

EPODURE PY100

Polyester Anchor Adhesive

DESCRIPTION

EPODURE PY100 is a two-component polyester chemical anchor resin. It is a rapid curing high strength resin suitable for medium load applications. It is supplied in a co-axial cartridge for ease of application.

USES

EPODURE PY100 is designed to be used as a chemical anchor fixing for holding down bolts reinforcement bars, wall ties, helical reinforcement bars and other general anchoring applications. It's rapid curing characteristics, make it particularly suitable for situations where a load must be applied quickly. It is suitable for application to concrete, masonry and hollow walls. It is also suitable for use as a rapid setting filler for gaps and crack repairs.

ADVANTAGES

- High compressive and flexural strength
- Very good flow properties
- Resistant to heavy dynamic loading
- Excellent weathering resistance
- Very good chemical resistance
- Minimum creep
- No primer needed.

Property	Value
Tensile Strength	40 MPa
Compressive Strength	7.2 MPa
Flexural Strength	13.9 MPa
Flexural Modulus	2560
E Modulus	4345
VOC Content	A+ Rating

PROCEDURE

Surface Preparation: The hole should be drilled to the appropriate depth using a suitable sized drill bit. The hole must be free from all dust, debris and other deleterious material. An air pump should be used by inserting to the full depth of the hole before pumping at least 4 times, use an extension nozzle if required. The hole should then be brushed using a suitable pour hole brush, this bit should be carried out in a twisting motion, before removing and re-inserting 4 times. The hole should then be blown out again using the air pump at least 4 times.

Application: The nozzle of the cartridge should be inserted onto the tube. The cartridge should be inserted into the appropriate gun before extruding a minimum of 12ml of mixed material. This should be discarded before pumping the resin into the hole. It is important to ensure that the process is carried out before applying resin from a new tube. EPODURE PY100 should be injected to the back of the hole slowly withdrawing the nozzle as the hole fills. The threaded rod or reinforcement bar should be inserted into the hole, twisting slowly as it is inserted, to ensure maximum bond to the steel. It is important to leave the grouted component undisturbed until sufficiently cured.

Temperature	Working Time	Cure Time in Dry Concrete	Cure Time in Wet Concrete
-10°C	50 mins	240 mins	480 mins
-5°C	40 mins	180 mins	360 mins
5°C	20 mins	90 mins	180 mins
15°C	9 mins	60 mins	120 mins
25°C	5 mins	30 mins	60 mins
35°C	3 mins	20 mins	40 mins

PACKAGING & COVERAGE

Pack Size: EPODURE PY100 is supplied in 410 ml cartridges, there are 12 cartridges per box.

STORAGE & SHELF LIFE

EPODURE PY100 should be stored in unopened containers at temperatures between 60C and 300C, when stored in unopened containers it will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet

LOADS, EDGE AND SPACINGS BASED ON CHARACTERISTIC BOND STRENGTHS - SHOWING STEEL FAILURE

Size (mm)	Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)		Characteristic distances (mm)			Min Edge and Spacing (mm)	Nominal Embedment (mm)	Hole Diameter concrete (mm)	Hole Diameter fixture (mm)	Max Torque (Nm)
	Tension N_{rk}	Shear V_{rk}	Tension N_{rd}	Shear V_{rd}	Tension N_{rec}	Shear V_{rec}	Edge $C_{cr,N}$	Spacing $S_{cr,N}$	Edge $C_{cr,V}$					
8	14,85		6,87		4,91						60			
	19,00	9,00	9,17	7,20	6,55	5,14	80	160	80	40	80	10	9	10
	19,00		12,70		9,07						160			
10	16,57		7,67		5,48						60			
	24,85	15,00	11,50	12,00	8,22	8,57	100	200	90	50	90	12	12	20
	30,20		20,10		14,36						200			
12	21,82		10,10		7,22						70			
	34,29	21,00	15,88	16,80	11,34	12,00	120	240	110	60	110	14	14	40
	43,80		29,20		20,86						240			
16	31,54		14,60		10,43						80			
	49,28	39,00	22,81	31,20	16,30	22,29	160	320	125	80	125	18	18	80
	81,60		54,40		38,86						320			
20	41,20		19,07		13,62						90			
	77,82	61,00	36,03	48,80	25,73	34,86	200	400	180	100	170	24	22	120
	127,40		84,90		60,64						400			
24	46,31		21,44		15,31						100			
	97,26	88,00	45,03	70,40	32,16	50,29	225	450	220	120	210	28	26	160
	183,60		122,40		87,43						480			
30	57,70		26,71		19,08						120			
	134,66	142,50	62,34	114,00	44,53	81,43	260	520	280	150	280	35	32	200
	292,00		194,50		138,93						600			

= steel failure Partial safety factor = 1.5

DESIGN RESISTANCE USED WITH VARIOUS STUD STRENGTHS, MATERIAL AND REBAR.

