



# Schedule Of Common Lifts

## CLN 5/6

### LIFT PLAN REV: 20

### 8000.CLN5-HS-SCH-8001

	<b>NAME</b>	<b>POSITION</b>	<b>SIGN</b>	<b>DATE</b>
Prepared By	Adam Floyd-Dunne	J Coffey Appointed person		20-02-20
Reviewed By	Niall Beggan	J Coffey Safety Officer		20/02/2020
Reviewed By	Neil Critchley	Mace Lifting Operations Manager		21-02-2020

cf. Board.

J Coffey: Schedule of common lifts.

09/20  
20.02.



REF JC 94/ IN CONJUNCTION WITH 8000.CLN5-C-TW-8023-REV02

A PULL TEST WILL BE CARRIED OUT BY HOISTECH ON THE FIRST LID CAST AND ENGINEER REPORT AVAILABLE FOR EVERY LID MADE PER DESIGN PRIOR TO LIFT



**NOTE: IF YOU CHOKE A CHAIN OR WEBBING SLING YOU MUST DE-RATE BY 20% AND ONLY USE CHAINS FROM 0-90 DEGREES**

<b>LOAD TYPE</b>	<b>PRECAST COVER SLABS</b>
<b>WEIGHT</b>	<b>7958 KGS MAX</b>
<b>Lifting Accessories</b>	<b>1 X 4 LEG 11.2T SWL 4M CHAINS 4 X 10T LIFT CLUTCH</b>
<b>Ancillary Equipment</b>	<b>2 X TAG LINES ON OPPOSITE CORNERS OF SUITABLE LENGTH / KNOT &amp; LOOP FREE</b>
<b>Slinging Method</b>	<b>4 POINT LIFT ALWAYS USING DESIGNATED LIFTING POINTS</b>
<b>Alternative</b>	<b>NONE</b>
<b>Safety Restrictions</b>	<b>Ensure all lifting equipment has current test cert and is correctly colour coded, visually inspect for damage prior to every use.</b>

**NOTE: LIFTING EQUIPMENT TO BE UTILISED AT MAX 80%, IF THIS IS EXCEEDED PLEASE CHECK WITH A.P BEFORE LIFTING OPERATION IS CARRIED OUT !!!**

**J Coffey. Schedule of common lifts**




(to be completed by the Temporary Works Designer, Permanent Works Designer(s) Trade Contractor Temp Works Coordinator & the PSDP)

<b>Project:</b> Facebook CLN5/6- Clonee		Certificate Reference Number: B1613-C13-TWDC										
Element of Temporary works to which this certificate applies:		Pumping station cover slab lifting eyes										
Detail design codes adopted or complied with for these temporary works:		IS EN 1990 IS EN 1991										
Reference numbers for calculations completed & checked:		B1613-C13-Summary										
Drawings Numbers: completed & checked:		B1613-C13-SK01										
Provide the assumed construction sequence required by the Temp Works Design:												
Requirements for Temporary stability: Propping, bearing, Bracing, loading:		<table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Fully detailed on drawings</td> <td>x</td> <td></td> </tr> <tr> <td>Additional Information attached:</td> <td>u</td> <td>u</td> </tr> </table>			Yes	No	Fully detailed on drawings	x		Additional Information attached:	u	u
	Yes	No										
Fully detailed on drawings	x											
Additional Information attached:	u	u										

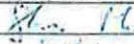
**Temporary Works Designer**

We hereby confirm that we have to date carried out, and will continue to carry out as necessary, the design of these parts of the works which we are appointed to design and that we have exercised reasonable professional skill, care and diligence with due regard to our duties under the Safety, Health and Welfare at Work Act, 2005 and under the Safety, Health and Welfare at Work (Construction) Regulations, 2013, we:

1. Have taken account of the General Principles of Prevention and any existing Safety File;
2. Have provided the PSDP and PSCS as appropriate with all relevant information as required by the Regulations; and
3. Have cooperated with the PSDP and PSCS and with other Designers, as necessary.


Signed: 	Qualifications: STRUCTURAL ENGINEER
Name: FLAVIO NATALE	Organisation: BYRNELOOBY
Date: 27.01.2020	

I certify that I have independently checked the above design and drawings

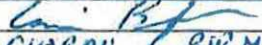
Checking Category:(per BS5975) 1	Organisation: BYRNELOOBY
Signed: 	Qualifications: BSC CIVIL ENG
Name: DAVID LEE	Date: 28-1-20

**Permanent Works Designer**

We hereby confirm that we have communicated our design assumptions to the Temporary Works Designer. We are satisfied that our permanent works design can be constructed to be safe and without risk to health in accordance with Section 17 of the Safety, Health and Welfare at Work Act, 2005, and under the Safety, Health and Welfare at Work (Construction) Regulations, 2013.

Signed: 	For & on behalf of the Permanent Works Designer:	Date
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**Trade Contractor Temporary Works Coordinator**

Signed: 	
Name: CIARAN BIRMINGHAM	Date: 28/1/2020

**Project Supervisor Design Process**

We hereby confirm that coordinated the activities of the Designers responsible for this element of the works in respect of the taking into account the General Principles of Prevention and with due regard to our duties as PSDP under the Safety, Health and Welfare at Work Act, 2005.

