





# CONCRETE LIFTING SYSTEMS

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# INTRODUCTION

## UNICON UNILIFT CONCRETE LIFTING SYSTEMS FOR THE PRECAST INDUSTRY

Unilift is the ideal lifting and handling system for a wide variety of precast concrete products, particularly in civil engineering applications.

- Standardised load range groups of 1.3, 2.5, 5, 10, 20 and 32 tonnes Working Load Limit.
- Fast, efficient handling of products in the factory, during transport and on the job-site.
- Components of different load groups are not interchangeable for maximum safety.



**Ancon**<sup>®</sup>  
BUILDING PRODUCTS



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CONCRETE LIFTING  
SYSTEMS



**COOKES** – helping lift New Zealand business for over 100 years!  
a BRIDON · BEKAERT Popes Group Brand

# CONCRETE LIFTING SYSTEMS

## LIFTING CLUTCHES

### LOCKING KLAWNS

**Safer, faster, lighter, stronger clutches for all spherical head lifting anchors.**

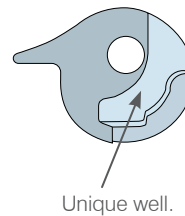
These clutches are used for lifting a wide range of precast concrete products for building and civil engineering including panels, pipes, pits, manholes, box culverts, road barriers, bridge beams, planks, sound walls, culverts etc.

They meet the requirements of AS3850 and are compatible and interchangeable with standard clutches for 1.3t to 32t WLL anchor systems. Locking Klaws improve safety, performance and flexibility in all situations.

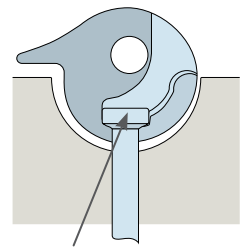


### CENTRILOK

- Unique 'well' in the curved lifting lips locates the anchor in its optimum, central position at the rear of the slot!
- Under load, the Klaw locks and resists rotation toward the disconnected position, locking the 'tail'.
- The side of the well traps the anchor head and locks the Klaw at its position of maximum strength and safety.
- Safe for use in hanger applications (upside down).
- The locked Klaw protects against dangerous disconnections where there is a risk of fouling, a common problem when lowering precast drainage products in confined spaces (e.g. lowering products into trenches or past formwork).



Unique well.



Anchor in central position at rear of slot.

### TAPERWALL

- Reinforced side walls. The unique 'tapered cantilever' increases the strength when turning and side lifting.
- Lighter but stronger – more efficient metal distribution.
- Higher WLLs for 1LK and 2LK compensates for sling angles.
- Designed to fit spherical and 'reduced' recesses.

### FLUSHTAIL

- Tail has clearance to the concrete surface.
- Less concrete damage when lifting toward the tail.

### COMPACT-8

- Lightweight and efficient figure-8 chain link design.
- Additional clearance when side lifting.
- Round links do not damage lifting hooks, links etc.



• Never exceed manufacturer's Working Load Limit (WLL).  
• Ensure you have read and understood the 'Unlift Locking Klaw Concrete Lifting Systems Design Guide'. Contact your nearest Cookes branch for a free copy.

# CONCRETE LIFTING SYSTEMS

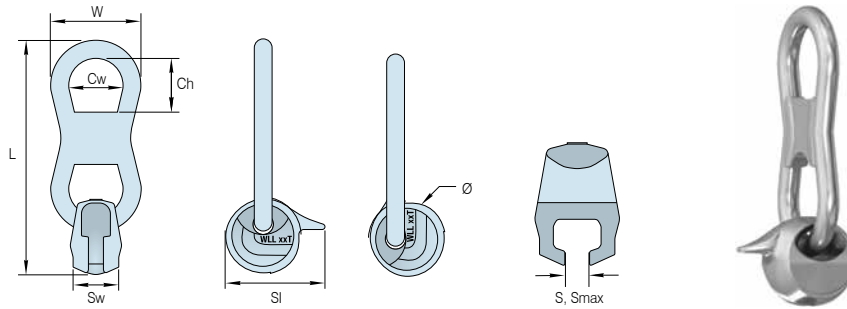
## LIFTING CLUTCHES

### Locking Claws



Product Code	Ancon Item No.	Dimensions (mm)								
		L	W	Ch	Cw	Sw	Sl	Ø	S	S max
09106002	1LK	170	66	44	40	33	72	56	11	13
09106003	2LK	215	85	59	52	42	88	68	16	18
09106005	5LK	270	110	62	70	57	113	88	22	25
09106010	10LK	365	145	83	90	73	144	112	31	32
09106020	20LK	515	210	103	130	110	195	152	43	46
09106032*	32LC	680	272	189	172	160	300	180	52	58
09106005RR	05LKRR	5 Tonne Remote Release – ideal for tilt-up construction.								

