SECTION 4 – 33kV CONSTRUCTIONS

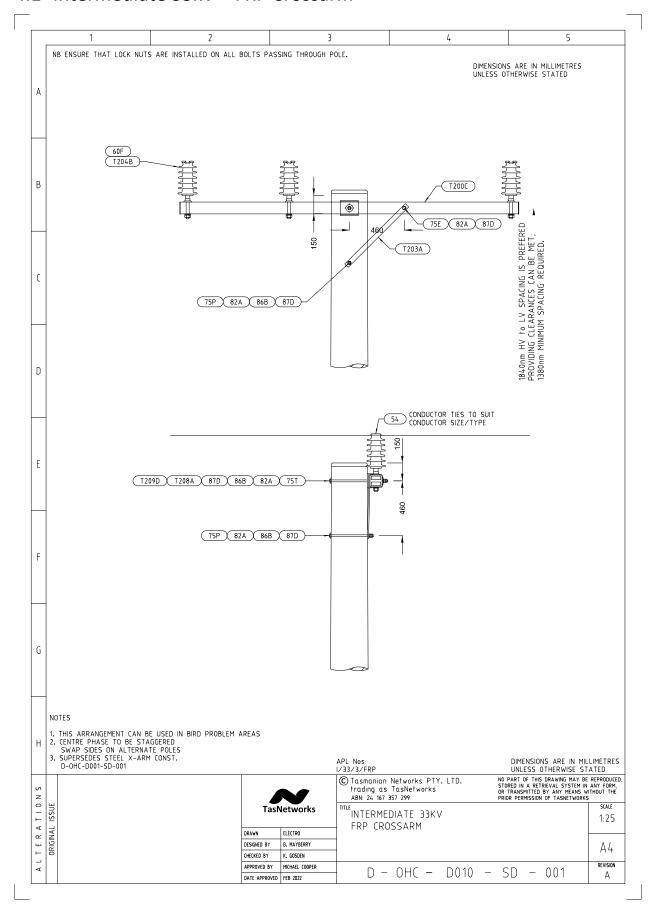
VERSION 2.0

SECTION 4 – 33kV CONSTRUCTIONS

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33KV FRP CONSTRUCTIONS

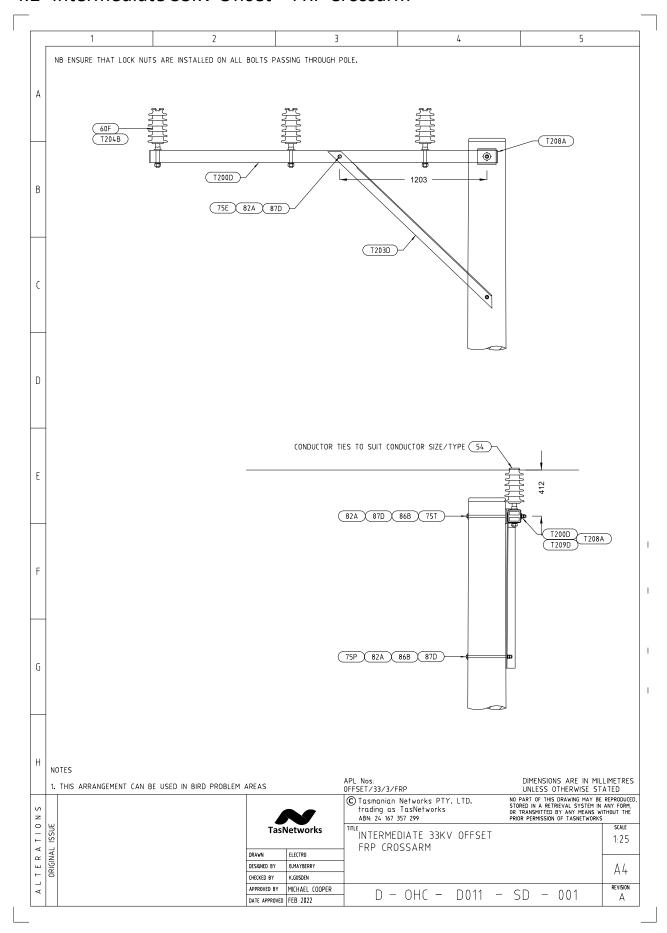
4.1 Intermediate 33kV – FRP Crossarm



Intermediate 33kV – FRP Crossarm - Material List

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	NB ENSURE THAT	LOCK NUTS	ARE INSTAL	LED ON ALL	BOLTS PAS	SING THROUGH I	POLE.			
Α										
А										
В										
	Unit Assembly	Store Type	Item Ref	Stock Item	Stock Ite	m Description				Quanti
	I/33/3/FRP	S	60F	320541	Insulator,					3
			75E	32279	Bolt Hex I	M16 X 180 - Thr	ead Length 57mm			1
			75P	32288	Bolt Hex I	M16 X 375 - Thr	ead Length 75mm			1
C			75T	32293	Bolt Hex I	M16 X 475 - Thr	ead Length 75mm			1
			82A	40441	Nut Hex N					5
	H		87D	65616	Washer N					4
	H		86B	65158	Washer E		0. 04.400.0110.0004	DM		2
			T200C T203A	323219 323316			0 - CA-100 SHS 2.834m A	RM		1
			T204B	New		ACE - 716x40x	o LYNN - C3007) 298mm ste	- 58mm to ha	ase of insulator from yarn	
			T208A	323306		OCK 100mm	20007/20011111 010	on committees	ioo oi illoulutoi iloili xulli	1
D			T209D	66807	+		ner 50 x 50 x 4.0mm, Diagi	onal 70.7mm.		1
F										
G										
Н										
S					4	~	© Tasmanian Networks trading as TasNetwo ABN: 24 167 357 299		NO PART OF THIS DRAWIN STORED IN A RETRIEVAL S OR TRANSMITTED BY ANY PRIOR PERMISSION OF TAS	SYSTEM IN ANY FORM MEANS WITHOUT TH NETWORKS
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z	1881									
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TERATION	ORIGINAL ISSUE				DRAWN DESIGNED BY CHECKED BY	B. MAYBERRY K. GOSDEN	MATERIAL LIST			A 4
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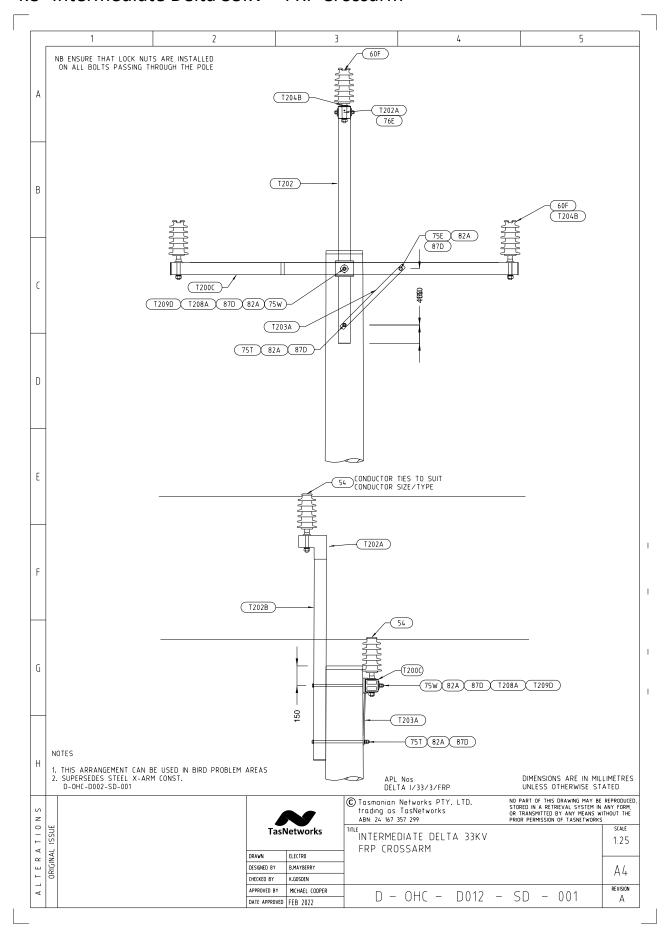
4.2 Intermediate 33kV Offset - FRP Crossarm



Intermediate 33kV Offset – FRP Crossarm - Material List

[1			2		3			4		5	
Α												
В												
	OFFSET/33/3/FRP	Store Type	60F 75E	320541	Insulator, Pin Bolt Hex M16		ength 57mm				Qu	3 1
			75P 75T	32288 32293	Bolt Hex M16 Bolt Hex M16	6 X 375 - Thread L 6 X 475 - Thread L	ength 75mm					1
			82A 86B 87D	65158	Nut Hex M16 Washer ELS Washer NS N	M16						5 2 4
C			T200D T203D	323221 323319	CF XARM - 2 XARM BRAC	840x100x100 - C E - 1854x75x75x	8					1
			T204B T208A T209D	323306	GAIN BLOCK	TOR - (MORLYNI (100mm Square Washer 50				nor from xarm		1 1
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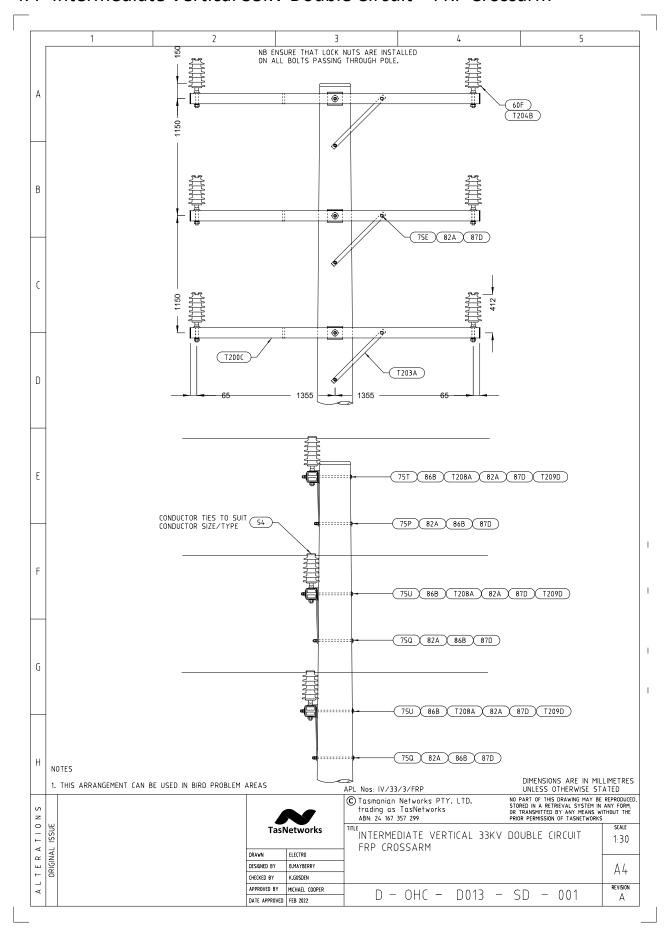
4.3 Intermediate Delta 33kV - FRP Crossarm



