: 0800 ELEPHANT (353 742)

#See Elephant Plasterboard Bracing Systems Manual April 2008 for conditions on using Clouts.

##Clouts may not be used on Condensed Braced Corner Pattern if **BOTH** conditions 1 **and** 2 in Elephant Plasterboard Bracing Manual April 2008 (pg. 12) are not met.



The Elephant QuickBrace® Numbering System

The Elephant QuickBrace® Numbering System has also been revised and made more logical and easier to understand for designers, engineers, building officials, and builders.

E	= Elephant Plasterboard Systems	13	= 13mm Plasterboard
X	= Panel Hold Downs (15 kN minimum strength)	c	= Condensed Pattern (3, instead of "Typical" Pattern 2)
S	= Standard Plasterboard one side	a	= Angle Brace
SS	= Standard Plasterboard both sides	d	= Double Strap or Double Bottom Plate
SP	= Standard Plasterboard one side, Plywood the other		
M	= Multiboard one side		
MS	= Multiboard one side, Standard Plasterboard the other		
MP	= Multiboard one side, Plywood the other		

NB: The Elephant QuickBrace® Numbering System and the sub components thereof are protected by copyright.

The New Range of Elephant Plasterboard Bracing Design Solutions

		Status:	See Notes:
10mm Plasterboard Systems using Typical Braced Corner Pattern			
ES	= Elephant Standard Plasterboard one side.	Existing	1
ESa	= Elephant Standard Plasterboard one side plus angle brace.	Existing	1
ESS	= Elephant Standard Plasterboard both sides.	Existing	1
ESP	= Elephant Standard Plasterboard one side, Plywood the other side.	Existing	1
EXS	= Elephant Standard Plasterboard one side, with panel hold downs.	Existing	
EXSa	= Elephant Standard Plasterboard one side, with panel hold downs plus angle brace.	Existing	
EXSS	= Elephant Standard Plasterboard both sides, with panel hold downs.	Existing	
EXSP	= Elephant Standard Plasterboard one side, Plywood the other side, with panel hold downs.	Existing	
10mm Plasterboard Systems using Condensed Braced Corner Pattern "c"			
EXSc	= Elephant Standard Plasterboard one side, with panel hold downs.	New	
EXSca	= Elephant Standard Plasterboard one side, with panel hold downs plus angle brace.	New	
EXSSc	= Elephant Standard Plasterboard both sides, with panel hold downs.	New	
EXSPc	= Elephant Standard Plasterboard one side, Plywood the other side, with panel hold downs.	New	
EXMc	= Elephant Multiboard one side, with panel hold downs.	New	2
EXMca	= Elephant Multiboard one side, with panel hold downs plus angle brace.	New	2
EXMSc	= Elephant Multiboard one side, Standard Plasterboard the other side, with panel hold downs.	New	2
EXMPc	= Elephant Multiboard one side, Plywood the other side, with panel hold downs.	New	2
EXMcd	= Elephant Multiboard one side, with either panel hold downs and double bottom plate, or double strap.	New	2
13mm Plasterboard Systems:			
Same as above, but codes have a "13" after the Plasterboard type to indicate thickness:			
E.g. ES13, ES13a ESS13, ESP13, EXS13c.			
Further:			
EXS13	= 13mm Elephant Standard Plasterboard one side, with panel hold downs.	Was "E13S"	3
EXS13a	= 13mm Elephant Standard Plasterboard one side, with panel hold downs plus angle brace.	Was "E13Sa"	3
EXSS13	= 13mm Elephant Standard Plasterboard both sides, with panel hold downs.	Was "E13SS"	3
EXSP13	= 13mm Elephant Standard Plasterboard one side, Plywood the other side, with panel hold downs.	Was "E13SP"	3
EXM13c	= 13mm Elephant Multiboard one side, with panel hold downs.	New	2
EXMS13c	= 13mm Elephant Multiboard one side, Standard Plasterboard the other side, with panel hold downs.	New	2
EXMP13c	= 13mm Elephant Multiboard one side, Plywood the other side, with panel hold downs.	New	2

