

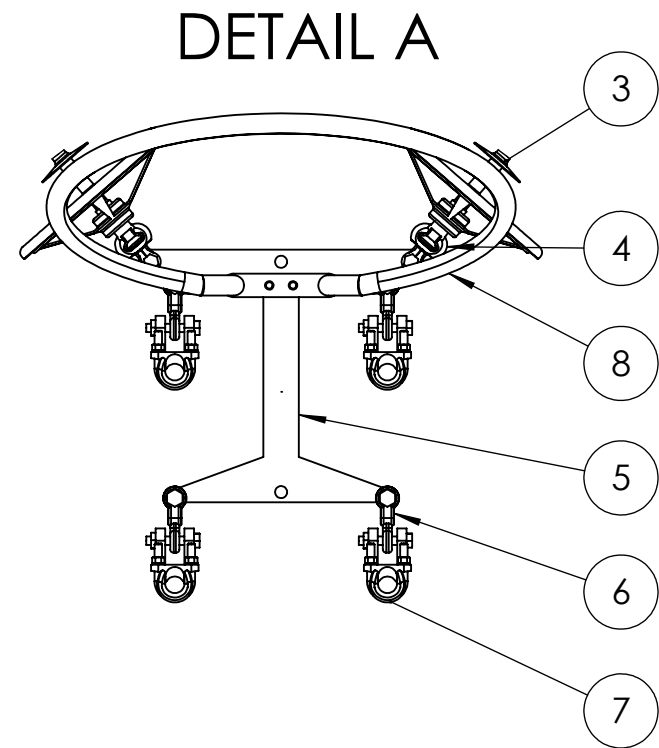
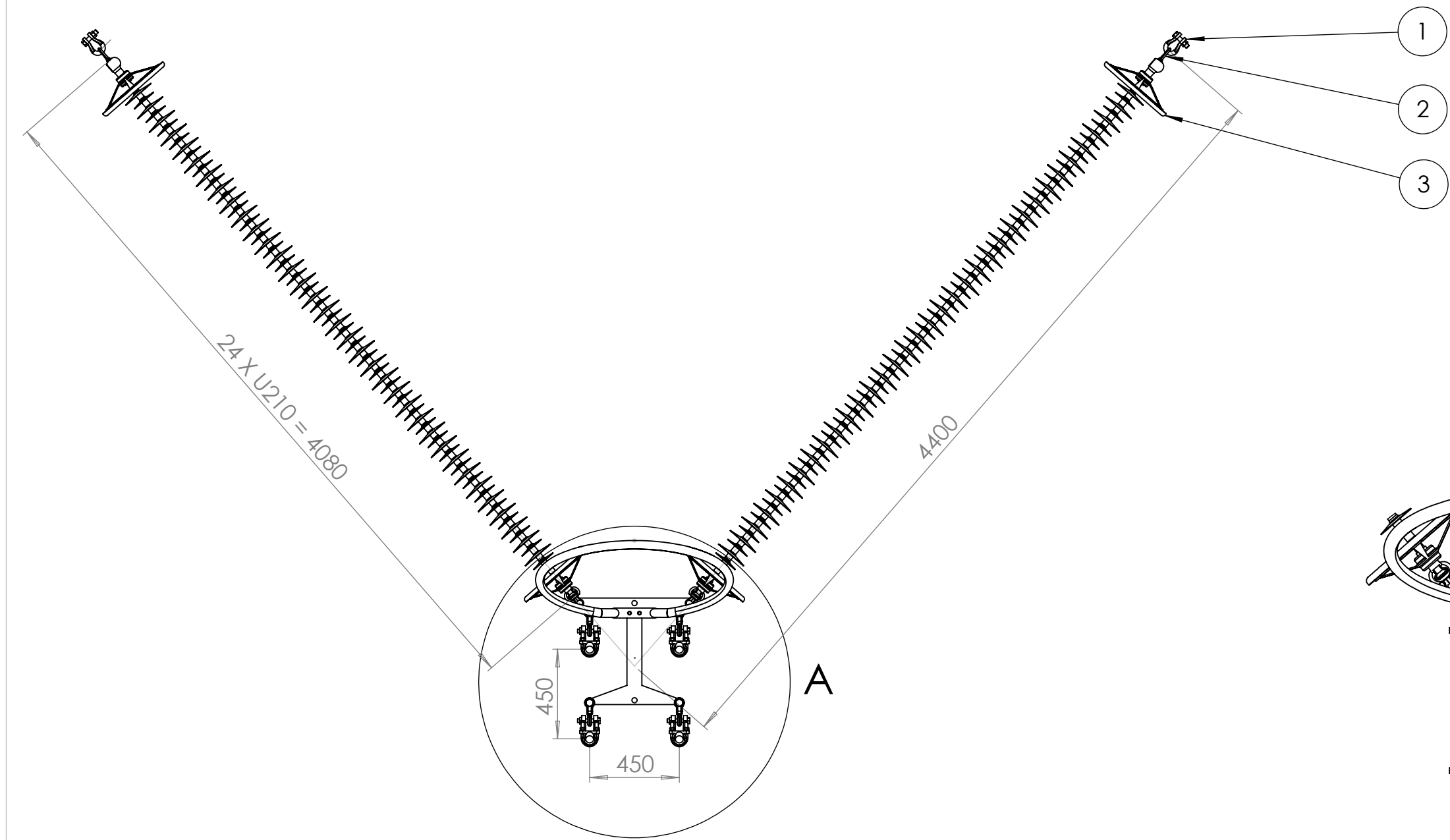


ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD
1	TOWER SHACKLE	1	SUPPLIED WITH TOWER
2	BALL OVAL EYE HL	1	120
3	GLASS INSULATOR DISC	10	120
4	SOCKET TONGUE HL	1	120
5	ADJUSTABLE EXTENSION LINK	1	120
6	SHACKLE	1	120
7	DEAD END ASSEMBLY	1	95% CONDUCTOR UTS
8	JUMPER FLAG	1	N/A

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2016/03/15	DESCRIPTION: CONCEPTUAL 132kV SINGLE ATTACHMENT STRAIN ASSEMBLY FOR SINGLE CONDUCTOR ESKOM DWG NO. 132-SSTRAIN-XXX-1	
CHECKED	AS JACOBS		2016/03/15		
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REV NR.	CHANGES MADE	DATE	REVISED BY




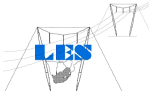
ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD (kN)
1	TOWER SHACKLE	2	SUPPLIED WITH TOWER
2	BALL OVAL EYE	2	210
3	GLASS INSULATOR	48	210
4	SOCKET CLEVIS	2	210
5	SQUARE YOKE PLATE	1	300
6	CLEVIS TONGUE - TWISTED	4	120
7	SUSPENSION CLAMP	4	120
8	CORONA RING	1	N/A