5.8 Grade Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	steel failure																			h _{ef} failure (mm)	F _{d,s} design load (kN)	
		Embedment Depth h _{ef}																					
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		
8	10	6,9	8,1	9,2	10,4	11,5	12,7															110	12,7
10	12	7,7	9,0	10,3	11,6	12,9	14,2	15,5	16,7	18,0	20,1											156	20,1
12	14		10,8	12,4	13,9	15,5	17,0	18,6	20,1	21,6	24,7	29,2										189	29,2
16	18			15,5	17,4	19,4	21,3	23,2	25,2	27,1	31,0	38,7	46,5	54,2	54,4							281	54,4
20	24			17,1	19,2	21,4	23,5	25,6	27,8	29,9	34,2	42,7	51,3	59,8	68,4	84,9						398	84,9
24	28					21,5	23,6	25,8	27,9	30,1	34,4	43,0	51,6	60,2	68,8	86,0	103,2					569	122,4
27	32						25,2	27,5	29,8	32,1	36,6	45,8	55,0	64,1	73,3	91,6	109,9	123,7				695	159,1
30	35							27,1	29,4	31,7	36,2	45,2	54,3	63,3	72,4	90,5	108,6	122,2	135,7			860	194,5
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		

8.8 Grade Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	Embedment Depth h _{ef}																				h _{ef} failure (mm)	F _{d,s} design load (kN)
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		
8	10	6,9	8,1	9,2	10,4	11,5	12,7	13,8	15,0	16,1	18,4	19,5										170	19,5
10	12	7,7	9,0	10,3	11,6	12,9	14,2	15,5	16,7	18,0	20,6	25,8										240	30,9
12	14		10,8	12,4	13,9	15,5	17,0	18,6	20,1	21,6	24,7	30,9	37,1									291	45,0
16	18			15,5	17,4	19,4	21,3	23,2	25,2	27,1	31,0	38,7	46,5	54,2	61,9							433	83,7
20	24			17,1	19,2	21,4	23,5	25,6	27,8	29,9	34,2	42,7	51,3	59,8	68,4	85,5						612	130,7
24	28					21,5	23,6	25,8	27,9	30,1	34,4	43,0	51,6	60,2	68,8	86,0	103,2					876	188,3
27	32						25,2	27,5	29,8	32,1	36,6	45,8	55,0	64,1	73,3	91,6	109,9	123,7				1069	244,8
30	35							27,1	29,4	31,7	36,2	45,2	54,3	63,3	72,4	90,5	108,6	122,2	135,7			1323	299,2
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		

10.9 Grade Steel Studding

Stud Diameter Diameter (mm)	Hole Diameter (mm)	Embedment Depth h _{ef}																				h _{ef} failure (mm)	F _{d,s} design load (kN)
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		
8	10	6,9	8,1	9,2	10,4	11,5	12,7	13,8	15,0	16,1	18,4											236	27,2
10	12	7,7	9,0	10,3	11,6	12,9	14,2	15,5	16,7	18,0	20,6	25,8										334	43,1
12	14		10,8	12,4	13,9	15,5	17,0	18,6	20,1	21,6	24,7	30,9	37,1									405	62,6
16	18			15,5	17,4	19,4	21,3	23,2	25,2	27,1	31,0	38,7	46,5	54,2	61,9							603	116,6
20	24			17,1	19,2	21,4	23,5	25,6	27,8	29,9	34,2	42,7	51,3	59,8	68,4	85,5						852	182,0
24	28				21,5	23,6	25,8	27,9	30,1	34,4	43,0	51,6	60,2	68,8	86,0	103,2						1220	262,2
27	32					25,2	27,5	29,8	32,1	36,6	45,8	55,0	64,1	73,3	91,6	109,9	123,7					1489	341,0
30	35						27,1	29,4	31,7	36,2	45,2	54,3	63,3	72,4	90,5	108,6	122,2	135,7				1842	416,7
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		