Erection of the Temporary Works may proceed, subject to the provision of a Temporary Works Method Statement agreed by the Contractor, Temporary Works Erector and PSCS as being adequate.

Signed: 	For & on behalf of the PSDP: AR20P	Date: 19/2/20
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**TEMPORARY WORKS DESIGN BRIEF**

**Reference Number**

TWDB 026

<b>Contract Name:</b>	Facebook CLN 5/6
<b>Temporary Works Co-ordinator:</b>	Ciaran Birmingham
<b>Design Brief prepared by:</b>	Ciaran Birmingham
<b>Date:</b>	07/01/2020

**Section of Works:-**

Pumping station cover slab lifting eyes

**Design Scope including responsibilities**

Check the capacity of the lifting eyes for the heaviest cover slab is appropriate. Check the shear capacity of the cover slab is appropriate and advise if extra shear reinforcement is required.

**Design deliverables**

Calculations and GA drawing/sketch. Temporary works design certificate for same.

**Design Notes :**

Grundfos data booklet (see page 40-41 as basis of design). Bar bending schedule and drawing has been sketched up based on this.

**Information provided :**

Grundfos data booklet (see page 40-41 as basis of design). Bar bending schedule and drawing has been sketched up based on this.

<b>Dates required</b>	
Design issue for construction	10/01/2020
Base drilling	
Start of base construction	13/01/2020
Crane Erection dates	

<b>Check certification required</b>	
Category I, II or III check	Category 1
Railtrack Form 3 requirement	N/A for Ireland
Other requirements ( ie Highways AIP )	

Guidance on the use of this form is provided in the Mace Temporary Works Procedure MP-ENG-PR-101





Picture 10

For vertical plates the possibility that a horizontal break out can occur must be taken into account. Here also the present vertical reinforcement has no effect for the anchoring force. The situation in the figure will become very critical if the thickness of the element is smaller than half the thickness of the chosen T-Slot-anchor. In this situation an additional discussion with "Terwa" is necessary.

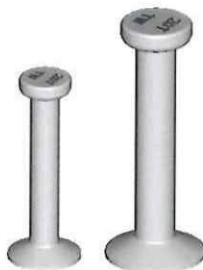
To enlarge the vertical anchoring a hairpin can be adjusted which falls around the foot. In this situation it is also very helpful to use the TKA-Tilt Slot-anchor, an eye anchor or a rod anchor. With these lifting anchors the anchoring is obtained by a reinforcement hairpin through the eye of the anchor or by a ribbed rod.

### CHARACTERISTICS

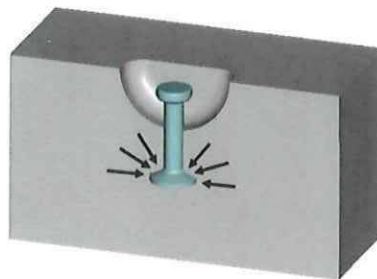
#### T SLOT ANCHOR

##### BASIC PRINCIPLES FOR THE ANCHOR SELECTION

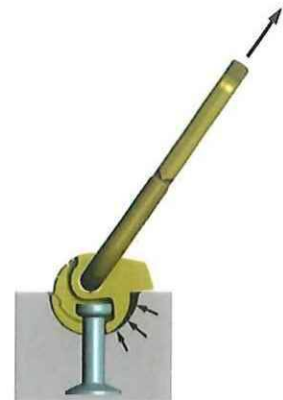
The T Anchors (picture 11) are forged from round steel and are designed to a load force in the range of 1,3t to 45,0t. Proper for large precast elements such as slabs, beams, panels, pipes. Anchors from 1,3t to 32,0t are made from S355J2 steel and the 45,0t anchors are made from alloyed steel 42CrMo4 (w1.7225-EN-10083-1). In the same load group, anchors are available with different lengths. Longer anchors are installed for reduced edge spacing or for low concrete strengths. The load on the anchor is transmitted to the concrete through the anchor foot (picture 12).



Picture 11



Picture 12



Picture 13

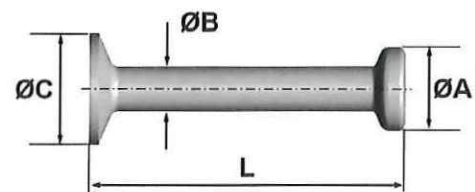
The anchors must be fixed in the mould using recess formers. The recess former retains the anchor securely in position during the concrete pour. The recess former creates a void around the anchor head which corresponds to the lifting system head (shackle). The incorrect coupling of parts of different load groups is impossible. Another advantage is that the shackle rests against the concrete during angled pull and therefore the horizontal load is transferred into the concrete directly (picture 13). For this reason additional reinforcement is not required in large units. In thin walls, additional reinforcement is necessary for angled lift, to absorb the transverse pulling forces.