\* Model 32LC is Halfen DEHA brand.



### Unilift Locking Claw.

These strong, safe, lightweight clutches suit all spherical head lifting anchors. They protect against dangerous disconnection where there is a risk of fouling which is a common problem when lowering precast drainage products in confined spaces such as trenches.

A higher Working Load Limit for 1LK and 2LK Claws compensates for sling angles as shown in the table below.

- Standardised load range groups of 1.3, 2.5, 5, 10, 20 and 32 tonnes Working Load Limit.
- Fast, efficient handling of products in the factory, during transport and on the job-site.
- Components of different load groups are not interchangeable for maximum safety

### Locking Claws – Working Load Limit Chart

Product Code	Unicon Item No.	Sling Angle (t)		Nominal Anchor t
		0°	60°	
09106002	1LK	2	1.7	1.3
09106003	2LK	3	2.6	2.5
09106005	5LK	5	4.3	5
09106010	10LK	10	8.6	10
09106020	20LK	20	17.2	20
09106032	32LC	32	27.6	32



• Never exceed manufacturer's Working Load Limit (WLL).



# CONCRETE LIFTING SYSTEMS

## FOOT ANCHORS

### Cone (Foot) Anchors



Product Code	Ancon Item No.	WLL	Dimensions (mm)				Quantity
		t	L	W	Ch	Cw	per Box
09106061	CA01035	1.3	35	19	10	25	200
09106062	CA01045	1.3	45	19	10	25	200
09106063	CA01055	1.3	55	19	10	25	200
09106064	CA01065	1.3	65	19	10	25	200
09106066	CA01085	1.3	85	19	10	25	100
09106068	CA01120	1.3	120	19	10	25	100
09106071	CA01240	1.3	240	19	10	25	50
09106082	CA02055	2.5	55	26	14	35	100
09106084	CA02075	2.5	75	26	14	35	100
09106085	CA02085	2.5	85	26	14	35	50
09106087	CA02120	2.5	120	26	14	35	50
09106089	CA02170	2.5	170	26	14	35	25
09106091	CA02280	2.5	280	26	14	35	25
09106095	CA05075	5.0	75	36	20	50	50
09106097	CA05095	5.0	95	36	20	50	50
09106099	CA05120	5.0	120	36	20	50	25
09106100	CA05150	5.0	150	36	20	50	25
09106101	CA05170	5.0	170	36	20	50	25
09106102	CA05240	5.0	240	36	20	50	20
09106104	CA05340	5.0	340	36	20	50	10
09106107	CA05960	5.0	960	36	20	50	1
09106113	CA10150	10.0	150	47	28	70	10
09106118	CA10340	10.0	340	47	28	70	5
09106121	CA20340	20.0	340	70	39	98	1
09106122	CA20500	20.0	500	70	39	98	1
09106126	CA32700	32.0	700	88	50	135	1
09106127	CA321200	32.0	1,200	88	50	135	1



This classic spherical-headed, forged foot anchors are the first choice for most applications.

- Foot anchors manufactured from hot-dipped galvanised, forged, high impact strength construction steel.
- Genuine Unicon anchors are stamped with an 'U' on the head, as well as the anchor strength WLL and length.



- Never exceed manufacturer's Working Load Limit (WLL).
- Ensure you have read and understood the 'Unlift Locking Klaw Concrete Lifting Systems Design Guide'. Contact your nearest Cookes branch for a free copy.