A4-70 Stainless Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	Embedment Depth h_{ef}																				h_{ef} failure (mm)	$F_{d,s}$ design load (kN)
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		
8	10	6,9	8,1	9,2	10,4	11,5	12,7	13,7														119	13,7
10	12	7,7	9,0	10,3	11,6	12,9	14,2	15,5	16,7	18,0	20,6	21,7										169	21,7
12	14		10,8	12,4	13,9	15,5	17,0	18,6	20,1	21,6	24,7	30,9	31,6									204	31,6
16	18			15,5	17,4	19,4	21,3	23,2	25,2	27,1	31,0	38,7	46,5	54,2	58,8							304	58,8
20	24			17,1	19,2	21,4	23,5	25,6	27,8	29,9	34,2	42,7	51,3	59,8	68,4	85,5						429	91,7
24	28				21,5	23,6	25,8	27,9	30,1	34,4	43,0	51,6	60,2	68,8	86,0	103,2						615	132,1
27	32					25,2	27,5	29,8	32,1	36,6	45,8	55,0	64,1	73,3	80,2						1	350	80,2
30	35						27,1	29,4	31,7	36,2	45,2	54,3	63,3	72,4	90,5	98,1					1	434	98,1
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		

A4-80 Stainless Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	Embedment Depth hef																				hef failure (mm)	F _{d,s} design load (kN)
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		
8	10	6,9	8,1	9,2	10,4	11,5	12,7	13,8	15,0	15,7												136	15,7
10	12		9,0	10,3	11,6	12,9	14,2	15,5	16,7	18,0	20,6	24,8										193	24,8
12	14		10,8	12,4	13,9	15,5	17,0	18,6	20,1	21,6	24,7	30,9	36,1									233	36,1
16	18			15,5	17,4	19,4	21,3	23,2	25,2	27,1	31,0	38,7	46,5	54,2	61,9							347	67,2
20	24				17,1	19,2	21,4	23,5	25,6	27,8	29,9	34,2	42,7	51,3	59,8	68,4	85,5					491	104,8
24	28					21,5	23,6	25,8	27,9	30,1	34,4	43,0	51,6	60,2	68,8	86,0	103,2					615	132,1
27	32						25,2	27,5	29,8	32,1	36,6	45,8	55,0	64,1	73,3	80,2					2	350	80,2
30	35							27,1	29,4	31,7	36,2	45,2	54,3	63,3	72,4	90,5	98,1				2	434	98,1
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	480	540	600	660	720		

High bond reinforcing bars Fyk=500N/mm2

Rebar Diameter (mm)	Hole Diameter (mm)	Embedment Depth hef																				hef failure (mm)	F _{d,s} yield load (kN)
		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	500	560	640	720	800		
8	12	6,1	7,1	8,1	9,1	10,1	11,1	12,2	13,2	14,2	16,2											216	21,9
10	14	7,3	8,5	9,7	10,9	12,1	13,3	14,6	15,8	17,0	19,4	24,3										281	34,1
12	16		9,1	10,4	11,7	13,0	14,3	15,6	16,9	18,2	20,8	25,9	31,1									379	49,2
16	20			12,7	14,3	15,9	17,5	19,1	20,7	22,3	25,5	31,9	38,2	44,6	51,0							549	87,4
20	25				13,6	15,3	17,0	18,7	20,4	22,1	23,8	27,1	33,9	40,7	47,5	54,3	67,9					805	136,6
25	30					17,8	19,5	21,3	23,1	24,9	28,4	35,5	42,6	49,7	56,8	71,0	88,8					1107	196,5
28	35						20,6	22,5	24,4	26,2	30,0	37,5	45,0	52,5	60,0	75,0	93,7	104,9				1429	267,8
32	40								25,5	27,4	31,4	39,2	47,1	54,9	62,7	78,4	98,0	109,8	125,5			1783	349,7
Depth (mm)		60	70	80	90	100	110	120	130	140	160	200	240	280	320	400	500	560	640	720	800		