Picture 14



Picture 15



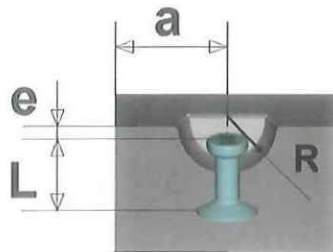
Picture 16



T slot standard		T slot - hot dip galvanized		T slot - electrolytic zinc plated		T slot stainless steel 304		Load group	L	ØA	ØB	ØC	Weight
Description	Prod. No.	Description	Prod. No.	Description	Prod. No.	Description	Prod. No.	t	mm	mm	mm	mm	[kg/pc]
T-075-0165	43251	T-075-0165-TV	43252	T-075-0165-EV	/	T-075-0165-SS2	/	7,5	165	46	24	60	0,857
T-075-0170	43253	T-075-0170-TV	43974	T-075-0170-EV	/	T-075-0170-SS2	/	7,5	170	46	24	60	0,875
T-075-0200	43254	T-075-0200-TV	43255	T-075-0200-EV	/	T-075-0200-SS2	/	7,5	200	46	24	60	0,981
T-075-0240	44963	T-075-0240-TV	44964	T-075-0240-EV	/	T-075-0240-SS2	/	7,5	240	46	24	60	1,123
T-075-0300	43256	T-075-0300-TV	43257	T-075-0300-EV	/	T-075-0300-SS2	43258	7,5	300	46	24	60	1,336
T-075-0540	43259	T-075-0540-TV	43260	T-075-0540-EV	/	T-075-0540-SS2	/	7,5	540	46	24	60	2,192
T-075-0680	43843	T-075-0680-TV	43844	T-075-0680-EV	/	T-075-0680-SS2	/	7,5	680	46	24	60	2,690
T-100-0085	43261	T-100-0085-TV	43262	T-100-0085-EV	/	T-100-0085-SS2	/	10,0	85	46	28	70	0,714
T-100-0090	/	T-100-0090-TV	43263	T-100-0090-EV	/	T-100-0090-SS2	/	10,0	90	46	28	70	0,765
T-100-0100	43264	T-100-0100-TV	43845	T-100-0100-EV	/	T-100-0100-SS2	/	10,0	100	46	28	70	0,815
T-100-0110	43265	T-100-0110-TV	46269	T-100-0110-EV	/	T-100-0110-SS2	/	10,0	110	46	28	70	0,863
T-100-0115	43266	T-100-0115-TV	43267	T-100-0115-EV	47418	T-100-0115-SS2	43268	10,0	115	46	28	70	0,887
T-100-0120	43269	T-100-0120-TV	43270	T-100-0120-EV	/	T-100-0120-SS2	/	10,0	120	46	28	70	0,910
T-100-0135	43271	T-100-0135-TV	43272	T-100-0135-EV	47419	T-100-0135-SS2	/	10,0	135	46	28	70	0,984
T-100-0140	43847	T-100-0140-TV	/	T-100-0140-EV	/	T-100-0140-SS2	/	10,0	140	46	28	70	1,007
T-100-0150	43273	T-100-0150-TV	43274	T-100-0150-EV	47420	T-100-0150-SS2	/	10,0	150	46	28	70	1,056
T-100-0170	43275	T-100-0170-TV	43276	T-100-0170-EV	47421	T-100-0170-SS2	43277	10,0	170	46	28	70	1,153
T-100-0200	43848	T-100-0200-TV	44965	T-100-0200-EV	/	T-100-0200-SS2	/	10,0	200	46	28	70	1,298
T-100-0220	43278	T-100-0220-TV	43849	T-100-0220-EV	/	T-100-0220-SS2	/	10,0	220	46	28	70	1,395
T-100-0250	43279	T-100-0250-TV	43280	T-100-0250-EV	/	T-100-0250-SS2	/	10,0	250	46	28	70	1,540
T-100-0340	43281	T-100-0340-TV	43282	T-100-0340-EV	/	T-100-0340-SS2	43283	10,0	340	46	28	70	1,974
T-100-0500	43514	T-100-0500-TV	/	T-100-0500-EV	/	T-100-0500-SS2	/	10,0	500	46	28	70	2,748
T-100-0540	47481	T-100-0540-TV	/	T-100-0540-EV	/	T-100-0540-SS2	/	10,0	540	46	28	70	2,940
T-100-0650	43284	T-100-0650-TV	43850	T-100-0650-EV	/	T-100-0650-SS2	/	10,0	650	46	28	70	3,473
T-100-0680	43285	T-100-0680-TV	43286	T-100-0680-EV	/	T-100-0680-SS2	/	10,0	680	46	28	70	3,315
T-100-1300	45168	T-100-1300-TV	/	T-100-1300-EV	/	T-100-1300-SS2	/	10,0	1300	46	28	70	6,615
T-150-0140	43851	T-150-0140-TV	43852	T-150-0140-EV	/	T-150-0140-SS2	/	15,0	140	70	38	80	1,992
T-150-0150	43853	T-150-0150-TV	43854	T-150-0150-EV	/	T-150-0150-SS2	/	15,0	150	70	38	80	2,080
T-150-0165	43287	T-150-0165-TV	43288	T-150-0165-EV	47422	T-150-0165-SS2	/	15,0	165	70	38	80	2,214
T-150-0170	43855	T-150-0170-TV	/	T-150-0170-EV	/	T-150-0170-SS2	/	15,0	170	70	38	80	2,258
T-150-0200	43856	T-150-0200-TV	43857	T-150-0200-EV	47423	T-150-0200-SS2	/	15,0	200	70	38	80	2,526
T-150-0210	43289	T-150-0210-TV	43290	T-150-0210-EV	/	T-150-0210-SS2	/	15,0	210	70	38	80	2,615
T-150-0300	43291	T-150-0300-TV	43292	T-150-0300-EV	/	T-150-0300-SS2	/	15,0	300	70	38	80	3,416
T-150-0400	43293	T-150-0400-TV	43294	T-150-0400-EV	/	T-150-0400-SS2	/	15,0	400	70	38	80	4,306
T-150-0840	43295	T-150-0840-TV	43296	T-150-0840-EV	/	T-150-0840-SS2	/	15,0	840	70	38	80	8,223
T-200-0100	44927	T-200-0100-TV	/	T-200-0100-EV	/	T-200-0100-SS2	/	20,0	100	70	40	98	1,965
T-200-0165	43858	T-200-0165-TV	43297	T-200-0165-EV	/	T-200-0165-SS2	/	20,0	165	70	40	98	2,606
T-200-0170	47256	T-200-0170-TV	/	T-200-0170-EV	/	T-200-0170-SS2	/	20,0	170	70	40	98	2,655
T-200-0200	43298	T-200-0200-TV	44966	T-200-0200-EV	47424	T-200-0200-SS2	/	20,0	200	70	40	98	2,951
T-200-0240	43859	T-200-0240-TV	/	T-200-0240-EV	/	T-200-0240-SS2	/	20,0	240	70	40	98	3,346
T-200-0250	43299	T-200-0250-TV	43300	T-200-0250-EV	/	T-200-0250-SS2	/	20,0	250	70	40	98	3,445
T-200-0340	43301	T-200-0340-TV	43302	T-200-0340-EV	/	T-200-0340-SS2	/	20,0	340	70	40	98	4,332
T-200-0500	43303	T-200-0500-TV	43304	T-200-0500-EV	/	T-200-0500-SS2	/	20,0	500	70	40	98	5,911
T-200-1000	43305	T-200-1000-TV	43515	T-200-1000-EV	/	T-200-1000-SS2	/	20,0	1000	70	40	98	10,843
T-320-0175	47391	T-320-0175-TV	/	T-320-0175-EV	/	T-320-0175-SS2	/	32,0	175	88	50	135	5,419