Intermediate Delta 33kV – FRP Crossarm - Material List

		1		2		3			4		5	
А												
В												
	DELTA	Store Type	Item Ref 60F		Stock Item Descr Insulator, Pin Type						Qu	antity
	1/33/3/FRP		75E 75T	32279 32293	Bolt Hex M16 X 18 Bolt Hex M16 X 47	30 - Thread Leng						1
			75W 76E	32296 32332	Bolt Hex M16 X 55 BOLT, Hex Head M	50 - Thread Leng	gth 75mm					1
C			82A 87D	40441 65616	Nut Hex M16 Washer NS M16		a 5/11 1 tat					5
			T200C	323219	CF XARM - 2840x							1
			T202 T202A	323225 323226	CF DELTA RISER BRACKET, CF DE	LTA RISER	1833x100x100 -	CA-100 SHS 1.82	4 RISER			1
			T203A T204B	323316 New	XARM BRACE - 7 PIN, INSULATOR		C3007) 298mm s	stem - 58mm to ba	se of insulate	or from xarm		3
			T208A T209D	323306 66807	GAIN BLOCK 100 M16 ELS-V Squar	mm	,					1
D			12000	00007	IN 10 LLO-V Oqual	c washer 50 x	30 X 4.0111111, Die	agionai 70.711111.			J	
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RA	ORIGINAL				DRAWN	ELECTRO	MATERIA				-	
T E	ORIG				DESIGNED BY CHECKED BY	B.MAYBERRY K.GOSDEN	+					A4
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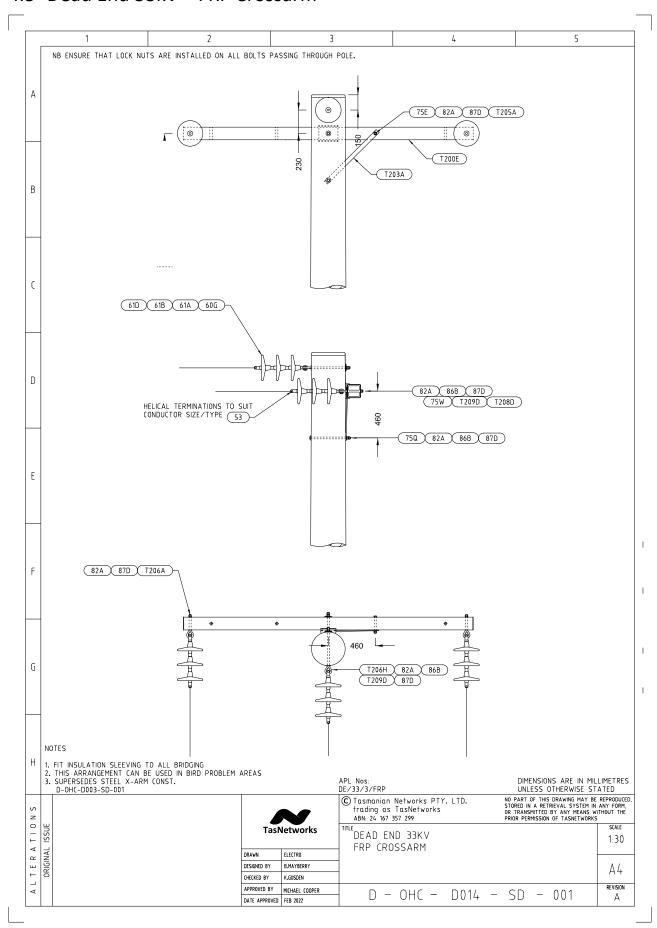
4.4 Intermediate Vertical 33kV Double Circuit – FRP Crossarm



Intermediate Vertical 33kV Double Circuit – FRP Crossarm - Material List

	1		2		3	4	5	
		·				·		
Α								
	IV/33/3/FRP	S S SOF		1				Quantity
	1V/33/3/FRF	001	320541	Insulator, Pin Typ				6
В		75E	32279 32288		180 - Thread Length 57mm			3 1
		75P 75Q	32290		375 - Thread Length 75mm 400 - Thread Length 75mm			2
		75T	32293		175 - Thread Length 75mm			1
		75U	32294		500 - Thread Length 75mm			2
		82A	40441	Nut Hex M16				15
		86B	65158	Washer ELS M1	6			6
		87D	65616	Washer NS M16				12
C		T200C	323219	CF XARM - 2840	x100x100 - CA-100 SHS 2.	334m ARM		3
		T203A	323316	XARM BRACE -				3
		T204B	New			mm stem - 58mm to base of insu	ator from xarm	6
		T208A	323306	GAIN BLOCK 10		D: : 1707		3
		T209D	66807	M16 ELS-V Squ	are Washer 50 x 50 x 4.0mr	n, Diagional 70.7mm.		3
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RATIONS H				DRAWN	letworks TITLE INTER	as TasNetworks 167 357 299 MEDIATE VERTICAL 33KN	STORED IN A RETRIEVAL SYSTEM IF OR TRANSMITTED BY ANY MEANS IN PRIOR PERMISSION OF TASNETWORK	SCALE NTS
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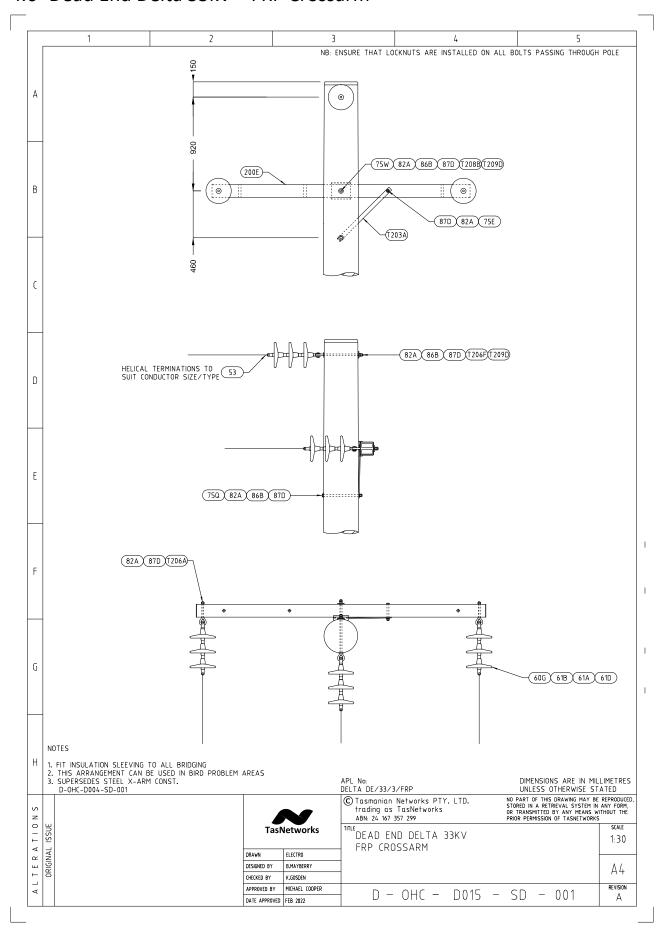
4.5 Dead End 33kV – FRP Crossarm



Dead End 33kV – FRP Crossarm - Material List

F G													
Store Type Nem Ref Stock Item Stock Item Description Quantity		1			2		3			4		5	
B	А												
B			Store Type It	am Paf S	Stock Item	Stock Itam Da	scription					Quantity	
B		DE/33/3/FRP						Kn 146mm					
STANESTON Color			_										
75C 32279 Both New Mile No. Three Largin Form 1 1 1 1 1 1 1 1 1	B		_										
1 200								th 57mm					
SEA													
Section Sect							(550 - Thread Leng	th 75mm					
T200E 32323 F XAPAN 2-840-128/152 5-4-128 SH2 2 34m ARM							16						
Table Tabl				87D	65616	Washer NS M1	6					9	
T208A 29582 M SEVE DOLT 150 - Thread Length 80mm 2 1 1 1 1 1 1 1 1 1	1		l —					25 SHS 2.834m	ARM				
T208H 259539 Mile EVE BOLT 400 - Thread Length 75mm			l —					ath 60mm					
T209D 66807 M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagional 70.7mm. 2			l —										
E Tashetworks Ta			l —					-0 10 D					
F Tashetworks Ta		Į.		1209D	66807	M16 ELS-V Sql	uare wasner 50 x :	00 X 4.0MM, DIA	igionai 70.7mm.			2	
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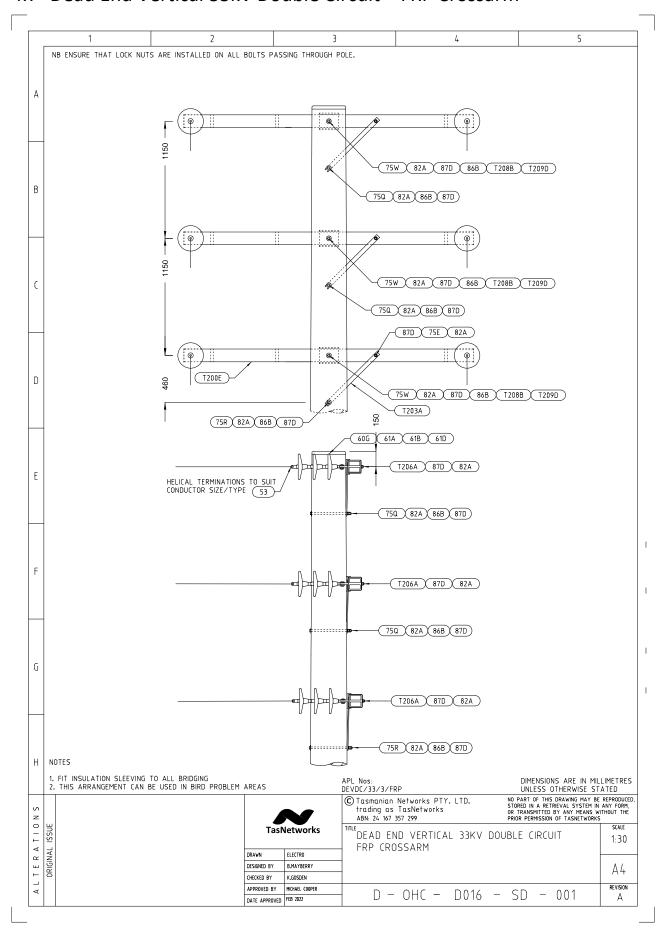
4.6 Dead End Delta 33kV – FRP Crossarm



