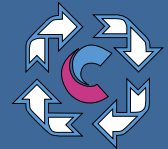


# Epoxy Acrylate Tropical Styrene Free Resin



## Product Description

Chemfix Tropical Styrene Free Low Odour Resin is a high performance, slower curing two part chemical anchoring system. Applied in one single action this resin will produce a, strong, chemical resistant fixing which can be used at temperatures of up to 45°C.

## Key Features

- For use in Hot & Tropical Climates.
- Good Chemical Resistance.
- Medium & Heavy Duty Load Applications.
- High Durability.
- Suitable as well for Indoor Usage.
- Based on Epoxy Acrylate resin.

## Approvals



INSTYTUT TECHNIKI  
BUDOWLANEJ  
Aprobacje Technicznej  
ITB nr AT-15-6835:2011  
ITB-974/W

Tested by:  
**Imperial College  
London**  
Consultants

## Available Sizes

380ml / 400ml / 410ml 10:1 Co-axial Cartridge  
825ml 10:1 Side by Side Cartridge  
330ml / 345ml / 350ml 10:1 Side by Side Cartridge  
150ml / 165ml / 280ml / 300ml 10:1 Foil Bag  
380ml / 400ml / 410ml 10:1 Foil Bag

**IMPORTANT NOTE:** Performance based on clean holes; HAMMER DRILLED - blown and then brushed with a stiff metal brush & blown again.

## Typical Gel and Curing Time\*

BASE MATERIAL TEMPERATURE (°C)	45	35	25	15	5
TYPICAL GEL TIME (mins)	5	8	12	15	20
MIN. LOAD TIME (mins)	10	15	15	20	50

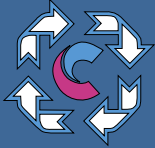
\*Figures are based on M12 fixings. Full cure is achieved after 24 hours. All specifications are based on the use of a Chemfix Mixer 14.

## Typical Performance Data at Standard Embedment Depth

Size	Concrete, $f_{ck, cube} = 25\text{N/mm}^2$ (C20/25)									SETTING DATA IN SOLID SUBSTRATE			
	Characteristic Resistance (kN)		Design Resistance (kN)		Recommended Load (kN)		Characteristic Edge Distance (mm)		Characteristic Spacing	Hole Diameter In Concrete	Hole Diameter In Fixture	Standard Embedment In Concrete	Recommended Torque
	Tension ( $N_{rk}$ )	Shear ( $V_{rk}$ )	Tension ( $N_{rd}$ )	Shear ( $V_{rd}$ )	Tension ( $N_{rec}$ )	Shear ( $V_{rec}$ )	Tension ( $C_{cr,N}$ )	Shear ( $C_{cr,V}$ )	(mm)	(mm)	(mm)	(Nm)	
M8	19.0	9.5	12.7	7.6	9.1	5.4	80	100	160	10	9	80	11
M10	30.2	15.1	16.0	12.1	11.4	8.6	90	130	180	12	11	90	22
M12	43.8	21.9	20.3	17.5	14.5	12.5	110	150	220	14	13	110	38
M16	61.4	40.8	28.4	32.7	20.3	23.3	125	170	250	18	17	125	95
M20	97.6	63.7	38.9	51.0	27.8	36.4	170	190	340	24	22	170	170
M24	127.1	91.8	50.4	73.4	36.0	52.4	210	240	420	28	26	210	260
M30	179.7	20.7.1	71.3	166.1	50.9	118.6	280	350	560	35	33	280	480

## Typical Ultimate Physical Properties

	N/mm <sup>2</sup>	TEST METHOD	STORAGE / SHELF LIFE	IMPORTANT
COMPRESSIVE STRENGTH	62.70	(EN ISO 604) / (ASTM 695)	This product should be stored between +5°C & +25°C.  The Shelf life of the product is 12 months from the manufacture date.	The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as Chemfix Products cannot know the varied uses to which its products may be applied, or the methods of application used, no warranty as to the fitness or suitability of its products is given or implied. It is the users responsibility to determine suitability of use. For further information please contact our Technical Department.
FLEXURAL STRENGTH	23.88	(EN ISO 178) / (ASTM 795)		
FLEXURAL MODULUS	3250.33	"		
TENSILE STRENGTH	12.85	(EN ISO 527) / (ASTM 638)		
E MODULUS	6860.33	"		



# Epoxy Acrylate Tropical Styrene Free Resin

## Performance Data for Various Stud Strengths, Material and Rebar

Concrete Strength Class: C20/25 (25N/mm<sup>2</sup> Cylinder; 30N/mm<sup>2</sup> 150mm cube).