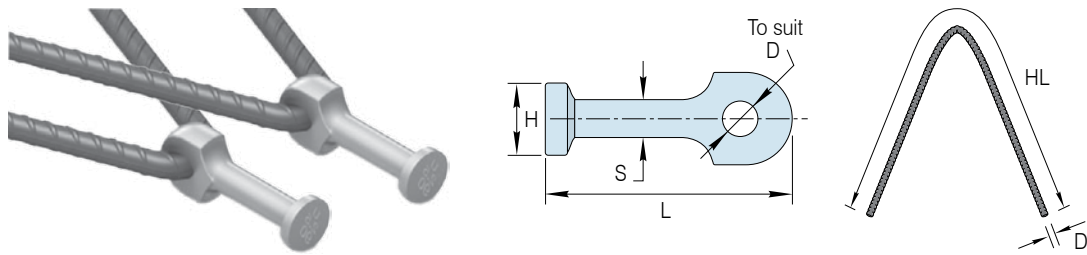
# CONCRETE LIFTING SYSTEMS

## EYE ANCHORS

### Reo (Eye) Anchors



Product Code	Ancon Item No.	WLL	Dimensions (mm)				
		t	L	H	S	D	HL
09106131	RA01050	1.3	50	19	10	R8	700
09106132	RA01065	1.3	65	19	10	R8	700
09106135	RA02065	2.5	65	26	14	N10	870
09106136	RA02090	2.5	90	26	14	N10	870
09106140	RA05120	5.0	120	36	20	N16	1,020
09106145	RA10180	10.0	180	47	28	N20	1,520
09106150	RA20250	20.0	250	70	39	N28	2,760
09106155	RA32300	32.0	300	88	50	N40	5,300



These anchors are used with a hanger bar, also known as a tension bar, where the concrete is too weak for a foot anchor.

Ideal for thin panels and other applications where the concrete shear cone developed by the anchor is insufficient to provide the Working Load Limit of the anchor e.g. low strength concrete. The bar is threaded through the hole in the anchor and embedded deep in the concrete.

- Manufactured from hot-dipped galvanised, forged, high impact strength construction steel.
- Stamped with a Unilift 'U', the anchor strength WLL and length.
- The cut hanger / tension bar lengths given in the table are suitable for 15MPa concrete to AS 3600 60mm cover.

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CONCRETE LIFTING SYSTEMS



- Never exceed manufacturer's Working Load Limit (WLL).
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# CONCRETE LIFTING SYSTEMS

## RECESS FORMERS

These products are used to accurately and reliably set the anchor into its recess in the concrete panel. Recess formers are non-interchangeable between load groups to minimise errors and are available in a variety of types to meet the demands of different applications.

### Semi-Spherical Rubber Recess Formers



Product Code	Ancon Item No.	WLL	Diameter
		t	Ømm
09106160	RRF01	1.3	60
09106161	RRF02	2.5	74
09106162	RRF05	5.0	94
09106163	RRF10	10.0	118
09106164	RRF20	20.0	160
09106165	RRF32	32.0	214



Recess formers attach anchors to steel and timber forms or floats. Manufactured from a hard, oil resistant rubber, yet provide adequate flexibility for easy removal to expose the anchor head.

### Steel Recess Formers with Retaining Rings

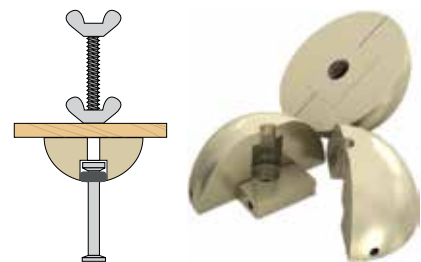
Product Code		Ancon Item No.		WLL	Diameter
Recess	Rubber Ring	Recess	Rubber Ring	t	Ømm
09106167	09106176	SRF01	RR01	1.3	60
09106168	09106177	SRF02	RR02	2.5	74
09106169	09106178	SRF05	RR05	5.0	94



Featuring a replaceable rubber retaining ring, these steel recess formers offer a long service life and are an economical alternative to rubber recesses for production precasting.

### Articulating Steel Recess Formers


Product Code	Ancon Item No.	WLL	Diameter
		t	Ømm
09106170	SRF01A	1.3	60
09106171	SRF02A	2.5	74
09106172	SRF05A	5.0	94




Similar in action to the semi-spherical rubber recess, but are manufactured from steel, offering a long service life for production precasting.

?

**Also available:**  
Special products to meet individual applications are available on request.



**Plastic recess**  
One-trip recess.



**Colletted Steel Recess**  
Rigid anchor connection for severe conditions e.g. pipemaking.

• Never exceed manufacturer's Working Load Limit (WLL).