- Notes:**
- The 'ES' system set formerly required Bracing Corner Pattern 1, now requires 'Typical' Braced Corner Pattern 2.
 - The new set of 'EXMc' and 'EXM13c' Multiboard systems that use Small Head fixings and 'Condensed' Corner Pattern 3, replace and outperform the current 2008 set of 'EM' and 'EM13' Multiboard systems that used Large Head Fixings and 'Typical' Bracing Corner Pattern 2.
 - These 13mm Systems were previously called E13S, E13Sa, E13SS, and E13SP respectively. They now contain an "X" in the system number to clarify that panel hold downs are required.

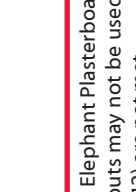


10mm Standard Plasterboard "S"						10mm Standard Plasterboard "S"					
Panel Hold Downs "X"						Panel Hold Downs "X"					
System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m
ES	0.4	80	75	EXS	0.4	95	85	EXSa	1.8	95	80
	0.9	85	75		1.2	100	85		0.4	115	120
	1.5	90	75						0.5	130	125
ESS	1.8	100	80	EXSS	0.6	145	135	EXSSc*	0.6	150	140
	2.4	105	85		0.9	150	140		0.9	150	150
					0.4	130	135		0.4	135	140
ESP	0.4	85	75	EXSP	0.5	130	135	EXSPc	0.5	145	145
	0.9	90	85		0.6	140	140		0.6	150	150
	1.2	95	90		0.9	150	150		0.9	Use EXSP	Use EXSP

Wall Type	Panel Hold Downs "X"
External or Internal walls. Plasterboard one side.	System Number
... and with Angle Brace. "a"	Min. Length (m)
Internal walls. Plasterboard both sides.	Wind BU's/m
External walls. Plasterboard one side, Plywood the other.	EQ BU's/m

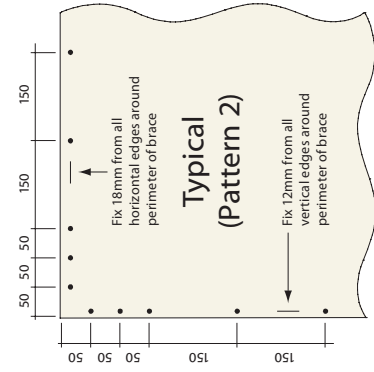
Bracing Corner Fixing Patterns.

Min. 30mm x 6g Drywall Screws or 30mm x 2.8mm Clouts#

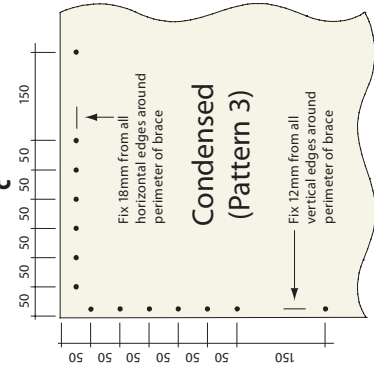


10mm Standard Plasterboard "S"						10mm Multiboard "M"					
Panel Hold Downs "X"						Panel Hold Downs "X"					
System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m
EXSc	0.4	100	90	EXMc	0.4	115	120	EXMcd	0.4 to <0.45	125	125
	0.6	115	100		0.5	135	125		0.4	150	145
	1.2	120	100		0.6	140	130		0.5	145	140
EXSca	1.5	125	100	EXSSc*	0.6	150	140	Use EXSSc	0.6	150	150
					0.9	150	150		0.9	Use EXSSc	Use EXSSc
					0.4	130	135		0.4	135	140
EXSPc	0.4	130	135	EXMPC	0.5	145	145	Use EXSPc	0.5	145	150
	0.5	145	145		0.6	150	150		0.6	Use EXSPc	Use EXSPc
	0.6	150	150		0.9	Use EXSP	Use EXSP		0.9	Use EXSP	Use EXSP

Typical Braced Corner Pattern#



Condensed Braced Corner Pattern#



* For Systems requiring plasterboard both sides, the Condensed Braced Corner Pattern is only required on **any** one side, with Typical Braced Corner Pattern on the other.