Dead End Delta 33kV – FRP Crossarm - Material List

	1			2			 3	4			5	
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В												
U												
		Ctoro Tuna	a Itam Baf	Ctook Itom	Stock Item Des	novinti on					10	Quantity
	DELTA	Store Type	60G	321260	Insulator Disc P		70Kn 146mm					guantity 9
C	DE/33/3/FRP		61A	322056	Ball Clevis & Pir							3
			61B	322386	Socket Termina							3
			61D	322090	'W' Clip / Kink I							12
			75E	32279	Bolt Hex M16 X		ength 57mm	·				1
_			75Q	32290	Bolt Hex M16 X							1
			75W	32296	Bolt Hex M16 X	550 - Thread L	ength 75mm					1
			82A	40441	Nut Hex M16	40						9
D			86B 87D	65158 65616	Washer ELS M ² Washer NS M16							9
			T200E	323223			A-125 SHS 2.834	lm ARM				1
			T203A	323316	XARM BRACE -							1
			T206A	325628	M16 EYE BOLT	150 - Thread	Length 60mm					2
			T206H	325636	M16 EYE BOLT		Length 75mm					1
			T208B	323307	GAIN BLOCK 12			D: : 1 = 0 =				1
г			T209D	66807	M16 ELS-V SqL	iare Washer 5	0 x 50 x 4.0mm,	Diagional 70.7mm.				2
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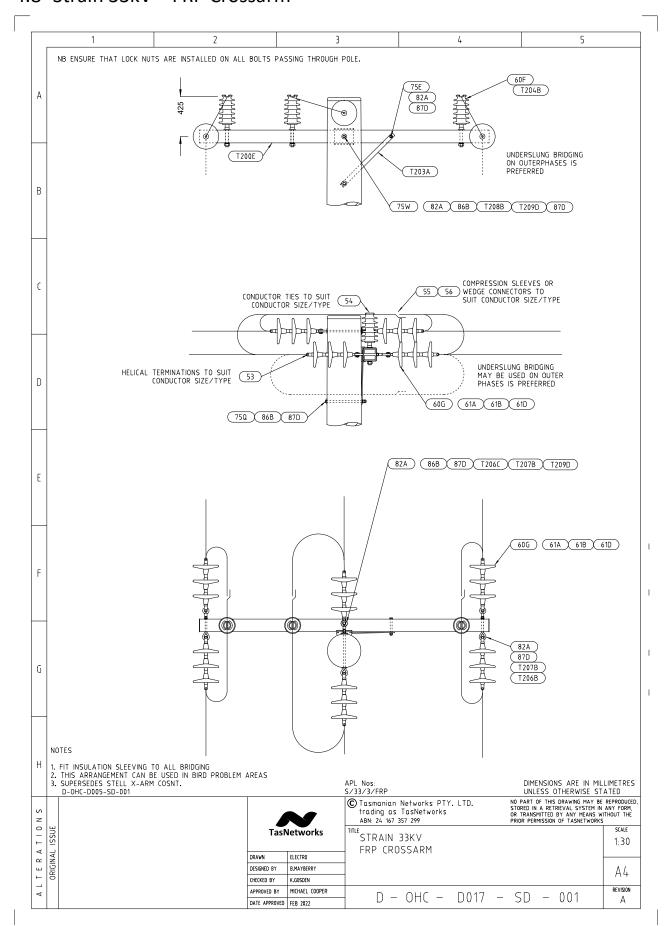
4.7 Dead End Vertical 33kV Double Circuit – FRP Crossarm



Dead End Vertical 33kV Double Circuit – FRP Crossarm - Material List

	1			2		3		4			5
А											
^											
В											
		-									
	DEVDC/33	Store Type S			Stock Item Des		01/ 140				Quanti
	/3/FRP		60G 61A	321260 322056	Ball Clevis & Pi	orcelain 16mm 7	JKII 140IIIIII				18
			61B	322386	Socket Termina						6
C			61D	322090	'W' Clip / Kink						24
_			75E	32279	Bolt Hex M16 X	180 - Thread Ler	gth 57mm				3
	[75Q	32290		400 - Thread Ler					2
			75R	32291		425 - Thread Ler	•				1
			75W 82A	32296 40441	Bolt Hex M16 X Nut Hex M16	550 - Thread Ler	gth /5mm				3 21
			86B	65158	Washer ELS M	16					6
			87D	65616	Washer NS M1						24
D			T200E	323223	CF XARM - 284	0x125x125 - CA-	125 SHS 2.834m <i>A</i>	.RM			3
			T203A	323316	XARM BRACE						3
			T206A	325628		「150 - Thread Le	ngth 60mm				6
			T208B T209D	323307 66807	GAIN BLOCK 1		F0 v 4 0mm Diag	ional 70 7mm			3
			1209D	00007	IN 16 ELS-V SQL	uare washer 50 x	50 x 4.0mm, Diag	ionai 70.7mm.			3
F											
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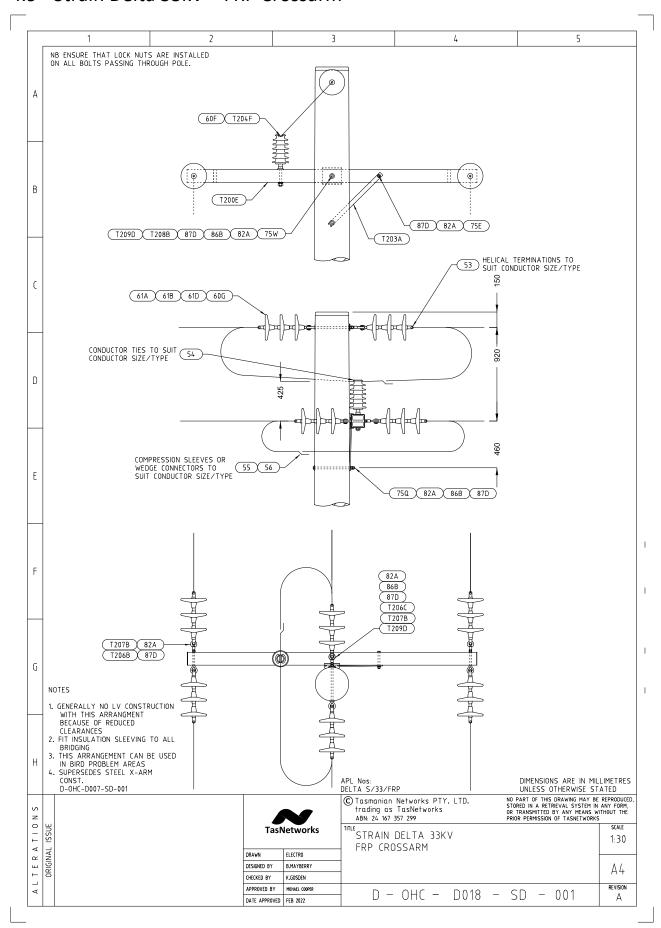
4.8 Strain 33kV - FRP Crossarm



Strain 33kV – FRP Crossarm - Material List

	1			2		3		4		
Α										
	-									
В										
	Unit Assambly	Ctoro Tuno	Itom Dof	Ctook Itom	Ctook Itom D	- corintian				l Ouantitul
	Unit Assembly S/33/3/FRP	Store Type	60F	320541	Insulator, Pin					Quantity 3
			60G	321260		Porcelain 16mm 70Kn	146mm			18
C			61A	322056	Ball Clevis & F					6
_			61B	322386	Socket Termin					6
			61D	322090	'W' Clip / Kink		F7			24
			75E 75Q	32279 32290		X 180 - Thread Length X 400 - Thread Length				1
	1		75W	32296		X 550 - Thread Length				1
			82A	40441	Nut Hex M16	<u> </u>				9
			86B	65158	Washer ELS N					3
D			87D	65616	Washer NS M		0110 0 001 1 1 1 1 1			9
			T200E T203A	323223 323316	XARM BRACE	40x125x125 - CA-125	SHS 2.834m ARM			1
			T204B	New		OR - (MORLYNN - C30	007) 298mm stem -	58mm to base of ir	sulator from xarm	3
	1		T206B	325629		T 180 - Thread Length				2
			T206C	325639	M16 EYE BOL	T 500 - Thread Length	75mm			2
			T207B	325740	M16 EYE NUT					3
Ε			T208B T209D	323307 66807	GAIN BLOCK	125mm quare Washer 50 x 50	v 4 0mm Diagiona	1 70 7mm		1 2
	_									
F										
F G										
G						©	「asmanian Networl	ks PTY. LTD.	NO PART OF THIS DRAWING	MAY BE REPRODUCED.
G							rading as TasNet	ks PTY. LTD. works	NO PART OF THIS DRAWING STORED IN A RETRIEVAL SY OR TRANSMITTED BY ANY PRIOR PRINTSION OF TASM	ANS WITHOUT THE
G H SNO-	SUE				Tasi	Networks TITLE	rading as TasNet ABN: 24 167 357 299	ks PTY. LTD. works	NO PART OF THIS DRAWING STORED IN A RETRIEVAL SY OR TRANSMITTED BY ANY M PRIOR PERMISSION OF TASNE	TWORKS SCALE
G H SNOIL	I ISSUE					Networks	rading as TasNet ABN: 24 167 357 299 STRAIN 3KV	works	OR TRANSMITTED BY ANY M	TWORKS
RATIONS H					DRAWN	Networks TITLE	rading as TasNet ABN: 24 167 357 299	works M	OR TRANSMITTED BY ANY M	SCALE NTS
TERATIONS H	ORIGINAL ISSUE					Networks	rading as TasNet ABN: 24 167 357 299 STRAIN 3KV FRP (ROSSAR	works M	OR TRANSMITTED BY ANY M	TWORKS SCALE
ERATIONS H					DRAWN DESIGNED BY	Networks TITLE ELECTRO B. MAYBERRY K. GOSDEN ANGUS KETLEY	rrading as TasNet ABN: 24 167 357 299 STRAIN 3KV FRP CROSSAR MATERIAL LIS	works M T	OR TRANSMITTED BY ANY M	SCALE NTS