lifters that will be installed



**T-SLOT-ANCHOR ARRANGEMENT**


Picture 17

L = anchor length  
 a = edge distance  
 e = cover to anchor head  
 R = recess radius

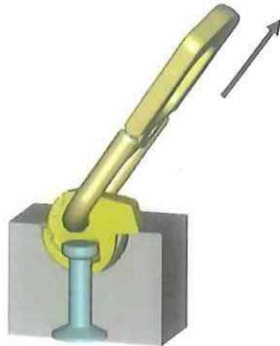
For slab units or de-mould of panels the edge distance of the "T" anchor (a) is:  $a = 3 \times (L + e)$

Table 9

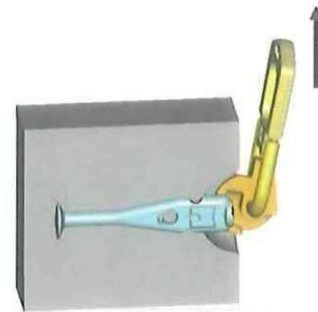
Type T Slot Description	Load Group [t]	"L" [mm]	"R" [mm]	"e" [mm]	"a" [mm]
T-013-0120	1,3	120	30	10	390
T-013-0240	1,3	240	30	10	390
T-025-0140	2,5	140	37	11	540
T-025-0170	2,5	170	37	11	540
T-025-0210	2,5	210	37	11	540
T-025-0280	2,5	280	37	11	540
T-050-0180	5,0	180	47	15	765
T-050-0210	5,0	210	47	15	765
T-050-0240	5,0	240	47	15	765
T-050-0340	5,0	340	47	15	765
T-050-0480	5,0	480	47	15	765
T-075-0300	7,5	300	59	15	945
T-075-0540	7,5	540	59	15	945
T-075-0680	7,5	680	59	15	945
T-100-0250	10,0	250	59	15	1100
T-100-0340	10,0	340	59	15	1100
T-100-0500	10,0	500	59	15	1100
T-100-0540	10,0	540	59	15	1100
T-100-0650	10,0	650	59	15	1100
T-100-0680	10,0	680	59	15	1100
T-150-0300	15,0	300	80	15	1250
T-150-0400	15,0	400	80	15	1250
T-150-0840	15,0	840	80	15	1250
T-200-0340	20,0	340	80	15	1550
T-200-0500	20,0	500	80	15	1550
T-200-1000	20,0	1000	80	15	1550
T-320-0500	32,0	500	102	23	2150
T-320-0700	32,0	700	102	23	2150
T-320-1200	32,0	1200	102	23	2150
T-450-0500	45,0	500	102	23	2400
T-450-0700	45,0	700	102	23	2400
T-450-1200	45,0	1200	102	23	2400

Note: values in the table above for distance to the edge are valid for unreinforced concrete elements. The distance to the edge can be reduced in reinforced concrete units.