Light Blue	= Highest Wind performance at that wall length
Light Yellow	= Highest E/Q performance at that wall length

See Elephant Plasterboard Bracing Systems Manual April 2008 for conditions on using Clouts.
Clouts may not be used on Condensed Braced Corner Pattern if BOTH conditions 1 and 2 in Elephant Plasterboard Bracing Manual April 2008 (pg. 12) are not met.

NB: The Elephant QuickBrace® Numbering System and the sub components thereof are protected by copyright.



Elephant

Plasterboard

STRENGTH WITH STYLE

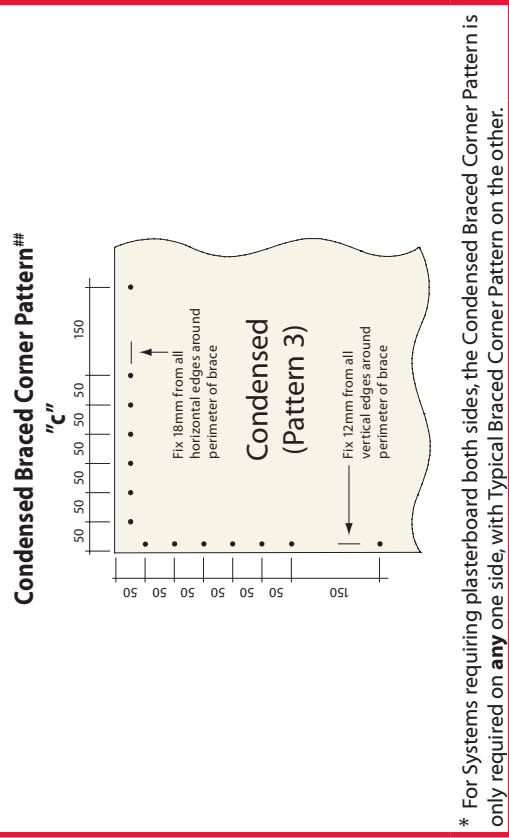
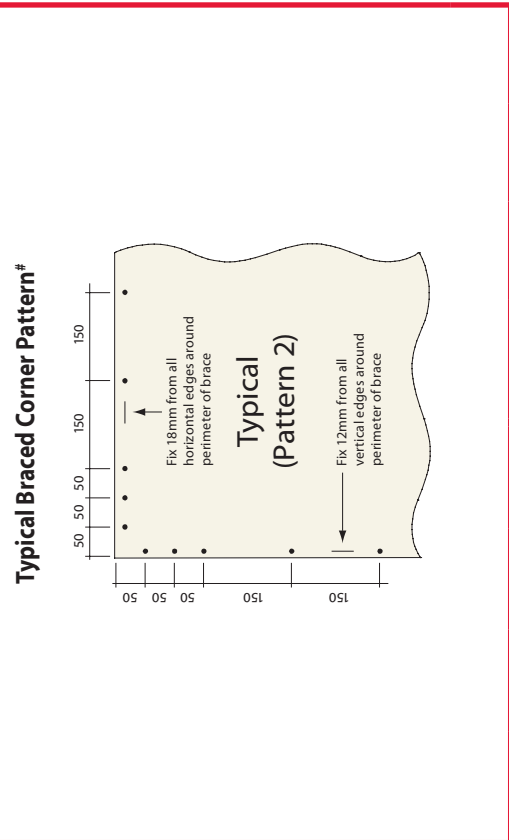