SELECTED LOAD CASE

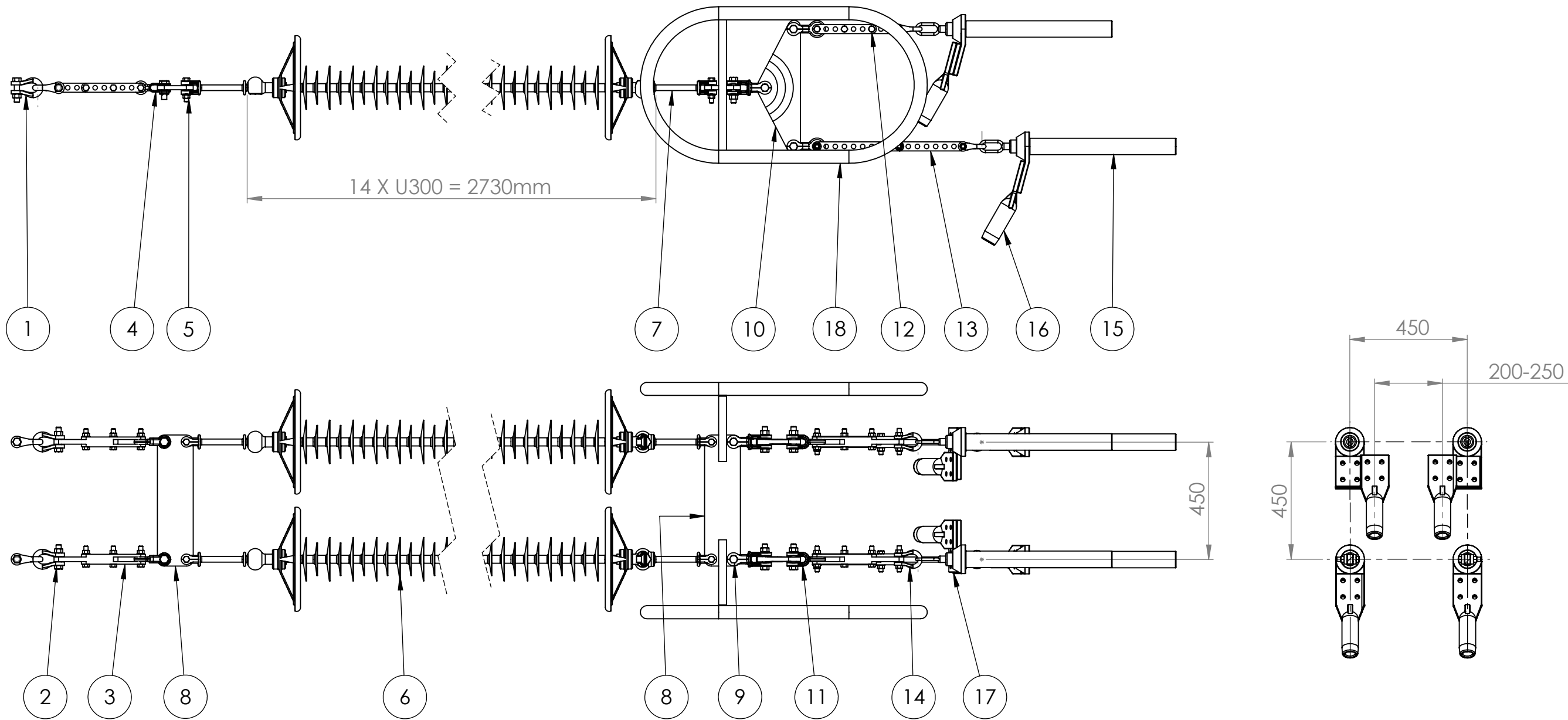
REV NR.	CHANGES MADE	DATE	REVISED BY

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS
DRAWN	ES PETERS		2017/05/22	DESCRIPTION: CONCEPTUAL 275kV V-SUSPENSION ASSEMBLY FOR 517A AND 517G TOWERS FOR QUAD CONDUCTOR
CHECKED	B HARIDASS		2017/05/22	ESKOM DWG NO. 275-VSUSP-XXX-4
				REVISION: 1.0
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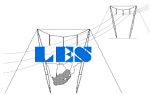
SHEET 1 OF 1



ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD (kN)
1	TOWER SHACKLE	2	SUPPLIED WITH TOWER
2	SHACKLE	2	300
3	ADJUSTABLE EXTENSION LINK	2	300
4	CLEVIS TONGUE - TWISTED	2	300
5	BALL CLEVIS HL	2	300
6	GLASS INSULATOR	28	300
7	SOCKET CLEVIS HL	2	300
8	RECTANGULAR YOKE PLATE	2	600
9	90° DOUBLE CLEVIS	2	300
10	TRIANGULAR YOKE PLATE	2	300
11	CLEVIS TONGUE	4	210
12	ADJUSTABLE EXTENSION LINK	2	210
13	ADJUSTABLE EXTENSION LINK - LONG	2	210
14	SHACKLE	4	210
15	DEAD END ASSEMBLY/ PISTOL GRIP	4	95% CONDUCTOR UTS
16	JUMPER FLAG	4	N/A
17	OFFSET PLATE	2	N/A
18	CORONA RING	2	N/A

SELECTED LOAD CASE

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	E PETERS		2017/05/22	DESCRIPTION: CONCEPTUAL 275kV STRAIN ASSEMBLY WITH DOUBLE ATTACHMENT FOR QUAD CONDUCTOR	
CHECKED	B HARIDASS		2017/05/22	ESKOM DWG NO. 275-DSTRAIN-XXX-4	REVISION: 1.0