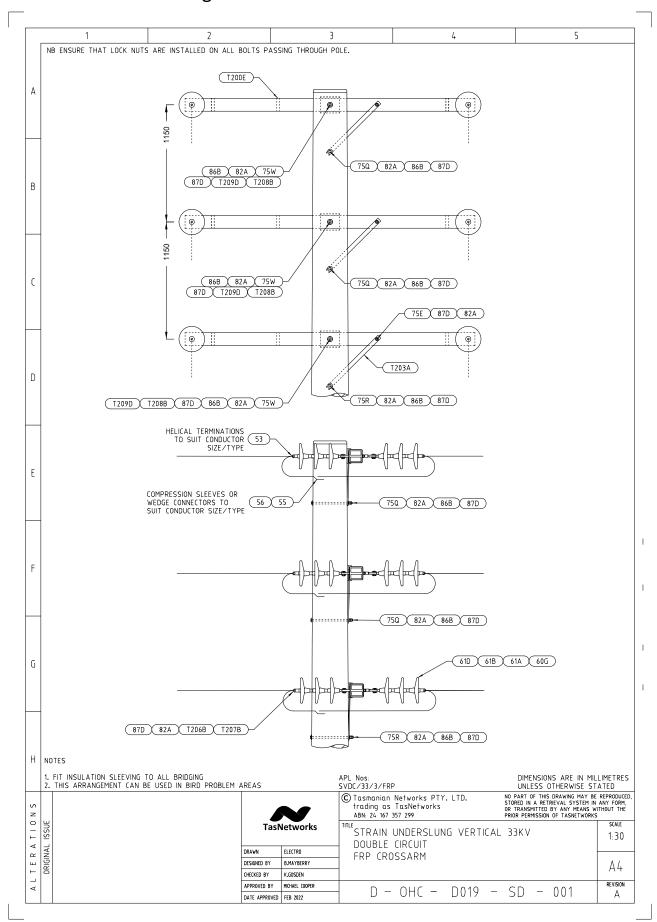
4.9 Strain Delta 33kV – FRP Crossarm



Strain Delta 33kV – FRP Crossarm - Material List

ſ											
	1			2		3		4		5	
Д											
В											
		Store Type	Item Ref	Stock Item	Stock Item I	Description					Quantit
	Delta S/33/3/FRP	S	60F	320541	Insulator, Pir						1
\dashv			60G	321260		c Porcelain 16mm 70Kn 14	6mm				18
			61A 61B	322056 322386	Ball Clevis & Socket Term	ination 16mm					6
			61D	322090	'W' Clip / Kii						24
c			75E	32279		6 X 180 - Thread Length 57	mm				1
١			75Q	32290		6 X 400 - Thread Length 75					1
			75W	32296		6 X 550 - Thread Length 75	mm				1
			82A 86B	40441 65158	Nut Hex M16 Washer ELS						9
\dashv			86B 87D	65616	Washer NS I						9
			T200E	323223	1	2840x125x125 - CA-125 SH	IS 2.834m ARM				1
			T203A	323316	XARM BRAC	CE - 716x40x8					1
D			T204B	New		TOR - (MORLYNN - C3007		mm to base of ins	sulator from xar	m	1
			T206B	325629	1	OLT 180 - Thread Length 60					2
			T206C T207B	325639 325740	M16 EYE NU	OLT 500 - Thread Length 75	omm				3
			T208B	323307	GAIN BLOCK						1
			T209D	66807	1	Square Washer 50 x 50 x 4	l.0mm, Diagional 70	.7mm.			1
=											
F											
G											
G						trad ABN:	nanian Networks P ing as TasNetwork 24 167 357 299	TY. LTD.	OR TRANSMITTI	HIS DRAWING MAY VETREVAL SYSTEM ED BY ANY MEANS ON OF TASHETWOR	KS WITHOUT THE
G H SNOI	IAL ISSUE				Tasi	Networks TITLE STE	ing as TasNetwork 24 167 357 299 RAIN DELTA 31 PCROSSARM	(\$	OR TRANSMITTI	ED BY ANY MEANS	WITHOUT THE
	ORIGINAL ISSUE					Networks TITLE STR ELECTRO B.MAYBERRY K.GOSDEN	ing as TasNetwork 24 167 357 299 RAIN DELTA 31	BKV	OR TRANSMITTI PRIOR PERMISS	ED BY ANY MEANS ION OF TASNETWOR	SCALE

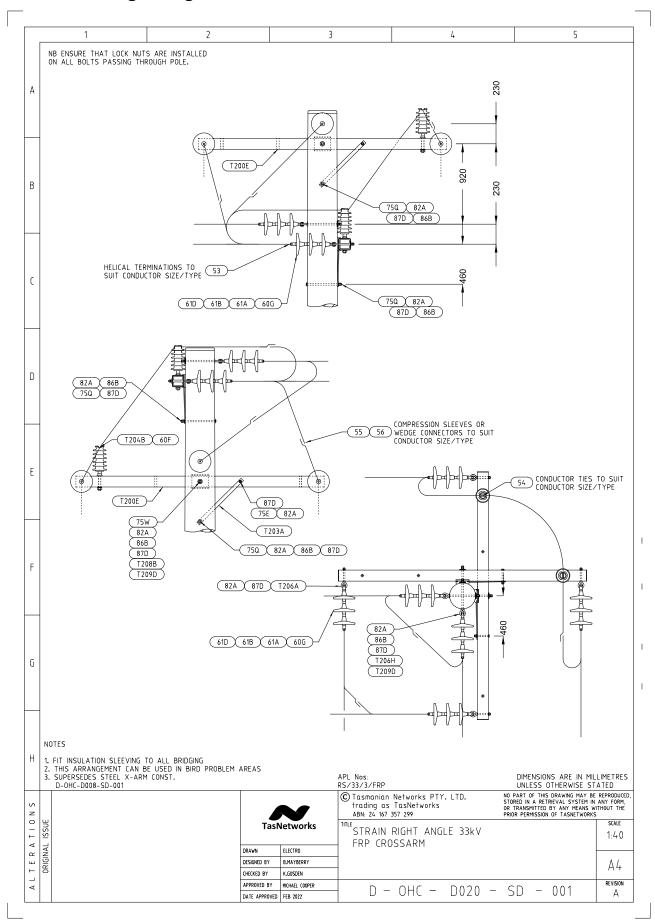
4.10 Strain Underslung Vertical 33kV Double Circuit – FRP Crossarm



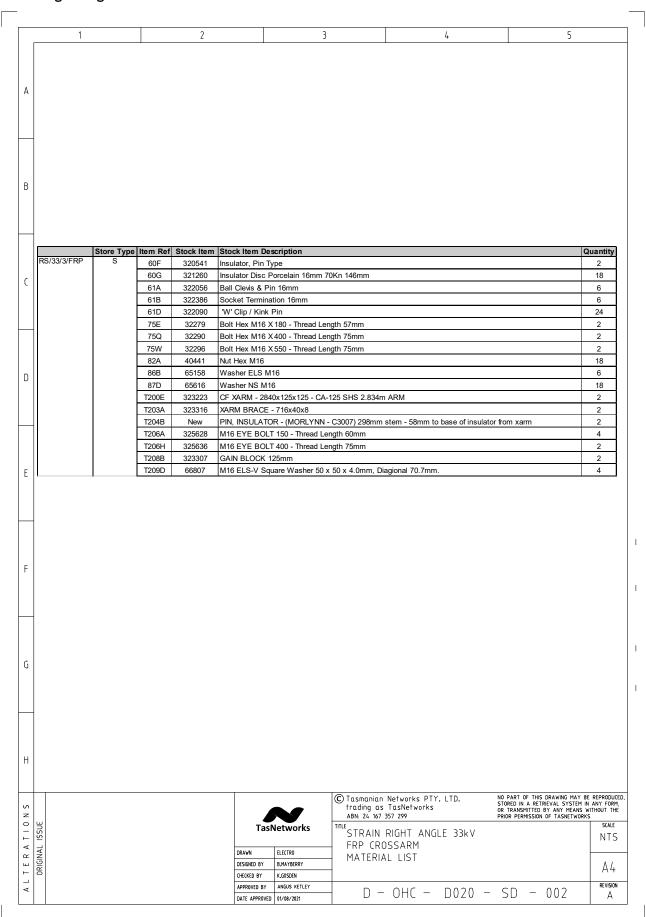
Strain Underslung Vertical 33kV Double Circuit – FRP Crossarm - Material List

	1			2		3			4		5	
Α												
А												
В												
			Item Ref	Stock Item	Stock Item De	escription						Quantity
	SVDC/33/3/FRP	S	60G	321260		Porcelain 16mm	70Kn 146mm					36
			61A	322056	Ball Clevis & F							12
			61B	322386	Socket Termin							12
			61D 75E	322090 32279	'W' Clip / Kink	X 180 - Thread L	onath 57mm					48 3
C			75Q	32290		X 400 - Thread L						2
			75R	32291		X 425 - Thread L						1
			75W	32296		X 550 - Thread L						3
			82A	40441	Nut Hex M16		·					21
			86B	65158	Washer ELS N							6
			87D T200E	65616 323223	Washer NS M		N-125 SHS 2.834	m ARM				3
			T203A	323223	XARM BRACE		4-123 3113 2.034	III ANW				3
D			T206B	325629		T 180 - Thread L	ength 60mm					6
			T207B	325740	M16 EYE NUT							6
			T208B	323307	GAIN BLOCK							3
_			T209D	66807	W 10 EL3-V 30	quale washer 50	x 50 x 4.0mm, [Diagional 70.71111				3
F												
G												
+												
<u>ر</u>	ISSUE				Tash	Networks	trading as ABN: 24 167 TITLE STRAIN	UNDERSLUN	G VERTICA		RIEVAL SYSTEM IN BY ANY MEANS W	I ANY FORM, /ITHOUT THE
0					DRAWN	ELECTR0		CIRCUIT FR				CIVI
E R A T I O					DESIGNED BY	B.MAYBERRY	TIATERIA	AL LIST				Α4
LIERAIIO	ORIGINAL I				CHECKED BY	K.GOSDEN						A4 REVISION
ALTERATION						K.GOSDEN ANGUS KETLEY			D019 -	SD -	002	