**IMPORTANT NOTE:**

Performance based on clean holes;

HAMMER DRILLED - Blown and then brushed with a stiff metal brush & blown again.

### 5.8 Grade Studding

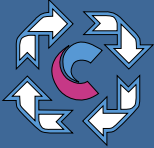
Stud Diameter (mm)	Hole Diameter (mm)	Design Resistance (N <sub>rd</sub> ) (kN)																		Fd,s					
																				hef failure (mm)	design load (kN)				
8	10	12.7																		78	12.7				
10	12		16.0	17.8	19.6	20.1														=	Steel Failure	113	20.1		
12	14				20.3	22.1	24.0	25.8	27.7	29.2												159	29.2		
16	18					27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0	49.5	54.1	54.4						242	54.4	
Depth (mm)		80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	350					
20	24	38.9	41.2	43.5	45.7	50.3	54.9	59.5	64.0	68.6	80.1	84.9											371	84.9	
24	28				48.0	52.8	57.6	62.4	67.2	72.1	84.1	96.1	108.1	120.1	122.4									510	122.4
30	40								71.3	76.4	89.1	101.8	114.5	127.3	140.0	152.7	178.2	203.6	229.1	254.5				1096	278.9
Depth (mm)		170	180	190	200	220	240	260	280	300	350	400	450	500	550	600	700	800	900	1000					

### 8.8 Grade Studding

Stud Diameter (mm)	Hole Diameter (mm)	Design Resistance (N <sub>rd</sub> ) (kN)																		Fd,s						
																				hef failure (mm)	design load (kN)					
8	10	13.0	14.6	16.2	17.8	19.5														121	19.5					
10	12		16.0	17.8	19.6	21.3	23.1	24.9	26.7	28.5	30.2	30.9									=	Steel Failure	174	30.9		
12	14				20.3	22.1	24.0	25.8	27.7	29.5	31.3	33.2	35.0	36.9	40.6	44.2	45.0						244	45.0		
16	18					27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0	49.5	54.1	58.6	63.1	67.6	78.8				372	83.7	
Depth (mm)		80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	350						
20	24	38.9	41.2	43.5	45.7	50.3	54.9	59.5	64.0	68.6	80.1	91.5	102.9	114.4	125.8	130.7							571	130.7		
24	28				48.0	52.8	57.6	62.4	67.2	72.1	84.1	96.1	108.1	120.1	132.1	144.1	168.1	188.3							784	188.3
30	40								71.3	76.4	89.1	101.8	114.5	127.3	140.0	152.7	178.2	203.6	229.1	254.5				1096	278.9	
Depth (mm)		170	180	190	200	220	240	260	280	300	350	400	450	500	550	600	700	800	900	1000						

### 10.9 Grade Studding

Stud Diameter (mm)	Hole Diameter (mm)	Design Resistance (N <sub>rd</sub> ) (kN)																		Fd,s						
																				hef failure (mm)	design load (kN)					
8	10	13.0	14.6	16.2	17.8	19.4	21.0	22.7	24.3	25.9	27.2									=	Steel Failure	168	27.2			
10	12		16.0	17.8	19.6	21.3	23.1	24.9	26.7	28.5	30.2	32.0	33.8	35.6	39.1	43.1							242	43.1		
12	14				20.3	22.1	24.0	25.8	27.7	29.5	31.3	33.2	35.0	36.9	40.6	44.2	47.9	51.6	55.3	62.6				340	62.6	
16	18					27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0	49.5	54.1	58.6	63.1	67.6	78.8				518	116.6	
Depth (mm)		80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	350						
20	24	38.9	41.2	43.5	45.7	50.3	54.9	59.5	64.0	68.6	80.1	91.5	102.9	114.4	125.8	137.2	160.1	182.0							796	182.0
24	28				48.0	52.8	57.6	62.4	67.2	72.1	84.1	96.1	108.1	120.1	132.1	144.1	168.1	192.1	216.2	240.2				1092	262.2	
30	40								71.3	76.4	89.1	101.8	114.5	127.3	140.0	152.7	178.2	203.6	229.1	254.5				1527	388.5	
Depth (mm)		170	180	190	200	220	240	260	280	300	350	400	450	500	550	600	700	800	900	1000						