CHARACTERISTIC AND DESIGN RESISTANCES BASED ON CHARACTERISTIC BOND STRENGTHS FOR HEF 4D (MINIMUM EMBEDMENT) TO 20D

	Non Cracked Concrete						Cracked Concrete						Nominal Embed-ment
	Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)		Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)		
Size (mm)	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	
	N _{rk}	V _{rk}	N _{rd}	V _{rd}	N _{rec}	V _{rec}	N _{rk}	V _{rk}	N _{rd}	V _{rd}	N _{rec}	V _{rec}	
8	14,85	9,00	6,87	7,20	4,91	5,14	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	19,80		9,17		6,55								60
	39,60		18,33		13,10								80
10	16,57	15,00	7,67	12,00	5,48	8,57	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	24,85		11,50		8,22								160
	55,22		25,56		18,26								90
12	21,82	21,00	10,10	16,80	7,22	12,00	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	34,29		15,88		11,34								200
	74,82		34,64		24,74								70
16	31,54	39,00	14,60	31,20	10,43	22,29	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	49,28		22,81		16,30								110
	126,17		58,41		41,72								240
20	41,20	61,00	19,07	48,80	13,62	34,86	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	77,82		36,03		25,73								80
	183,10		84,77		60,55								125
24	46,31	88,00	21,44	70,40	15,31	50,29	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	97,26		45,03		32,16								90
	222,30		102,92		73,51								170
30	57,70	142,50	26,71	114,00	19,08	81,43	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	134,66		62,34		44,53								100
	288,56		133,59		95,42								210

BOND STRENGTH FACTORS

Influence of concrete strength on combined pull out and concrete cone resistance

Concrete Strength N/mm ²	C15/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
Non-Cracked f_c =	0,97	1,00	1,02	1,04	1,07	1,10	1,12	1,15

Influence of environmental conditions in non-cracked concrete

		M8	M10	M12	M16	M20	M24	M30
Temp I 40°C / 24°C	Dry and Wet	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Temp II 80°C / 50°C	Dry and Wet	0,90	0,88	0,87	0,86	0,85	0,84	0,82

CHARACTERISTIC AND DESIGN LOAD RESISTANCES FOR REBAR BASED ON CHARACTERISTIC BOND STRENGTHS FOR HEF 4D (MIN EMBEDMENT) TO 20D

Rebar Ø	Non Cracked Concrete						Cracked Concrete						Nominal Embedment (mm)																		
	Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)		Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)																				
	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear																			
	N _{rk}	V _{rk}	N _{rd}	V _{rd}	N _{rec}	V _{rec}			N _{rd}	V _{rd}	N _{rec}	V _{rec}																			
8	12,87	13,95	6,13	9,30	4,38	6,64	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	60																		
	17,16		8,17		5,84								80																		
	34,33		16,35		11,68								160																		
10	15,40	21,45	7,33	14,30	5,24	10,21							Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	60												
	23,10		11,00		7,86														90												
	51,38		24,47		17,48														200												
12	19,20	31,05	9,14	20,70	6,53	14,79													Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	70						
	30,18		14,37		10,27																				110						
	65,86		31,36		22,40																				240						
16	26,98	55,50	12,85	37,00	9,18	26,43																			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	80
	42,15		20,07		14,34																										125
	107,90		51,38		36,70																										320
20	31,20	86,55	14,86	57,70	10,61	41,21	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable																			90
	58,93		28,06		20,04																										170
	138,68		66,04		47,17																										400
25	37,56	135,00	17,89	90,00	12,78	64,29							Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable													100
	78,87		37,56		26,83																										210
	187,78		89,42		63,87																										500
28	44,82	168,75	21,34	112,50	15,24	80,36													Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable							112
	112,06		53,36		38,12																										280
	224,11		106,72		76,23																										560
32	52,32	220,95	24,91	147,30	17,80	105,22																			Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	128
	130,79		62,28		44,49																										320
	261,58		124,56		88,97																										640

BOND STRENGTH FACTORS – REBAR

Influence of concrete strength on combined pull out and concrete cone resistance

Concrete Strength N/mm ² (MPa)	C15/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
non cracked f _c =	0,97	1,00	1,02	1,04	1,07	1,10	1,12	1,15

Influence of environmental conditions in non-cracked concrete

		Ø 8	Ø 10	Ø 12	Ø 16	Ø 20	Ø 25	Ø 28	Ø 32
Temp I 40°C / 24°C	Dry and Wet	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Temp II 80°C / 50°C	Dry and Wet	0,90	0,90	0,88	0,88	0,86	0,86	0,84	0,84

MATERIAL PROPERTIES FOR GRADES OF THREADED ROD

	Stud Grade 8.8		Stud Grade 10.9		Stud Grade A4-70		Stud Grade A4-80	
Stud Diameter (mm)	$N_{rk, s}$	$N_{rd, s}$	$N_{rk, s}$	$N_{rd, s}$	$N_{rk, s}$	$N_{rd, s}$	$N_{rk, s}$	$N_{rd, s}$
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
M8	29,2	19,5	38,1	27,2	25,6	13,7	29,2	15,6
M10	46,4	30,9	60,3	43,1	40,6	21,7	46,4	24,8
M12	67,4	44,9	87,7	62,6	59,0	31,6	67,4	36,0
M16	125,6	83,7	163,0	116,4	109,9	58,8	125,7	67,2
M20	196,1	130,7	255,0	182,1	171,5	91,7	196,0	104,8
M24	282,5	188,3	367,0	262,1	247,1	132,1	293,0	132,1
M30	448,8	299,2	583,0	416,4	280,5	150,0	392,7	210,0