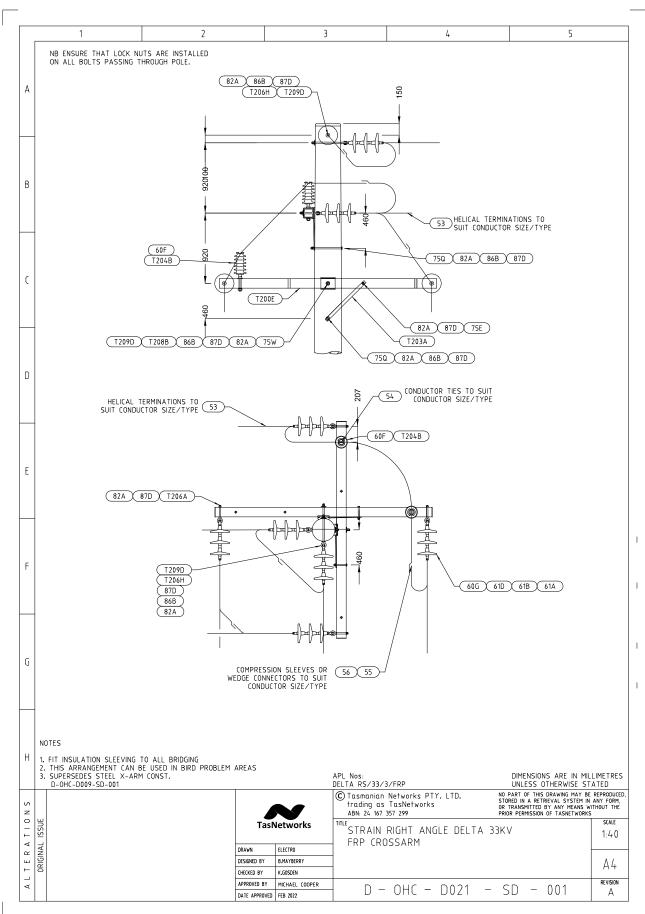
4.11 Strain Right Angle 33kV - FRP Crossarm



Strain Right Angle 33kV - FRP Crossarm - Material List



4.12 Strain Right Angle Delta 33kV – FRP Crossarm

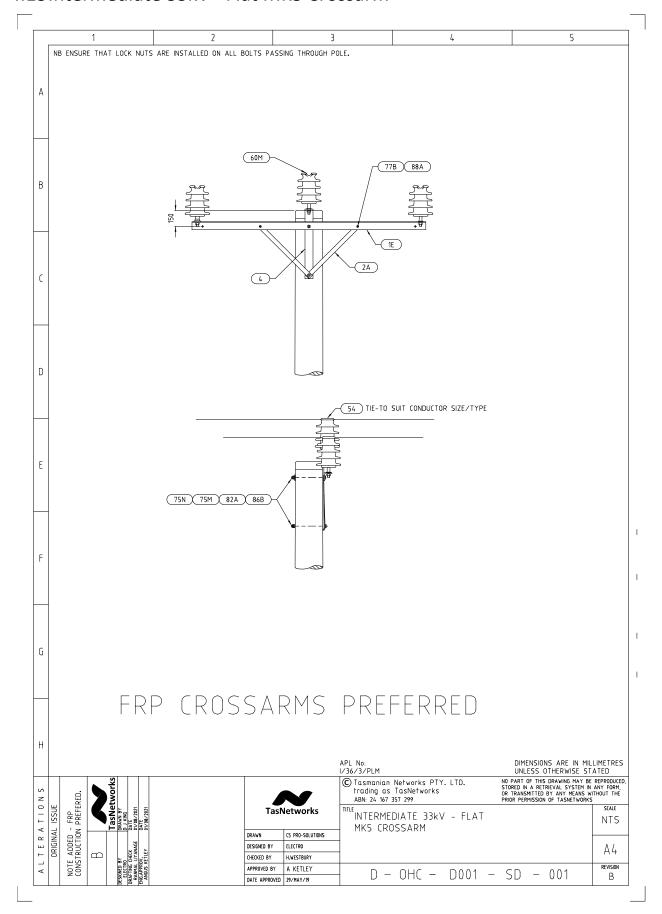


Strain Right Angle Delta 33kV – FRP Crossarm - Material List

	1		2		3			4		5	
٨											
Α											
В											
	Stor	re Type Item Ref	Stock Itom	Stock Itom Do	ecrintion						Quantit
_		S 60F	320541	Insulator, Pin T							2
	RS/33/3/FRP	60G	321260		Porcelain 16mm	70Kn 146mm					18
		61A	322056	Ball Clevis & P							6
C		61B	322386	Socket Termina							6
		61D	322090	'W' Clip / Kink							24
		75E 75Q	32279 32290		X 180 - Thread Le						2
		75Q 75W	32290		X 400 - Thread Le X 550 - Thread Le						2
		82A	40441	Nut Hex M16	IIII Gau Le						18
		86B	65158	Washer ELS M	116						6
		87D	65616	Washer NS M1	16						18
D		T200E	323223		40x125x125 - CA	1-125 SHS 2.834	m ARM				2
		T203A T204B	323316 New	XARM BRACE	- 716x40x8 DR - (MORLYNN	C2007\ 200m	n atom E0m	m to book of in	aulatar fram va	urm.	2
		T206A	325628		T 150 - Thread Le		ii steili - Joili	III to base of its	Sulator Horri Xa	11111	4
											_
		T206H	325636	M16 EYE BOL	T 400 - Thread Le						2
			325636 323307	M16 EYE BOL GAIN BLOCK	T 400 - Thread Le						2
E		T206H		GAIN BLOCK	T 400 - Thread Le	ength 75mm	Diagional 70.7	mm.			
		T206H T208B	323307	GAIN BLOCK	T 400 - Thread Le 125mm	ength 75mm	Diagional 70.7	'mm.			2
E F		T206H T208B	323307	GAIN BLOCK	T 400 - Thread Le 125mm	ength 75mm	Diagional 70.7	'mm.			2
F		T206H T208B	323307	GAIN BLOCK	T 400 - Thread Le 125mm	ength 75mm x 50 x 4.0mm, I					2 3
F G H SN	JOE TO THE TOTAL	T206H T208B	323307	GAIN BLOCK M16 ELS-V Sq	T 400 - Thread Le 125mm quare Washer 50	ength 75mm x 50 x 4.0mm, I	Networks P TasNetwork 357 299	TY. LTD.	OR TRANSMIT	THIS DRAWING MAY RETRIED BY ANY MEANS SION OF TASNETWO	BE REPRODUCES IN ANY FORM, WITHOUT THE
RATIONS II C II C	INAL ISSUE	T206H T208B	323307	GAIN BLOCK M16 ELS-V Sq Tasi	T 400 - Thread Let 125mm quare Washer 50	ength 75mm x 50 x 4.0mm, I	Networks P TasNetwork 357 299 RIGHT AN DSSARM	TY. LTD.	OR TRANSMIT	TED BY ANY MEANS	BE REPRODUCEES IN ANY FORM, WITHOUT THE RKS SCALE NTS
F G H SNOIL	ORIGINAL ISSUE	T206H T208B	323307	GAIN BLOCK M16 ELS-V Sq	T 400 - Thread Let 125mm quare Washer 50	© Tasmanian x 50 x 4.0mm, I x 50 x 4.0mm, I grading as ABN: 24 167 TITLE STRAIN FRP CRI MATERIA	Networks P TasNetwork 357 299 RIGHT AN OSSARM AL LIST	TY. LTD.	OR TRANSMIT PRIOR PERMIS	TED BY ANY MEANS	BE REPRODUCEE IN ANY FORM, WITHOUT THE KKS SCALE

33kV STEEL CROSSARM CONSTRUCTIONS

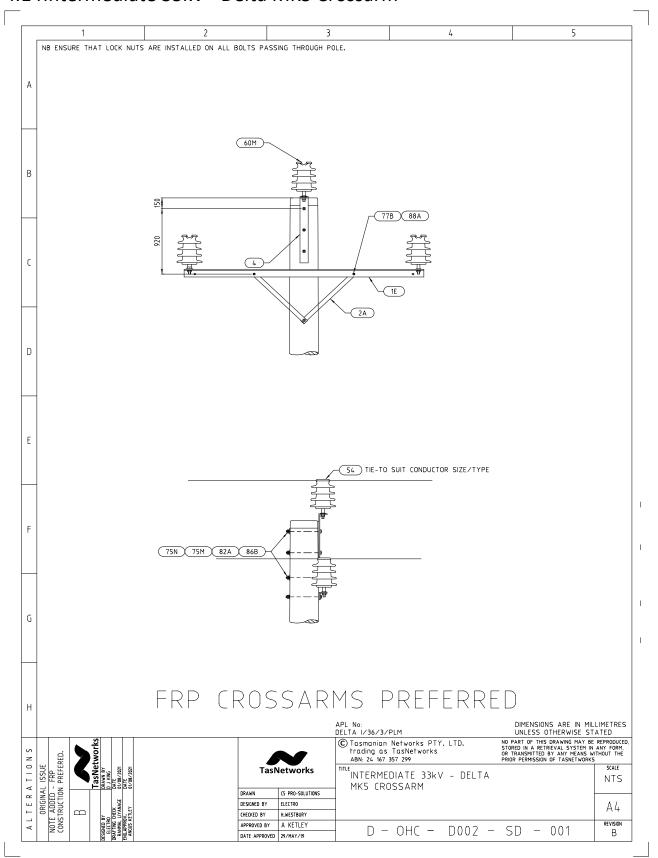
4.13Intermediate 33kV - Flat MK5 Crossarm



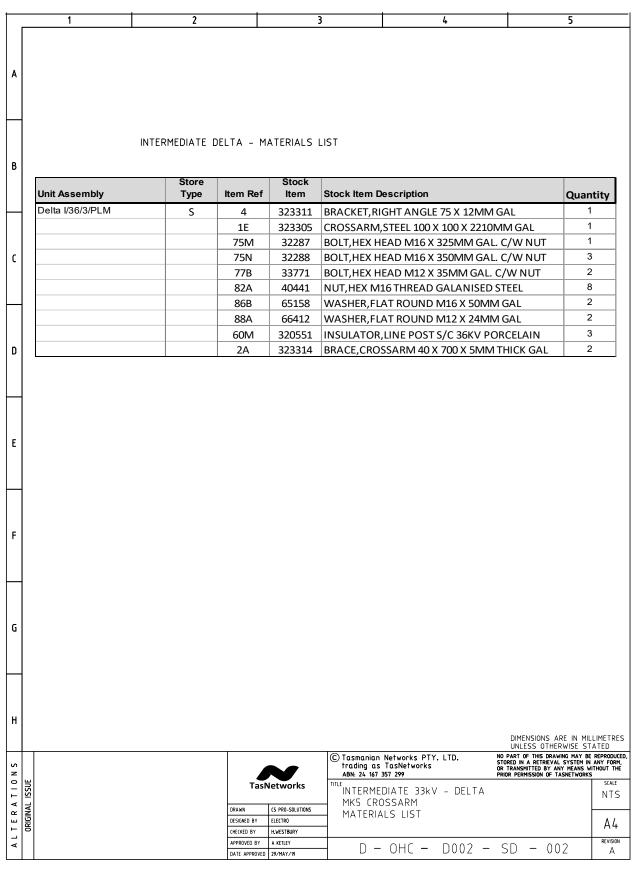
Intermediate 33kV - Flat MK5 Crossarm - Material List