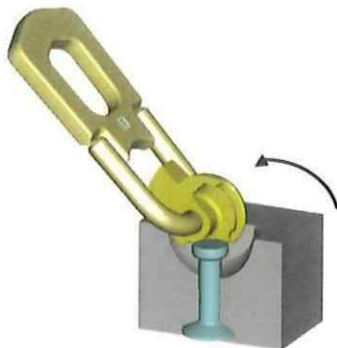


Picture 60



Picture 61

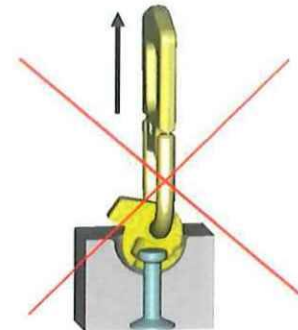
When pitching the concrete unit with the 3D Lifting System, the nose must be in the same direction with the load (picture 61). Due to the counterweight of the nose, the shackle remains connected, even in an unloaded state. To release the 3D Lifting System, the load hook is lowered and the shackle is turned up and out (picture 62 and picture 63). Only after the Lifting System is completely detached of the recess and anchor, the crane can be withdrawn. The 3D lifting System can remain attached to the crane hook till another use.



Picture 62



Picture 63

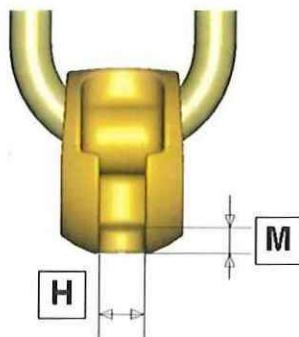


If the shackle remains in the position showed above, the lifting of the concrete unit is not possible.

Picture 64

### 3D LIFTING SYSTEM MAINTENANCE

In common with all lifting devices, the lifting system TH2, THR2 must be checked at least twice a year by trained personnel. Any defects found should be corrected before use. It is important to determine the amount of wear. The lettering and identification of the lifting system must be visible. If the shackle is deformed or the mouth opening is enlarged, the 3D Lifting System must be taken out of use and cannot be repaired. If the limiting dimensions given in the table 32 and table 33 are exceeded for "H" or fall below for "M" a further use of the Lifting System is not safe. Repairs, especially welding operations to the Lifting System are strictly forbidden. Do not combine our products with accessories from other manufacturers.



Picture 65



Picture 66

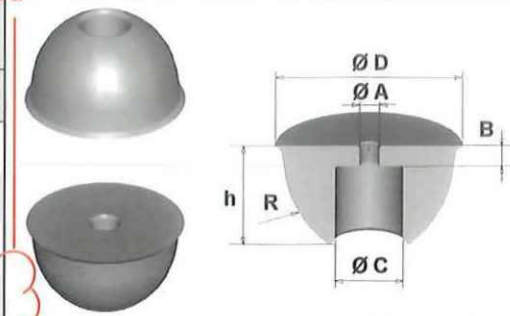
**SBK – STEEL RECESS FORMER**

The SBK recess former is made of steel S355JO and is used in combination with T slot anchor, O anchor, TPA anchor, TKS anchor and TSG anchor. When these anchors are used a rubber ring RR should be fitted as well. These recess formers are mostly applied in an upside down position.

This rubber former  
will be used

Table 40

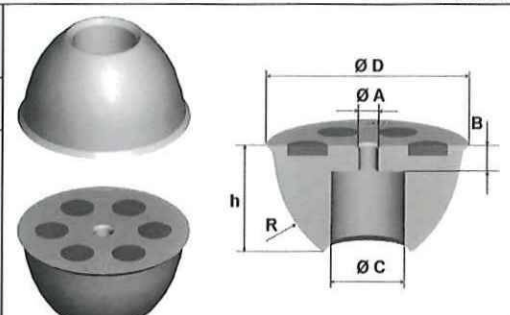
Round steel recess former SBK		Load group	ØA	B	ØC	ØD	h	R
Description	Product no.	[t]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
SBK-013	44404	1,3	M 12	11	19,9	63	36	32
SBK-025	45855	2,5	M 12	11	26,9	80	43,5	69
SBK-050	45856	5,0	M 12	13	36,9	101	54	65
SBK-100	45857	10,0	M 16	15	47,1	129	72	80


**SBKM – STEEL RECESS FORMER WITH MAGNET**

The SBKM recess former is made of stainless steel W 1.4305 EN 10088 and is used in combination with T slot anchor, O anchor, TPA anchor, TKS anchor and TSG anchor. When these anchors are used a rubber ring RR should be fitted as well. These recess formers are mostly applied in an upside down position.