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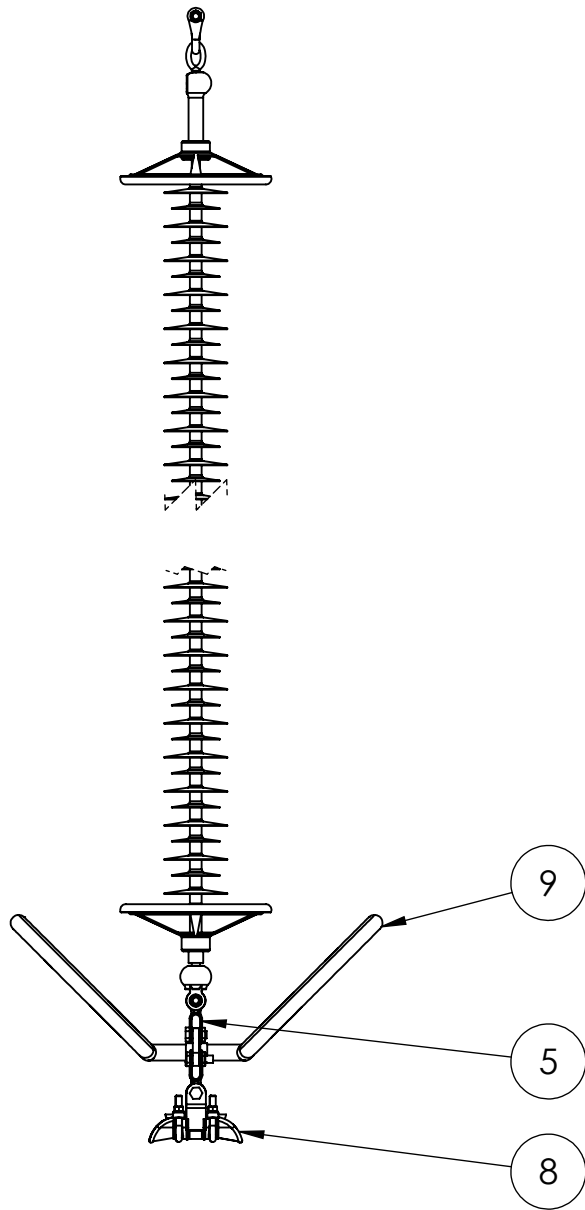
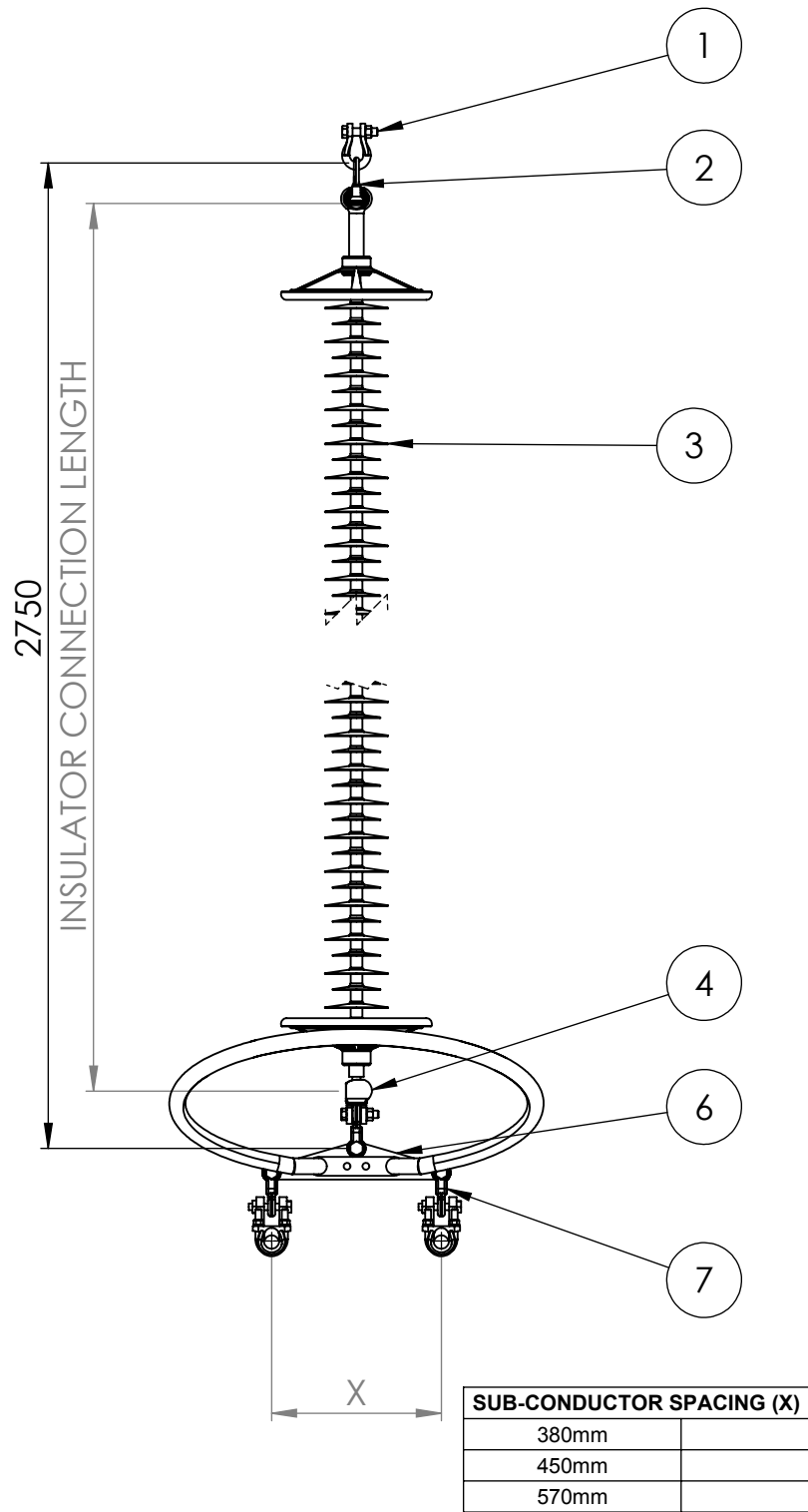
SHEET 1 OF 1