	1	2			3	4		5
	11	NTERMEDIATE FL	AT - MATI	ERIALS LIS	Т			
Unit	Assembly	Store Type	Item Ref	Stock Item	Stock Item De	scription		Quantity
1/36/	/3/PLM	S	4	323311	BRACKET, RIG	6HT ANGLE 75 X 12M	1M GAL	1
			1E	323305	CROSSARM,S	TEEL 100 X 100 X 22	10MM GAL	1
			75M	32287	BOLT, HEX HE	AD M16 X 325MM G	AL. C/W NUT	
			75N	32288		AD M16 X 350MM G		
			77B	33771		AD M12 X 35MM GA		2
			82A	40441		6 THREAD GALANIS		2
			86B	65158		T ROUND M16 X 50		2
			88A	66412		T ROUND M12 X 24		2
			60M	320551		INE POST S/C 36KV		3
			2A	323314	BRACE, CROS	SARM 40 X 700 X 5N	MM THICK GAL	. 2
							UNLESS (THERWISE STATED
					trading as	Networks PTY. LTD. TasNetworks	UNLESS O NO PART OF THIS STORED IN A RETI OR TRANSMITTED	THERWISE STATED DRAWING MAY BE REPRODE RIEVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT T
JE TO THE TOTAL			Tan	Naturals	trading as ABN: 24 167	TasNetworks 357 299	UNLESS OF THIS STORED IN A RET OR TRANSMITTED PRIOR PERMISSION	THERWISE STATED DRAWING MAY BE REPRODU RIEVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT T OF TASNETWORKS
			Tas	Networks	trading as ABN: 24 167 TITLE INTERME	TasNetworks 357 299 DIATE 33kV - FLAT	UNLESS OF THIS STORED IN A RET OR TRANSMITTED PRIOR PERMISSION	THERWISE STATED DRAWING MAY BE REPRODU RIEVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT T OF TASNETWORKS SCAL
INAL ISSUE			DRAWN	C5 PRO-SOLUTIONS	trading as ABN: 24 167 TITLE INTERME MK5 CRO	TasNetworks 357 299 DIATE 33kV - FLAT OSSARM	UNLESS OF THIS STORED IN A RET OR TRANSMITTED PRIOR PERMISSION	DRAWING MAY BE REPRODU RIEVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT TO
Original Issue			DRAWN DESIGNED BY	CS PRO-SOLUTIONS ELECTRO	trading as ABN: 24 167 TITLE INTERME	TasNetworks 357 299 DIATE 33kV - FLAT OSSARM	UNLESS OF THIS STORED IN A RET OR TRANSMITTED PRIOR PERMISSION	DTHERWISE STATED DRAWING MAY BE REPRODU RIEVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT TI OF TASNETWORKS SCALE
			DRAWN	C5 PRO-SOLUTIONS	Trading as ABN: 24 167 TITLE INTERME MK5 CRO MATERIA	TasNetworks 357 299 DIATE 33kV - FLAT OSSARM	UNLESS (NO PART OF THIS STORED IN A RET OR TRANSMITTED PRIOR PERMISSION	DTHERWISE STATED DRAWING HAY BE REPRODI REVAL SYSTEM IN ANY FOR BY ANY MEANS WITHOUT T OF TASNETWORKS NT ALL ALL ALL ALL ALL ALL ALL

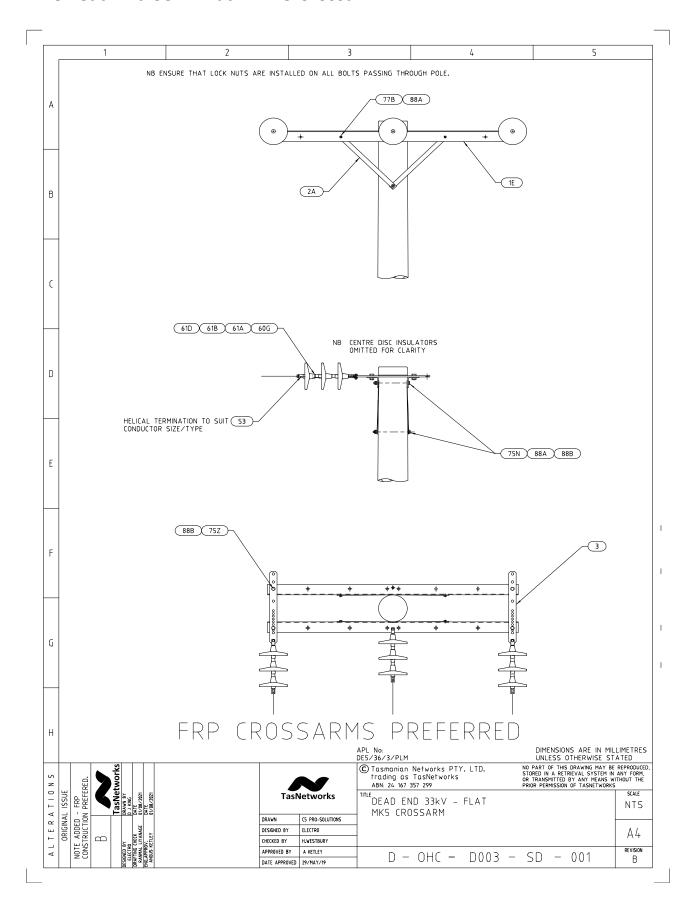
4.14Intermediate 33kV - Delta MK5 Crossarm



Intermediate 33kV - Delta MK5 Crossarm - Material List



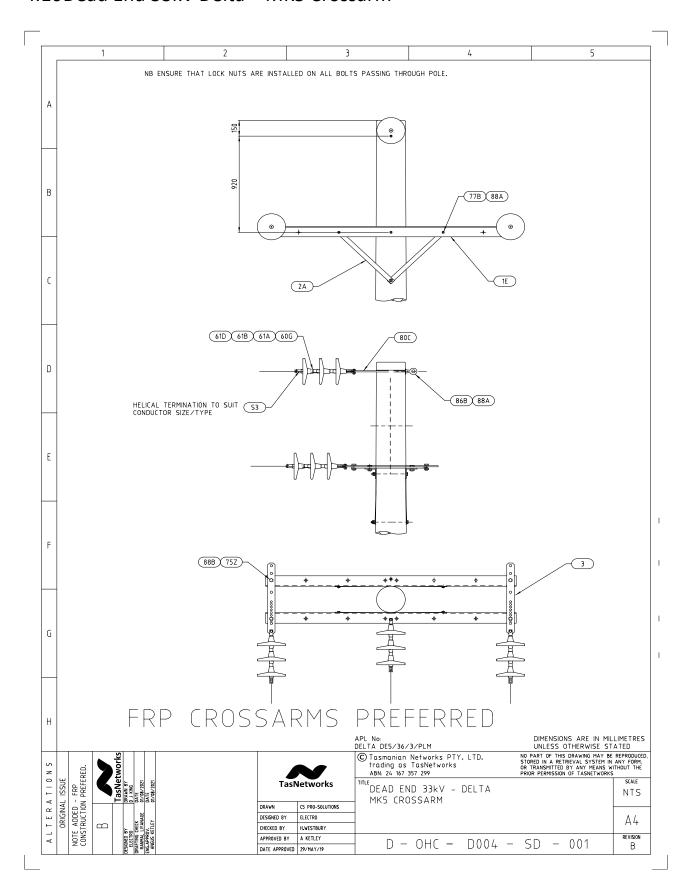
4.15Dead End 33kV Flat - MK5 Crossarm



Dead End 33kV Flat MK5 Crossarm – Material List

Г	1		2			3		4	5	
	· ·			I			-	·	<u> </u>	
Α		DEAD EN	D ELAT	שאב כם	OCC V DV	1 - MATERIALS	LICT			
		DEAD EN	D - ILAI -	- ויואט כה	(USSANI	1 - MATERIALS	, LIST			
	1									
		Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Descrip	ntion		0	
		DE5/36/3/PLM	S	3		PLATE,STRAIN DO		2NANA STEEL	Quantity 2	
В		520,00,0,1 E.III		1E		CROSSARM,STEEL			2	
D				60G		INSULATOR, SUSP			9	
				61A		CLEVIS,ROD-END			3	
				61B		CONNECTOR, ROI			6	
	1			61D 75N	322090	BOLT, HEX HEAD N			4	
				75Z	32261	BOLT, HEX HEAD N			4	
				77B	33771	BOLT, HEX HEAD N			4	
C				85B	50250	COACH SCREW,H			1	
				88A	66412	WASHER, FLAT RO			4	
				88B 2A		WASHER,FLAT RC BRACE,CROSSARI			4	
_	1				323314	IDNACE, CROSSANI	VI -TO X 700 X 31VI	WI THICK GAL		
D										
U										
	1									
Ε										
	1									
F										
•										
	1									
G										
_	4									
Н										
11										
									DIMENSIONS ARE IN MI UNLESS OTHERWISE S	
							Networks PTY.	LTD NO.P	ART OF THIS DRAWING MAY R	F REPRODUCED
S					V	trading as ABN: 24 167	: TasNetworks 357 299	OR T PRIOR	ED IN A RETRIEVAL SYSTEM I RANSMITTED BY ANY MEANS I R PERMISSION OF TASNETWORK	WITHOUT THE
0	띯			TasN	etworks	TITLE	ND 33kV - F			SCALE
A T I 0	ORIGINAL ISSUE					— MK5 (RI		LAI		NTS
œ	ANIS				C5 PRO-SOLUTIONS		ALS LIST			.
T E R	8K		}		ELECTRO H.WESTBURY	$\overline{}$				A4
٦			ł		A KETLEY		. NHC	רעעס כ	D _ 003	REVISION
_				DATE APPROVED	29/MAY/19	u -	. UNL -	D003 - S	U - UUZ	А