Table 41

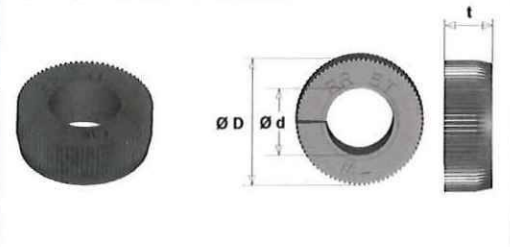
Round steel recess former SBKM		Load group	ØA	B	ØC	ØD	h	R
Description	Product no.	[t]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
SBKM-013	48722	1,3	M 12	11	20	66.5	36	32
SBKM-025	48723	2,5	M 12	11	30	80	43,5	69
SBKM-050	48724	5,0	M 12	13	37	100	54	65
SBKM-100	48725	10,0	M 16	15	48	129	72	80


**RR – RUBBER RING**

The rubber ring is used when a T slot anchor, O anchor, TPA anchor, TKS anchor and TSG anchor is fitted in a SBK or a SBKM steel recess former.

Table 42

Rubber ring RR		Load group	D	d	t
Description	Product no.	[t]	[mm]	[mm]	[mm]
RR-013	43966	1,3	21	10	11
RR-025	43967	2,5	31	14	12
RR-040/050	43968	5,0	38	20	14
RR-075	43813	7,5	49	24	20
RR-100	43969	10,0	49	28	20







## Project Risk Assessment of S&H hazards / risk

Engineers Ireland

### Designer's assessment of safety and health hazards / risks

Project: FACEBOOK, CLONEE  
PRE-CAST SLABS LIFTING

Designer: FN

Date:

27.01.2020

Ref No: B1613-C13-DRA

Checker:

Sheet No:

Signed:

Design Phase (Concept; Preliminary; Detailed or Redesign): Detailed

Note: review previous phase b/f items

No.	Key construction hazards (or risks) identified	Evaluations. Design decisions made (or alternative actions)
1	Impact loads/lateral loads.	Slabs not designed to accommodate any impact load or lateral load. Contractor to impose measures to avoid lateral loads.
2	Unsuitable concrete grade and cover.	Concrete strength to be achieved by concrete before lifting to be as per specified in the sketch provided.
3	Unsuitable lifting operations.	Lifting operations to be carried out carefully and avoiding dynamic load on the slabs or lifting eyes. Lifting operator to be a competent trained person.
4	Unsuitable chain sling.	Chain sling capacity and layout to be as per specified in the drawing provided.
5	Unsuitable lifting eyes.	Lifting pins to be as per specified in the drawing provided. Installation of lifting pin to be as per technical specification by pin supplier.
6		
7		
8		
9		

Notes re providing info.	Item Nos. (from above)	Remarks
a) For client's designer		
b) Hazards particular risks	01-08	Risk to be managed by contractor.
c) Other particular risks		
d) Re assumed construction methods		
e) For safety file		
f) In-house: b/f to future stages		

Other parties please take note: These are designer's risk evaluations of design options carried out in-house for the purpose of our complying with designer's duties under the Safety, Health and Welfare at Work (Construction) Regulations 2006-2013, CDM2015 CDM2016 N.I. or other legislative EHS requirements. The evaluations relate only to those aspects / elements of the project which we are responsible for designing under the terms of our appointment by our client. Other Parties should not rely on these evaluations for their own purposes; in particular, contractors, who must deal with and control risk arising during construction, must carry out their own definitive risk assessment ab initio for that purpose





Member	Bar Mark	Type and Size	No. of mbrs	No. of bars in each	Total no.	Length of each bar † mm	Shape code	A * mm F*	B * mm G*	C * mm H*	D * mm I*	E/R * mm J*	Shape	Weight (kg)	Rev
BASE 1	01	H10	1	28	28	900	21	400	130	(400)				15.55	
	02	H10	1	28	28	875	21	400	110	(400)				15.12	
BASE 1a	03	H25	1	68	68	5350	21	800	3880	(800)				1400.63	
	04	H16	1	12	12	4475	11	2250	(2250)					84.85	
BASE 1b	01	H10	1	34	34	900	21	400	130	(400)				18.88	
	02	H10	1	34	34	875	21	400	110	(400)				18.36	
BASE 2	01	H10	1	26	26	900	21	400	130	(400)				14.44	
	02	H10	1	26	26	875	21	400	110	(400)				14.04	
BASE 2a	01	H10	1	26	26	900	21	400	130	(400)				14.44	
	02	H10	1	26	26	875	21	400	110	(400)				14.04	

This schedule complies with

BS8666:2005

Page Total 1610.35

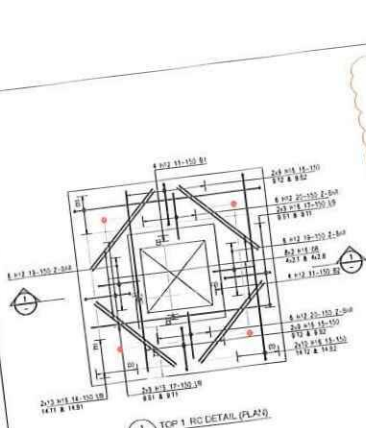
\* Specified in multiples of 5mm

† Specified in multiples of 25mm.