13mm Elephant Plasterboard QuickBrace® 2010 Systems BU/m Ratings

13mm Standard Plasterboard "S13"						13mm Standard Plasterboard "S13"					
Panel Hold Downs "X"						Panel Hold Downs "X"					
System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m
ES13	0.4	80	75	EXS13	0.4	100	90	EXS13c	0.4	Use EXS13	100
	0.9	85	75		0.6	115	100		0.5	135	135
	1.5	90	75		1.2	120	100		0.6	145	140
ES13a	1.8	95	80	EXS13a	1.8	110	95	EXS13c	0.9	125	100
	0.4	85	75		1.5	125	100		1.2	Use EXS13	140
	0.9	90	80		0.4	Use EXS13	130		0.5	145	140
ESS13	1.5	95	80	EXSS13	0.6	150	140	EXMS13c*	0.6	150	150
	1.8	100	80		0.9	150	145		0.9	150	150
	2.4	105	85		1.2	150	150		1.2	Use EXS13	150
ESP13	0.4	85	75	EXSP13	0.4	130	135	EXMP13c	0.4	135	140
	0.9	90	85		0.5	145	145		0.5	145	150
	1.2	95	90		0.6	150	150		0.6	Use EXSP13	150

13mm Standard Plasterboard "S13"						13mm Multiboard "M13"					
Panel Hold Downs "X"						Panel Hold Downs "X"					
System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m	System Number	Min. Length (m)	Wind BU's/m	EQ BU's/m
ES13	0.4	80	75	EXS13	0.4	100	90	EXM13c	0.4	125	130
	0.9	85	75		0.6	115	100		0.5	135	135
	1.5	90	75		1.2	120	100		0.6	145	140
ES13a	1.8	95	80	EXS13a	1.8	110	95	EXS13c	0.9	125	100
	0.4	85	75		1.5	125	100		1.2	Use EXS13	140
	0.9	90	80		0.4	Use EXS13	130		0.5	145	140
ESS13	1.5	95	80	EXSS13	0.6	150	140	EXMS13c*	0.6	150	150
	1.8	100	80		0.9	150	145		0.9	150	150
	2.4	105	85		1.2	150	150		1.2	Use EXS13	150
ESP13	0.4	85	75	EXSP13	0.4	130	135	EXMP13c	0.4	135	140
	0.9	90	85		0.5	145	145		0.5	145	150
	1.2	95	90		0.6	150	150		0.6	Use EXSP13	150

Wall Type	
External or Internal walls. Plasterboard one side. ... and with Angle Brace. "a"	
Internal walls. Plasterboard both sides.	
External walls. Plasterboard one side, Plywood the other.	
Bracing Corner Fixing Patterns. Min. 30mm x 6g Drywall Screws or 30mm x 2.8mm Clouts#	



* For Systems requiring plasterboard both sides, the Condensed Braced Corner Pattern is only required on **any** one side, with Typical Braced Corner Pattern on the other.

See Elephant Plasterboard Bracing Systems Manual April 2008 for conditions on using Clouts.
 # Clouts may not be used on Condensed Braced Corner Pattern if **BOTH** conditions 1 and 2 in Elephant Plasterboard Bracing Manual April 2008 (pg. 12) are not met.
 NB: The Elephant QuickBrace® Numbering System and the sub components thereof are protected by copyright.

■ = Highest Wind performance at that wall length
 ■ = Highest EQ performance at that wall length



The Elephant QuickBrace Numbering System...

EASY!

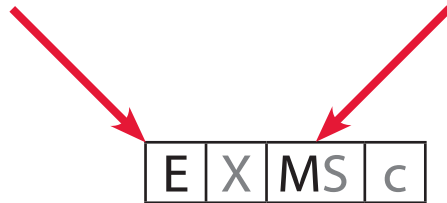
'E' = Elephant Plasterboard Systems.

Identifies the type of board, and if the System is single or double sided.

For example:

M = Multiboard one side.

MS = Multiboard one side, Standard Plasterboard on the other.



'X' = Denotes that the system requires Panel Hold Downs.
Optional

'c' = Denotes that the system requires the Condensed Braced Corner Fixing pattern.
Optional

The Elephant QuickBrace System...

SMART!

NB: The Elephant Quickbrace Numbering System and the sub components thereof are protected by copyright.