# CONCRETE LIFTING SYSTEMS

## FERRULES & CHAIRS

Ferrules provide a metric thread fixing point in precast concrete panels. Chairs simplify installation, keeping the unit stable during casting.

Cookes supplies a range of reliable Unicon footed ferrules suitable for a wide range of concrete connections.



They are available in thread sizes from M12 to M24 in either zinc plated, hot dip galvanized or stainless steel as shown below.



### QwikFoot Ferrules



Product Code		Ancon Item No.		Internal Thread	Length mm	Nominal Embed Depth § (mm)	Tying Crossbar ⊗
Zinc	Galvanised	Zinc	Galvanised				
09106181	—	FF1250Z	—	M12	50	55	R10
09106182	09106213	FF1270Z	FF1270G	M12	70	75	R10
09106184	09106215	FF1670Z	FF1670G	M16	70	75	R10
09106201	09106217	FF2070ZH	FF2070G	M20	70	75	N12
09106183	09106214	FF1296Z	FF1296G	M12	96	100	R10
09106192	09106216	FF1696ZH	FF1696G	M16	96	100	N12
09106202	09106218	FF2096ZH	FF2096G	M20	96	100	N12
09106211	09106220	FF2496Z	FF2496G	M24	96	100	N12

Product Code	Ancon Item No.	Internal Thread	Length mm	Nominal Embed Depth § (mm)	Tying Crossbar ⊗
09106192SS	FF1696S316	M16	96	100	N12
09106202SS	FF2096S316	M20	96	100	N12

QwikFoot ferrules feature a cross-hole to allow them to be tied-in to reinforcement to prevent movement, with some ferrules featuring a 15mm diameter cross-hole for N12 bar as shown above.

Crossbars are not required to develop the full anchor capacity.

Bolt Diameter	Bolt Capacity	
	Grade	
	4.6 φs. Nts	8.8 φs. Nts
M12	27.0	56.0
M16	50.2	104.2
M20	78.4	162.7
M24	113.0	234.4



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# CONCRETE LIFTING SYSTEMS

## FERRULES & CHAIRS

### QwikFix Round Ferrules



Product Code	Ancon Item No.	Internal Thread	Length	Design Tension Cap.	Tying Crossbar
			mm	kN ( $\varphi_s \cdot N_{ts}$ )	
09106221*	FER1296Z	M12	96	86	N12
09106223**	FER1676Z	M16	76	86	N12
09106224**	FER1696Z	M16	96	86	N12
09106227**	FER2076Z	M20	76	86	N12
09106229**	FER2096Z	M20	96	86	N12



\* Also available in hot dip galvanised finish. \*\* Also available in hot dip galvanised and stainless steel finish.

QwikFix Round Ferrules have a standard 28mm diameter body and are available in an M12, M16 and M20 thread size. They are passivated zinc as standard. No welding is required to gain full anchorage. The cross-hole is 15mm diameter to accept N12 reinforcement.

### QwikFix Double Ended Ferrules

Product Code	Ancon Item No.	Internal Thread	Length	Design Tension Cap.	Tying Crossbar
			mm	kN ( $\varphi_s \cdot N_{ts}$ )	
09106271	FERD16140Z	M16	140	86	N12
09106272	FERD16170Z	M16	170	86	N12
09106273	FERD16190Z	M16	190	86	N12
09106276	FERD20140Z	M20	140	86	N12
09106277	FERD20165Z	M20	165	86	N12
09106278	FERD20170Z	M20	170	86	N12
09106279	FERD20190Z	M20	190	86	N12



Double ended ferrules provide a fixing point on both faces of the panel. They are manufactured from zinc coated 350 grade alloy steel and available with an M16 or M20 thread size to suit a variety of panel widths. The cross-hole and outside diameter is similar to the round ferrule range.

### Bolt Capacities

QwikFix ferrules develop the full shear capacity of a Grade 8.8 bolt when located 250mm from a panel edge in concrete with a compressive strength of 32MPa.

Internal Thread	Tension Capacity		Shear Capacity	
	Grade 4.6	$\varphi_s \cdot V_s = 0.62 f_y$	Grade 8.8	$\varphi_s \cdot V_s = 0.62 f_y$
	$\varphi_s \cdot N_{ts}$ kN	kN (AS4100)	$\varphi_s \cdot N_{ts}$ kN	kN (AS4100)
M12	27.0	16.7	56.0	26.8
M16	50.2	31.1	104.2	49.8
M20	78.4	48.6	162.7	77.8



$N_{ts}$  : Nominal tensile strength of the anchor controlled by concrete cone failure.