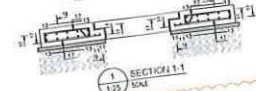
Page 01 of 01

Schedule Total 1610.35

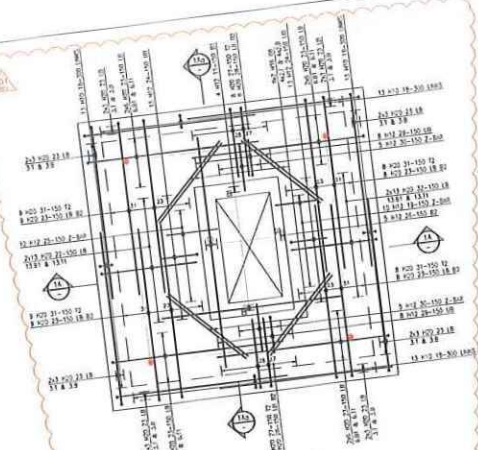




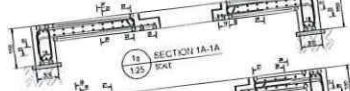
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SCALE



1 SECTION 1-1  
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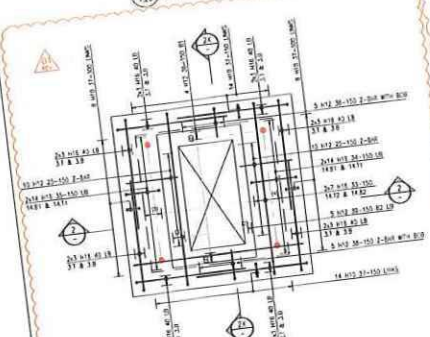
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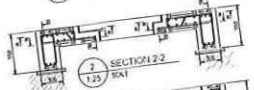
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11a SECTION 11a-11a  
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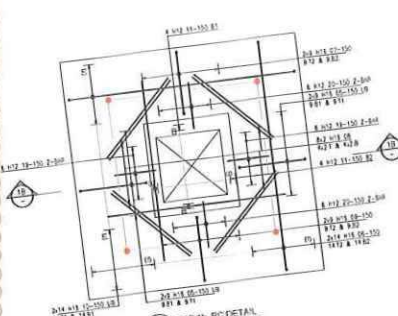
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2 SECTION 2-2  
SCALE



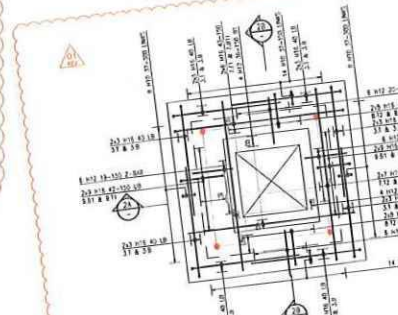
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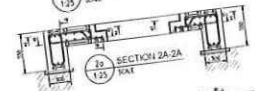
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SCALE



10 SECTION 10-10  
SCALE



2a TOP 2a RC DETAIL (PLAN)  
SCALE



2a SECTION 2A-2A  
SCALE



2b SECTION 2B-2B  
SCALE

**GENERAL NOTES**

- THIS DRAWING TO BE REVD IN CONFORMANCE WITH ALL RELEVANT PERMITS DURING AND POST-CONSTRUCTION.
- DO NOT SCALE - USE PRINTED DIMENSIONS ONLY.
- ALL DIMENSIONS ARE IN MILLIMETERS.
- CONCRETE REINFORCEMENT DETAILS SHALL BE IN ACCORDANCE WITH BS8007:2009.
- REINFORCEMENT LAYOUT ON RELEVANT BAR BENDING SCHEDULES.
- CONCRETE: M25, M20, M15, M10 AND SLAB EDGE CASTING: M20 M25 M30 (CHECK CONTENT) MAX. SLAB THICKNESS SHALL BE AS NOTED.
- COVER TO REBAR: 20MM.
- MINIMUM CONCRETE GRADE TO BE ADVISED BEFORE LAYING CONCRETE.
- TEMPORARY SUPPORT TO REINFORCEMENT SHALL BE PROVIDED TO SUPPORT THE SLAB SUPPORTS & TO MAINTAIN THE SLAB TO BE CASTED ON THE GROUNDS OF RELEVANT BAR BENDING SCHEDULES. THE REBAR SHALL BE TO BE CASTED IN THE RELEVANT COVER LEVELS AS PROVIDED.
- MINIMUM BAR LAP LENGTH REQUIREMENTS:

**DEVELOPMENT LENGTH**

BAR #	LAP LENGTH
#12	350mm (2D)
#16	450mm (2D)
#20	550mm (2D)
#25	650mm (2D)
#32	750mm (2D)
#40	850mm (2D)

**DEVELOPMENT LENGTH**

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#20	550mm (2D)
#25	650mm (2D)
#32	750mm (2D)
#40	850mm (2D)