# Epoxy Acrylate Tropical Styrene Free Resin

### A4-70 Stainless Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	Design Resistance ( $N_{rd}$ )																		Fd,s			
		(kN)																		hef failure (mm)	design load (kN)		
8	10	13.0	13.7																		85	13.7	
10	12		16.0	17.8	19.6	21.3	21.7													= Steel Failure	122	21.7	
12	14				20.3	22.1	24.0	25.8	27.7	29.5	31.3	31.6									171	31.6	
16	18					27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0	49.5	54.1	58.8				261	58.8	
Depth (mm)		80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	350			
20	24	38.9	41.2	43.5	45.7	50.3	54.9	59.5	64.0	68.6	80.1	91.7									401	91.7	
24	28				48.0	52.8	57.6	62.4	67.2	72.1	84.1	96.1	108.1	120.1	132.1							550	132.1
30	40								71.3	76.4	89.1	101.8	114.5	127.3	139.8							549	139.8
Depth (mm)		170	180	190	200	220	240	260	280	300	350	400	450	500	550	600	700	800	900	1000			

### A4-80 Stainless Steel Studding

Stud Diameter (mm)	Hole Diameter (mm)	Design Resistance ( $N_{rd}$ )																		Fd,s		
		(kN)																		hef failure (mm)	design load (kN)	
8	10	13.0	14.6	15.7																	97	15.7
10	12		16.0	17.8	19.6	21.3	23.1	24.8												= Steel Failure	140	24.8
12	14				20.3	22.1	24.0	24.8	27.7	29.5	31.3	33.2	35.0	36.1							196	36.1
16	18					27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0	49.5	54.1	58.6	63.1	67.2		298	67.2
Depth (mm)		80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	350		
20	24	38.9	41.2	43.5	45.7	50.3	54.9	59.5	64.0	68.5	80.1	91.5	102.9	104.8							458	104.8
24	28				48.0	52.8	57.6	62.4	67.2	72.1	84.1	96.1	108.1	120.1	132.1	144.1	151.0				629	151.0
30	40								71.3	76.4	89.1	101.8	114.5	127.3	140.0	152.7	187.2	203.6	223.7		879	223.7
Depth (mm)		170	180	190	200	220	240	260	280	300	350	400	450	500	550	600	700	800	900	1000		

### High Bond Reinforcing Bars $f_{yk}=500N/mm^2$

Rebar Diameter (mm)	Hole Diameter (mm)	Design Resistance ( $N_{rd}$ )																		Fd,s		
		(kN)																		hef failure (mm)	design load (kN)	
8	10-12	13.0	16.2	19.4	21.9																135	21.9
10	12-14		17.8	21.4	24.9	28.5	32.1	34.1												= Steel Failure	192	34.1
12	16-18			22.2	25.9	29.6	33.3	36.9	40.6	44.3	48.0	49.2									266	49.2
14	18-20				28.9	33.1	37.2	41.3	45.5	49.6	53.8	57.9	62.0	66.2	66.9						324	66.9
16	20-22					36.0	40.5	45.0	49.5	54.1	58.6	63.1	67.6	72.1	76.6	81.1	85.6	87.4			388	87.4
Depth (mm)		80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	450	500		
20	28	45.7	51.5	57.2	62.9	68.6	80.1	91.5	102.9	114.4	125.8	136.6									597	136.6
25	32			62.5	68.8	75.1	87.6	100.1	112.6	125.1	137.6	150.1	175.1	200.1	213.4						853	213.4
32	40					81.4	95.0	108.6	122.2	135.7	149.3	162.9	190.0	217.2	244.3	271.5	298.6	325.8	349.7		1288	349.7
40	50							123.2	138.6	154.0	169.4	184.7	215.5	246.3	277.1	307.9	338.7	369.5	400.3	431.1	1774	546.3
Depth (mm)		200	225	250	275	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1400		