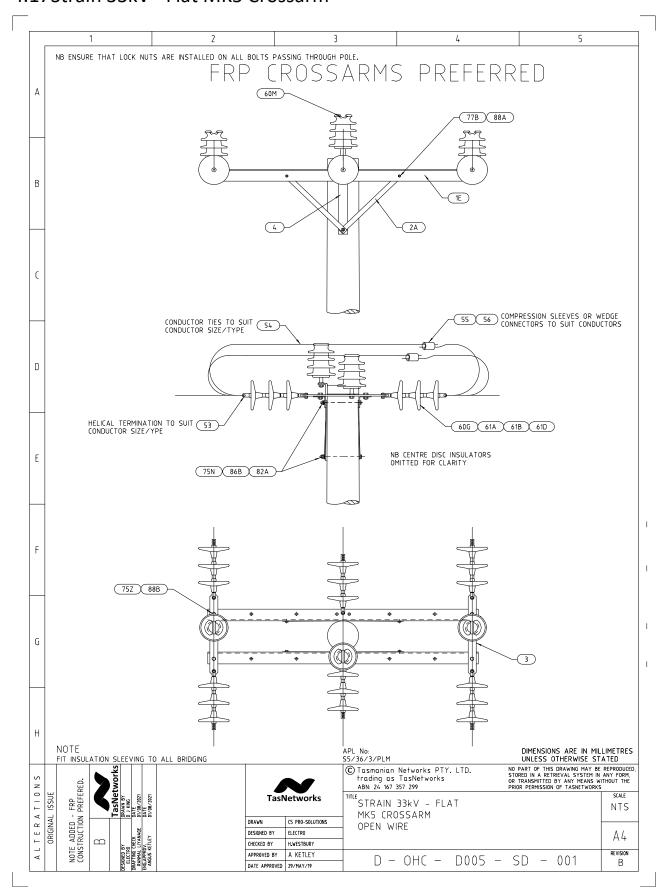
4.16Dead End 33kV Delta - MK5 Crossarm



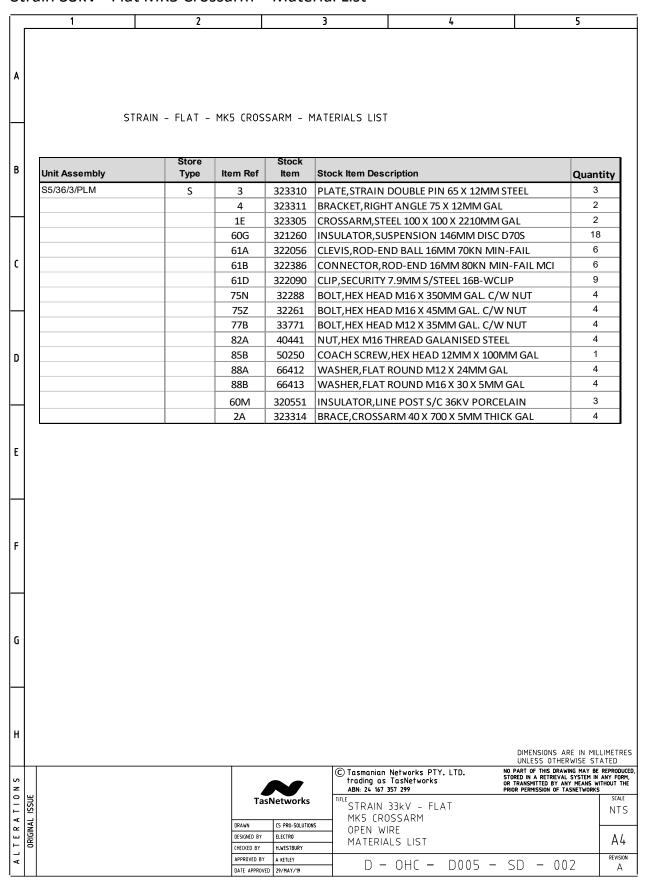
Dead End 33kV Delta - MK5 Crossarm – Material List

	1	2			3	4			5
			I						
A									
	DEAD E	ND - DELTA	- MK5 CR09	SSARM - I	MATERIALS LIS	T			
	Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Des	cription			Quantity
	Delta DE5/36/3/PLM	S	3		PLATE,STRAIN	•	E V 12N/N/LCT	TEE!	2
В	20,00,0,1 2	3	1E		CROSSARM,ST				2
			60G		INSULATOR, SU				9
			61A		CLEVIS,ROD-E				3
			61B		CONNECTOR,				3
			61D	322090	CLIP,SECURITY	7.9MM S/STEE	L 16B-WCLII	P	6
			80C	37260	EYE BOLT, FOR	GED M20 X 325	MM GAL C/\	W NUT	1
c			75Z	32261	BOLT, HEX HEA	D M16 X 45MN	1 GAL. C/W N	NUT	4
			77B	33771	BOLT, HEX HEA	D M12 X 35MV	1 GAL. C/W	TUV	4
			88B	66413	WASHER,FLAT	ROUND M16 X	30 X 5MM G	GAL	1
Щ			102A		EYE-NUT,M20				1
			86C	65159		ROUND M20 X			1
			2A	323314	BRACE, CROSS	ARM 40 X 700 X	5MM THICK	(GAL	4
اما									
-									
Ε									
F									
П									
ٍ									
G									
н									
"								DIMENSIONS ADD	IN MILLIMETRES
Ш			1		I@-			UNLESS OTHERW	/ISE STATED
s					trading as	Networks PTY. LT TasNetworks	D. NO F STOP OR 1	PART OF THIS DRAWINI RED IN A RETRIEVAL S TRANSMITTED BY ANY IR PERMISSION OF TASI	G MAY BE REPRODUCED, YSTEM IN ANY FORM, MEANS WITHOUT THE
0 0	픠		Ta	sNetworks	ABN: 24 167			R PERMISSION OF TASI	NETWORKS SCALE
1 I 0	ISSUE		''a'	S. ACCEANOL V.S	DEAD EN	ND 33kV - DEL	_TA		NTS
RA	ORIGINAL		DRAWN	CS PRO-SOLUTION	c I	JSSARM ALS LIST			
T E	ORIC		DESIGNED BY CHECKED BY	ELECTRO H.WESTBURY					A4
A L			APPROVED BY	A KETLEY		OHC - D	004 - 5	.D - 002) REVISION
			DATE APPROV	ED 29/MAY/19			· · · · · ·	002	<u> </u>

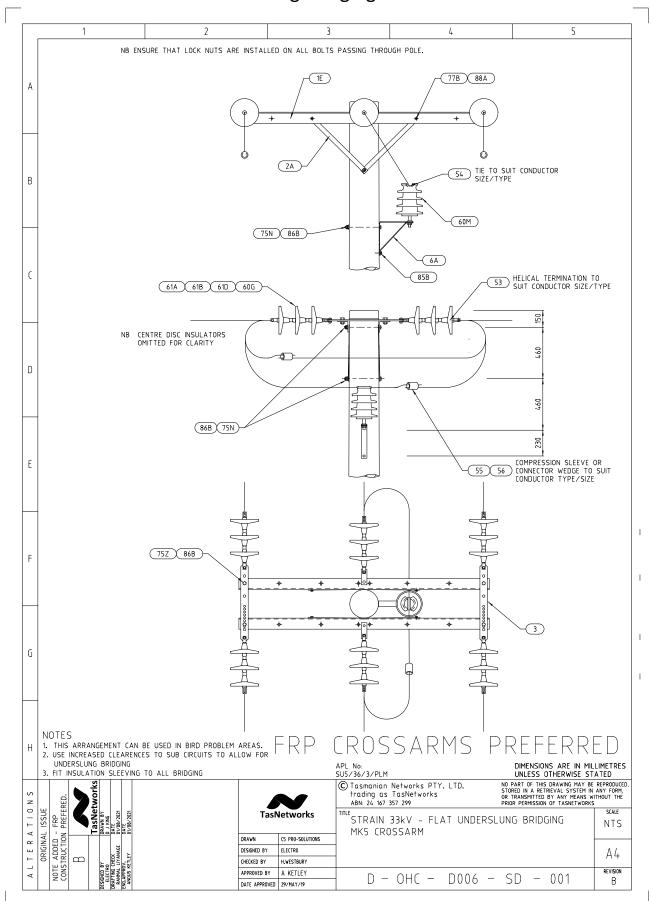
4.17Strain 33kV - Flat MK5 Crossarm



Strain 33kV - Flat MK5 Crossarm - Material List



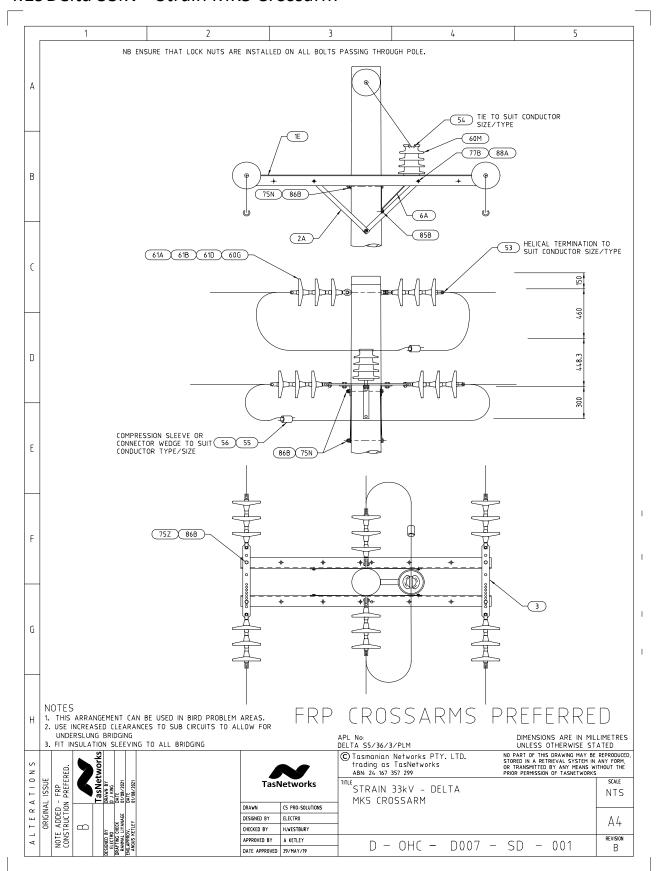
4.18Strain 33kV - Flat Underslung Bridging MK5 Crossarm