**NOTE: HAVE TWO BARS OF DIFFERENT DIAMETERS LAP THE LAP LENGTH FOR THE SMALLER DIAMETER BAR SHOULD BE USED (2D).**

**REBAR**

REBAR	TYPE	GRADE
#12	BAR	B500
#16	BAR	B500
#20	BAR	B500
#25	BAR	B500
#32	BAR	B500
#40	BAR	B500

**REBAR**

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#12	BAR	B500
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**REBAR**

REBAR	TYPE	GRADE
#12	BAR	B500
#16	BAR	B500

Member	Bar Mark	Type and Size	No. of mbrs	No. of bars in each	Total no.	Length of each bar † mm	Shape code	A * mm F*	B * mm G*	C * mm H*	D * mm I*	E/R * mm J*	Shape	Weight (kg)	Rev
TOP 1	08	H16	1	16	16	1400	00							35.39	
	11	H12	1	8	8	2500	00							17.76	
	13	H16	1	20	20	2900	99	2580	130	(130)				91.64	
	14	H16	1	20	20	2775	21	130	2580	(130)				87.69	
	15	H16	1	18	18	925	99	590	130	(130)				26.31	
	16	H16	1	18	18	900	99	570	130	(130)				25.6	
	17	H16	1	36	36	825	21	130	630	(130)				46.93	
	19	H12	1	12	12	650	26	300	150	(200)	130			6.93	
	20	H12	1	12	12	675	26	300	120	(260)	95			7.19	
TOP 1a	08	H16	1	16	16	1400	00							35.39	
	11	H12	1	4	4	2500	00							8.88	
	18	H10	1	52	52	1350	51	420	170	(130)	(130)			43.31	
	19	H12	1	10	10	650	26	300	150	(200)	130			5.77	
	22	H20	1	26	26	1525	11	1350	(220)					97.94	
	23	H20	1	130	130	2575	11	2400	(220)					826.83	

This schedule complies with

BS8666:2005

Page Total 1363.56

\* Specified in multiples of 5mm

† Specified in multiples of 25mm.

Member	Bar Mark	Type and Size	No. of mbrs	No. of bars in each	Total no.	Length of each bar † mm	Shape code	A * mm F*	B * mm G*	C * mm H*	D * mm I*	E/R * mm J*	Shape	Weight (kg)	Rev
TOP 1a	24	H12	1	26	26	1100	21	500	130	(500)				25.4	
	25	H12	1	10	10	775	26	320	150	(320)	130			6.88	
	26	H12	1	5	5	3200	00							14.21	
	27	H20	1	16	16	1100	35	435	260	260	50	(190)		43.47	
	28	H20	1	16	16	1125	11	950	(220)					44.46	
	29	H12	1	16	16	1050	13	500	90	(500)				14.92	
	30	H12	1	10	10	675	26	300	120	(260)	90			5.99	
	31	H20	1	34	34	2525	35	1870	260	260	50	(190)		212.05	
	32	H20	1	26	26	1375	11	1200	(220)					88.3	
TOP 1b	05	H16	1	36	36	1125	21	130	930	(130)				63.99	
	06	H16	1	28	28	3500	99	3180	130	(130)				154.84	
	07	H16	1	18	18	1200	99	870	130	(130)				34.13	
	08	H16	1	16	16	1400	00							35.39	
	09	H16	1	18	18	1225	99	890	130	(130)				34.84	
	10	H16	1	28	28	3375	21	130	3180	(130)				149.31	

This schedule complies with

BS8666:2005

Page Total 928.18

\* Specified in multiples of 5mm

† Specified in multiples of 25mm.



Member	Bar Mark	Type and Size	No. of mbrs	No. of bars in each	Total no.	Length of each bar † mm	Shape code	A * mm F*	B * mm G*	C * mm H*	D * mm I*	E/R * mm J*	Shape	Weight (kg)	Rev
TOP 1b	11	H12	1	8	8	2500	00							17.76	
	19	H12	1	12	12	650	26	300	150	(200)	130			6.93	
	20	H12	1	12	12	675	26	300	120	(260)	95			7.19	
TOP 2	25	H12	1	20	20	775	26	320	150	(320)	130			13.76	
	33	H16	1	14	14	2700	99	2380	130	(130)				59.72	
	34	H16	1	28	28	825	21	130	625	(130)				36.5	
	35	H16	1	28	28	675	21	130	475	(130)				29.86	
	36	H12	1	4	4	2350	00							8.35	
	37	H10	1	44	44	1350	51	420	175	(130)	(130)			36.65	
	38	H12	1	10	10	650	34	205	120	160	115	(200)		5.77	
	39	H12	1	5	5	2600	21	125	2380	(125)				11.54	
	40	H16	1	48	48	1725	11	1525	(220)					130.82	
TOP 2a	19	H12	1	12	12	650	26	300	150	(200)	130			6.93	
	20	H12	1	12	12	675	26	300	120	(260)	95			7.19	

This schedule complies with

BS8666:2005

Page Total 378.97

\* Specified in multiples of 5mm

† Specified in multiples of 25mm.