$\varphi_c$  : 0.6 strength reduction factor for concrete: refer AS3600 table 2.3 (j).

# CONCRETE LIFTING SYSTEMS

## FERRULES & CHAIRS

### T-Fixx Stainless Steel Footed Ferrules



Product Code	Ancon Item No.	Internal Thread	Length (mm)		Design Capacity	
			Product	Max Screw-in	20 MPa (kN)	45 MPa (kN)
09106290	TFIX1050S316	M10	50	30	5.2	7.8
09106291	TFIX1270S316	M12	70	36	10.3	15.4
09106292	TFIX1680S316	M16	80	48	13.4	19.9
09106293	TFIX20100S316	M20	100	60	22.0	26.9



Calculation value of normal force in plain concrete without limitation of close spacing or edge distances.

The performance of the T-Fixx is higher than a traditional ferrule. The unique head shape provides an improved resistance to pull-out.

### Precast Chairs

Product Code	Ancon Item No.	Size
		mm
09106252	PC125	125
09106253	PC145	145
09106254	PC150	150
09106255	PC170	170
09106256	PC175	175
09106257	PC180	180
09106258	PC195	195
09106259	PC200	200

### Super Chairs

Product Code	Ancon Item No.	Size
		mm
09106281	SC125150	125 / 150
09106282	SC150175	150 / 175
09106283	SC175200	175 / 200

QwikFix round ferrules will click easily into above Super Chairs.



Precast Chair



Super Chair

Qwikfoot ferrules are suitable for use with the above Precast Chairs.

### Super Chair – Accessories

Product Code	Ancon Item No.	Description
09106285	SCPLUGS	Plug Short
09106287	SCPLUGL	Plug Long
09106289	SCDOWEL	Dowel 85mm



Plug and Dowel



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# CONCRETE LIFTING SYSTEMS

## TILT-UP SITE CAST LIFTING SYSTEMS

### QwikTilt Face Lift Anchor Sets



Product Code	Ancon Item No.	Panel Thickness mm	Anchor Length mm	Embed Depth mm	Min Edge Distance mm	Minimum Spacing mm	Anchor Working Load Limit WLL <sub>c</sub> = φR <sub>uc</sub> / 2.5 Tonne Force			
							15 MPa	20 MPa	25 MPa	32 MPa
09106261	FLA05100	100	75	90	270	540	2.1	2.4	2.7	3.1
09106262	FLA05125	125	95	110	330	660	2.8	3.3	3.6	4.1
09106263	FLA05150	150	120	135	405	810	4.4	5.0	5.0	5.0
09106264	FLA05170	170	120	135	405	810	4.4	5.0	5.0	5.0
09106265	FLA05175	175	120	135	405	810	4.4	5.0	5.0	5.0
09106567	FLA05200	200	150	165	495	990	5.0	5.0	5.0	5.0
09106268	FLA05250	250	150	165	495	990	5.0	5.0	5.0	5.0

### QWIKTILT FACE LIFT ANCHOR SETS

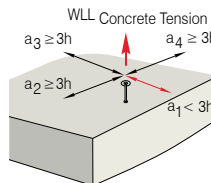
These systems use the forged steel Unilift 5 tonne anchor and can be used with the remote release 5 tonne QwikTilt Klaw (09106005RR) for maximum efficiency on site.

- The anchor is housed in a robust plastic chair with four stable legs and several tie-in points on the ring to prevent movement during casting.
- There is no requirement for a cross bar.
- Available to suit the most popular panel thickness i.e. 125, 150, 170, 175, 200, 250mm. Units to suit other panel thicknesses are available on request.



### Ancon EdgeLift Systems

Product Code	Ancon Item No.	Anchor Type	Length
		t	mm
09106269	ELA05240	5	240
09106270	ELA05340	5	340



**i** Performance data is based on anchors placed at least three times the anchor length from any edge or opening and six times the anchor length between anchors.  
 • Where conditions do not meet these requirements performance will be reduced. Please contact Cookes for more information or consult the Unilift Design Guide.