Strain 33kV - Flat Underslung Bridging MK5 Crossarm – Material List

	1	2			3	4		5
ſ	·				-	•		
Α	CTD AND EL			ID CIVIC				
	STRAIN FL	.AI - UNDE	K2FANG RK	IDGING -	MATERIALS LIST			
		Store		Stock				
	Unit Assembly	Type	Item Ref	Item	Stock Item Desc	ription		Quantity
	SU5/36/3/PLM	S	3	323310		OOUBLE PIN 65 X 12	MM STEEL	2
			1E	323305	-	EL 100 X 100 X 2210		2
3			60G	321260		SPENSION 146MM [18
			61A	322056		D BALL 16MM 70KN		6
			61B	322386	· ·	DD-END 16MM 80KI		6
4			61D	322090		7.9MM S/STEEL 16B-		9
			75N	32288		M16 X 350MM GAL		4
			75Z	32261	<u> </u>	M16 X 45MM GAL.	-	4
:			77B	33771		M12 X 35MM GAL.		4
			85B	50250		HEX HEAD 12MM X		1
			88A	66412		ROUND M12 X 24MN		4
_			88B	66413		ROUND M16 X 30 X 5		4
			6A	323315		et 33kV (Not Stocke		1
			60M	320551	1	E POST S/C 36KV PC	· · · · · · · · · · · · · · · · · · ·	1
,			2A	323314		RM 40 X 700 X 5MM		4
=								
- 1								
						Networks PTY. LTD.	UNLESS OTHER	RWISE STATED
	Issue		Tá	asNetworks	trading as ABN: 24 167 : STRAIN	TasNetworks 357 299 33kV - FLAT UNDE	UNLESS OTHER NO PART OF THIS DRAW STORED IN A RETRIEVAL OR TRANSMITTED BY AN PRIOR PERMISSION OF TA	ING MAY BE REPRODUC SYSTEM IN ANY FORM IY MEANS WITHOUT THE ASNETWORKS
) : :			Ta	asNetworks (5 PRO-SQLUTIN	Trading as ABN: 24 167: STRAIN MK5 (RC	TasNetworks 357 299 33kV – FLAT UNDE OSSARM	UNLESS OTHER NO PART OF THIS DRAW STORED IN A RETRIEVAL OR TRANSMITTED BY AN PRIOR PERMISSION OF TA	RWISE STATED ING MAY BE REPRODUC SYSTEM IN ANY FORM IY MEANS WITHOUT THE ASNETWORKS SCALE
			DRAWN DESIGNED BY	C5 PRO-SOLUTIO	trading as ABN: 24 167: STRAIN MK5 CRO	TasNetworks 357 299 33kV – FLAT UNDE OSSARM	UNLESS OTHER NO PART OF THIS DRAW STORED IN A RETRIEVAL OR TRANSMITTED BY AN PRIOR PERMISSION OF TA	RWISE STATED ING MAY BE REPRODUC SYSTEM IN ANY FORM IY MEANS WITHOUT THE ASNETWORKS SCALE
	Original Issue		DRAWN	C5 PRO-SOLUTION ELECTRO H.WESTBURY	Trading as ABN: 24 167 3 TITLE STRAIN MK5 CRC MATERIA	TasNetworks 357 299 33kV – FLAT UNDE OSSARM	UNLESS OTHER NO PART DO THIS DRAW STORED IN A RETRIEVAL OR TRANSMITTED BY AN PRIOR PERMISSION OF TA	RWISE STATED ING MAY BE REPRODUCE SYSTEM IN ANY FORM Y MEANS WITHOUT THE SENETWORKS SCALE NTS A4

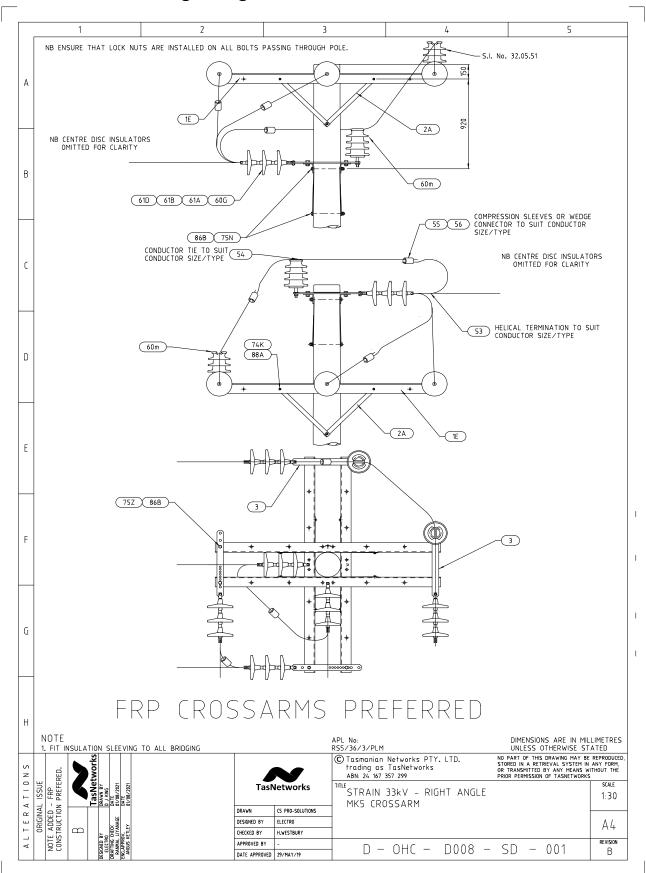
4.19Delta 33kV - Strain MK5 Crossarm



Delta33kV - Strain MK5 Crossarm - Material List

	1	2			3 4	5
A	STRAIN -	DELTA – N	1K5 CROSS	ARM – MA	ATERIALS LIST	
	Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity
	DeltaS5/36/3/PLM	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2
			102A	325842	EYE-NUT,M20 THREAD GAL STEEL	1
В			1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2
			60G	321260	INSULATOR, SUSPENSION 146MM DISC D70S	18
			61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	6
\dashv			61B	322386	CONNECTOR, ROD-END 16MM 80KN MIN-FAIL MCI	6
			61D	322090	CLIP, SECURITY 7.9MM S/STEEL 16B-WCLIP	9
			75N	32288	BOLT, HEX HEAD M16 X 350MM GAL. C/W NUT	4
c			75Z	32261	BOLT, HEX HEAD M16 X 45MM GAL. C/W NUT	4
			77B	33771	BOLT, HEX HEAD M12 X 35MM GAL. C/W NUT	4
			80D	37261	EYE BOLT, FORGED M20 X 350MM GAL C/W NUT	1
			85B	50250	COACH SCREW, HEX HEAD 12MM X 100MM GAL	1
			88A	66412	WASHER, FLAT ROUND M12 X 24MM GAL	4
			88B	66413	WASHER, FLAT ROUND M16 X 30 X 5MM GAL	4
۱,			6A	323315	Insulator Bracket 33kV (Not Stocked - Place Order)	1
D			60M		INSULATOR,LINE POST S/C 36KV PORCELAIN	1
			2A		BRACE, CROSSARM 40 X 700 X 5MM THICK GAL	4
E						
F						
F G						RE IN MILLIMETRES RWISE STATED
F G					© Tasmanian Networks PTY, LTD. One of the state of the s	RWISE STATED WING MAY BE REPRODUCED L SYSTEM IN ANY FORM,
F G H SNO	200			asNetwork	UNLESS OTHE C Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299 TITLE UNLESS OTHE NO PART OF THIS DRAIS STORED IN A RETRIBED IN A PRIOR PRIMISSION OF T	RWISE STATED WING MAY BE REPRODUCE! L SYSTEM IN ANY FORM, NY MEANS WITHOUT THE 'ASNETWORKS
F G H SNOIL	AL ISSUE				UNLESS OTHE Trading as TasNetworks PTY, LTD. trading as TasNetworks ABN: 24 167 357 299 TITLE STRAIN 33kV - DELTA MK5 CROSSARM	RWISE STATED WING MAY BE REPRODUCE! L SYSTEM IN ANY FORM, NY MEANS WITHOUT THE ASNETWORKS
F G H SNOLL			DRAWN DESIGNED E	CS PRO-SOLU	UNLESS OTHE © Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299 TITLE STRAIN 33kV - DELTA MK5 CROSSARM	RWISE STATED WING MAY BE REPRODUCED L SYSTEM IN ANY FORM, NY MEANS WITHOUT THE ASNETWORKS
F G H SNOIL	UKIGINAL ISSUE		DRAWN	C5 PRO-SOLU BY ELECTRO Y H.WESTBURY	UNLESS OTHE Trading as TasNetworks PTY, LTD. trading as TasNetworks ABN: 24 167 357 299 TITLE STRAIN 33kV - DELTA MK5 CROSSARM	RWISE STATED WING MAY BE REPRODUCEL L SYSTEM IN ANY FORM, NY MEANS WITHOUT THE ASNETWORKS SCALE NTS A 4

4.20 Strain 33kV - Right Angled MK5 Crossarm



Strain 33kV - Right Angled Strain MK5 Crossarm - Material List

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ا ۲			Store Type	Item Ref	Stock Item	Stock Item De	escription				Quantity
C	DEL		S	60F	320541	Insulator, Pin					2
	RS/3	33/3/FRP		60G	321260		Porcelain 16mm 7	0Kn 146mm			18
				61A	322056	Ball Clevis & F					6
\dashv				61B 61D	322386 322090	Socket Termin 'W' Clip / Kink					6 24
				75E	32279		X 180 - Thread Ler	gth 57mm			2
				75Q	32290		X 400 - Thread Ler	-			2
D				75W	32296		X 550 - Thread Ler	gth 75mm			2
١				82A	40441	Nut Hex M16	110				18
				86B 87D	65158 65616	Washer ELS M Washer NS M					6 18
				T200E	NEW		40x125x125 - CA-	125 SHS 2.834m /	ARM		2
-				T203A	NEW	XARM BRACE					2
				T204B	NEW				em - 58mm to base of ins	ulator from xarm	2
				T206A	NEW		T 150 - Thread Le				2
Ε				T206H T208B	NEW NEW	GAIN BLOCK	T 400 - Thread Lei	igin 75mm			2
				T209	NEW			m, Base OD 60m,	Ht 28mm before compres	sion,6.0mm Thick)	4
				T209D	NEW	M16 ELS-V So	quare Washer 50 x	50 x 4.0mm, Diag	jional 70.7mm.		4
				T205A	NEW				27B (OD: 27mm, ID: 16.2	- 17.0mm, Thickness: 3.5)	8
T				T228 T229A	NEW NEW		(36mm across Flat NS (ID-26mm, OD⊸		L Omm)		2 2
				T229B	NEW					- 25.5mm, Thickness: 5.0)	2
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									Networks PTY. LTD.	NO PART OF THIS DRAWIN STORED IN A RETRIEVAL S	SYSTEM IN ANY F
						1	N	ABN: 24 167 3		OR TRANSMITTED BY ANY PRIOR PERMISSION OF TAS	MEANS WITHOUT NETWORKS
S						_					SCA
S N	SUE					Tasi	Networks	CTD VINI	DIGHT ANGLE DEL	T	
T 0 N S	T ISSUE					Tasi	Networks	STRAIN I	RIGHT ANGLE DEL SSARM	TA 33KV	N ⁻
						DRAWN	ELECTRO	STRAIN I FRP CRO MATERIA	SSARM	TA 33KV	N ⁻
T 0 N S						DRAWN DESIGNED BY	ELECTRO B.MAYBERRY	FRP CRU	SSARM	TA 33KV	
T 0 N S	ORIGINAL ISSUE					DRAWN	ELECTRO	MATERIA	L LIST	TA 33KV - SD - 002	A