	Stud Grade 8.8		Stud Grade 10.9		Stud Grade A4-70		Stud Grade A4-80	
Stud Diameter (mm)	$V_{rk, s}$	$V_{rd, s}$	$V_{rk, s}$	$V_{rd, s}$	$V_{rk, s}$	$V_{rd, s}$	$V_{rk, s}$	$V_{rd, s}$
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
M8	14,6	11,7	19,0	15,2	12,8	8,2	14,6	9,4
M10	23,2	18,6	30,2	24,1	20,3	13,0	23,2	14,9
M12	33,7	27,0	43,8	35,1	29,5	18,9	33,7	21,6
M16	62,8	50,2	81,6	65,3	55,0	35,2	62,8	40,3
M20	98,0	78,4	127,4	101,9	85,8	55,0	98,0	62,8
M24	141,2	113,0	183,6	146,8	123,6	79,2	141,2	90,5
M30	224,4	179,5	291,5	215,9	140,3	89,9	196,4	125,9

	Rebar BSt 500 to DIN 488		Rebar BSt 500 to DIN 488	
Rebar Diameter (mm)	$N_{rk, s}$	$N_{rd, s}$	$V_{rk, s}$	$V_{rd, s}$
	(kN)	(kN)	(kN)	(kN)
8	28,0	20,0	14,0	9,3
10	43,0	30,7	21,5	14,3
12	62,0	44,3	31,0	20,7
14	85,0	60,7	42,5	28,3
16	111,0	79,3	55,5	37,0
20	173,0	123,6	86,5	57,7
25	270,0	192,9	135,0	90,0
32	442	315,7	221	147,3

EFFECT OF ANCHOR SPACING – TENSION

Anchor Spacing	Stud / Rebar Diameter						
(mm)	8	10	12	16	20	24	30
40	0,64						
50	0,67	0,63					
60	0,70	0,65	0,63				
70	0,73	0,67	0,64				
80	0,76	0,69	0,66	0,63			
90	0,79	0,72	0,68	0,64			
100	0,82	0,74	0,70	0,65	0,63		
120	0,87	0,79	0,74	0,68	0,65	0,63	
150	0,96	0,86	0,80	0,73	0,68	0,65	0,63
160	1,00	0,88	0,82	0,74	0,70	0,66	0,64
175		0,92	0,85	0,76	0,71	0,68	0,65
200		1,00	0,90	0,80	0,74	0,71	0,68
225			0,95	0,84	0,77	0,74	0,70
240			1,00	0,86	0,79	0,76	0,72
250				0,87	0,80	0,77	0,73
275				0,91	0,83	0,80	0,75
280				0,92	0,84	0,80	0,76
300				0,95	0,86	0,82	0,78
320				1,00	0,88	0,85	0,80
350					0,92	0,88	0,83
400					1,00	0,94	0,88
425						0,97	0,90
450						1,00	0,93
480							0,96
520							1,00

EFFECT OF EDGE DISTANCE – TENSION

Edge Distance	Stud / Rebar Diameter						
(mm)	8	10	12	16	20	24	30
40	0,64						
50	0,73	0,63					
60	0,82	0,70	0,63				
70	0,90	0,77	0,68				
80	1,00	0,84	0,74	0,63			
90		0,91	0,80	0,67			
100		1,00	0,86	0,71	0,63		
110			0,92	0,76	0,66		
120			1,00	0,80	0,70	0,64	
140				0,89	0,77	0,68	0,63
160				1,00	0,84	0,76	0,66
180					0,91	0,84	0,72
200					1,00	0,92	0,78
225						1,00	0,86
250							0,94
260							1,00

EFFECT OF EDGE DISTANCE – SHEAR

Edge Distance	Stud / Rebar Diameter						
(mm)	8	10	12	16	20	24	30
40	0,25						
50	0,44	0,30					
60	0,63	0,48	0,30				
70	0,81	0,65	0,44				
80	1,00	0,83	0,58	0,40			
90		1,00	0,72	0,53			
100			0,86	0,67	0,35		
110			1,00	0,80	0,44		
125				1,00	0,58	0,35	
140					0,72	0,45	0,30
160					0,91	0,58	0,36
180					1,00	0,71	0,47
200						0,84	0,59
225						1,00	0,74
250							0,88
280							1,00