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# CONCRETE LIFTING SYSTEMS

## EDJPRO LIFTING SYSTEMS INTRODUCTION

### Edge-Lifting Systems for Factory-Cast Panels

The EdjPro system was specifically developed to eliminate cracking and spalling around edge anchors. It is ideal for lifting thin factory-cast panels where a high finish is required, typically visible and exterior walls.

Use of the EdjPro system will ensure that the panels remain in their perfect factory-cast condition, avoiding remedial work and lowering overall costs.



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CONCRETE LIFTING SYSTEMS



### Perfect Panels

- No Cracks!
- No Spalls!
- No Patching!



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# CONCRETE LIFTING SYSTEMS

## EDJPRO CLUTCHES

### EdjPro Clutches



Product Code	Ancon Item No.	WLL	Dimensions (mm)						
		t	H	W	NW	WT	L	Ø T	A
09106030	EPLC05	4.8	220	70	64	27.5	20	80	60
09106033	EPLC10	10.0	340	110	100	50.0	28	145	85

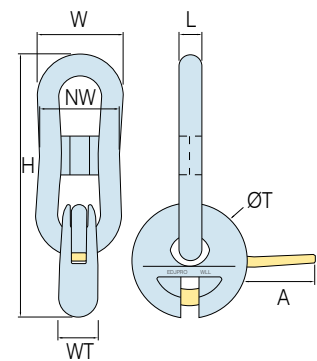


### EdjPro Clutches – Remote Release Models

Product Code	Ancon Item No.	WLL	Dimensions (mm)						
			H	W	NW	WT	L	Ø T	A
09106030RR	EPLC05RR	4.8	220	70	64	27.5	20	80	60
09106033RR	EPLC10RR	10.0	340	110	100	50.0	28	145	85

Complies with AS 3850. The clutch is designed to provide clearance between the figure-8 link and the concrete at all sling angles to protect against edge contact cracking.

Disengagement is only possible when the load is relaxed ensuring safety when lifting and lowering.



### EdjPro Torus Clutches



Product Code	Ancon Item No.	WLL	Description	Remote Release
		t		
09106034	EPLT10H	10.0	10T Torus Head	No
09106034RR	EPLT10HRR	10.0	10T Torus Head RR	Yes



Complies with AS 3850. Designed without lifting link for use with 20mm G80 Connector (Product Code: 02459019). Please refer to page <OV>.

### EdjPro EzyTurn Clutches

Product Code	Ancon Item No.	WLL	Description	Remote Release
		t		
09106036	EPETC10	10.0	10T EzyTurn Clutch	No



Complies with AS 3850. The EzyTurn clutch has an extended handle and is the ideal solution for use in shiplap and for insulated panels where the position of the anchor could not be reached by a standard EdjPro clutch.



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# CONCRETE LIFTING SYSTEMS

## EDJPRO ANCHORS

EdjPro Anchors



Product Code	Ancon Item No.	WLL	Dimensions (mm)	
		t	Nominal Length	Head Width
09106045	EPA03	3.0	200	40
09106050	EPA08	8.5	250	78
09106051	EPA09	9.5	250	78



The EdjPro anchor has a rubber plug in the lifting hole which prevents the ingress of cement during casting and a keyhole shaped aperture to accept a supplementary reinforcing bar.



No concrete in the hole!

The head shape is self-centring with the clutch for rapid connection. The legs are shaped providing maximum anchorage without overstressing surrounding concrete.

## EdjPro Recess Formers

Product Code	Ancon Item No.	Compatible Anchor	Dimensions (mm)		
			Length	Head Width	Depth
09106044	EPRF04	09106040 / 09106046	89	50	42
09106054	EPRF10	09106050 / 09106051	185	90	69



This Recess Former is used to accurately and reliably set the anchor into the concrete product. The EdjPro Recess Former is wider, has stabilising frontal lugs which fit into the keyhole of the anchor and is internally shaped with locations for the rubber plug.



Sides of the recess provide clearance between the edges of the anchor and the concrete, preventing damage from bearing pressure and protecting the fragile panel edge.



- Use EdjPro systems in accordance with recommendations.
- Do not modify any lifting components by welding or other means.
- For performance and safety, specify genuine EdjPro components.



- **Never exceed manufacturer's Working Load Limit (WLL).**
- **Ensure you have read and understood the 'Unlift Locking Klaw Concrete Lifting Systems Design Guide'. Contact your nearest Cookes branch for a free copy.**