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DATE

CHANGES MADE

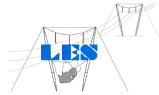
REV NR.



ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	TOWER SHACKLE	1	SUPPLIED WITH TOWER	
2	BALL OVAL EYE	1	120	210
3	GLASS/COMPOSITE INSULATOR	1	120	210
4	SOCKET CLEVIS	1	120	210
5	CLEVIS TONGUE - TWISTED	1	120	120
6	TRIANGULAR YOKE	1	120	210
7	CLEVIS TONGUE - TWISTED	2	120	210
8	SUSPENSION CLAMP	2	120	210
9	CORONA RING	1	N/A	

SELECTED LOAD CASE

INSULATOR CONNECTING LENGTHS (mm)					
INSULATOR TYPE	SELECTED INSULATOR	120kN	210kN	300kN	400kN
GLASS		19XU120 = 2774	16XU210 = 2720	13XU300 = 2535	
COMPOSITE		2700 ± 100	2700 ± 100	2700 ± 100	
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2018/01/28	DESCRIPTION: CONCEPTUAL 275kV I-SUSPENSION ASSEMBLY FOR 434A&B TOWERS FOR TWIN CONDUCTOR	
CHECKED	B HARIDASS		2018/01/28	ESKOM DWG NO. 275-ISUSP-434A,B-2	
ESKOM - GROUP TECHNOLOGY					REVISION: 1.0
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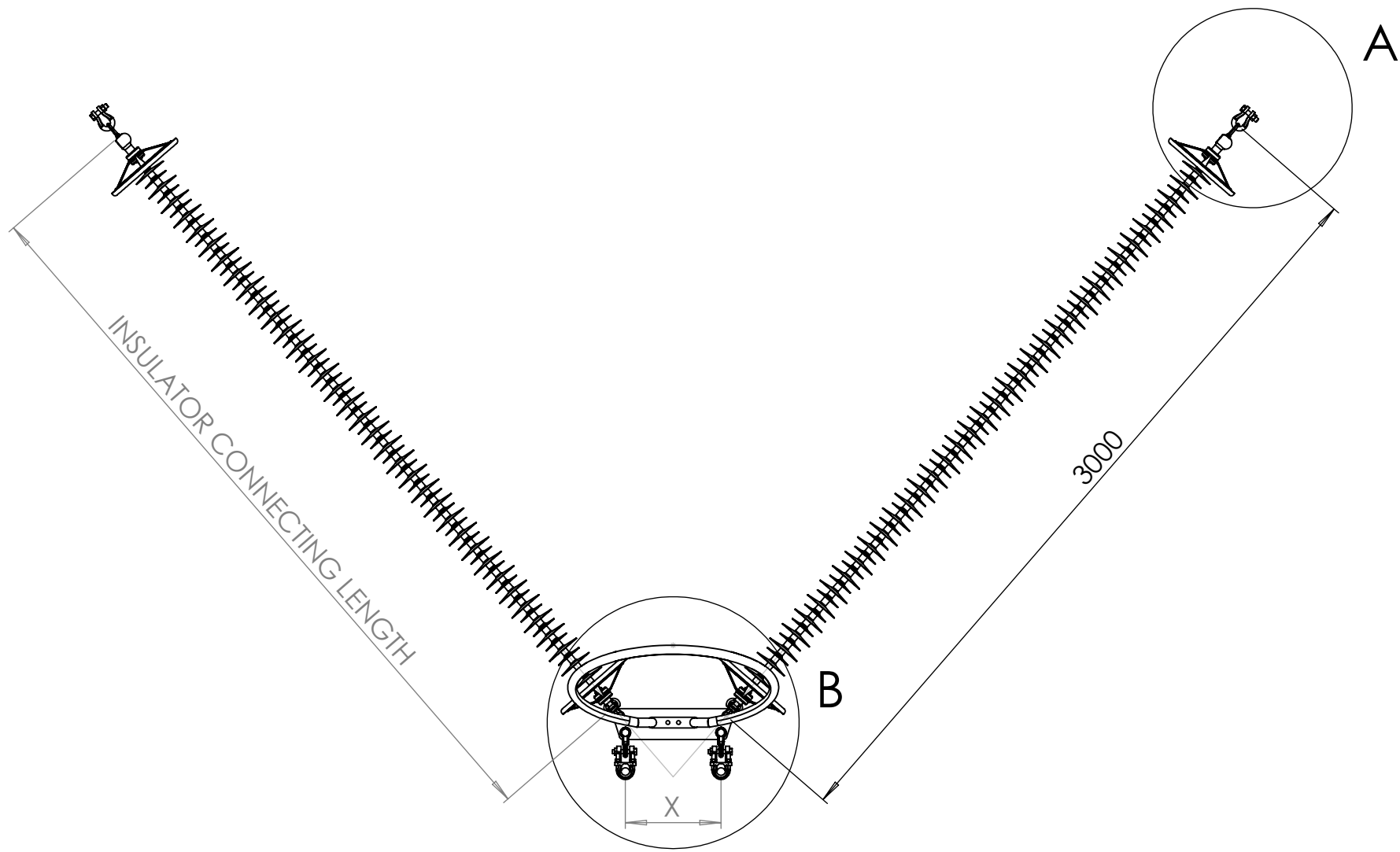
DATE

CHANGES MADE

REV NR.

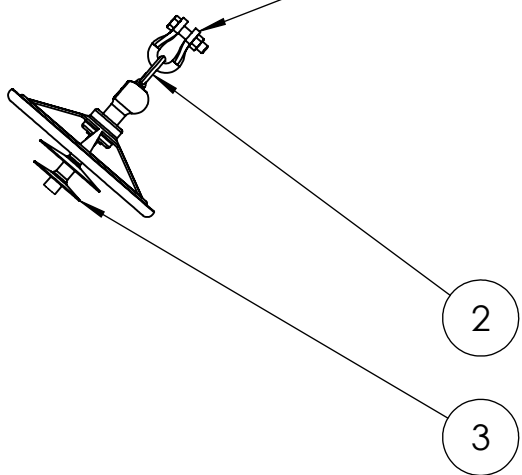
ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	TOWER SHACKLE	2	SUPPLIED WITH TOWER	
2	BALL OVAL EYE	2	120	210
3	GLASS/COMPOSITE INSULATOR	2	120	210
4	SOCKET CLEVIS	2	120	210
5	TRAPEZOIDAL YOKE PLATE	1	210	300
6	CLEVIS TONGUE - TWISTED	2	120	120
7	SUSPENSION CLAMP	2	120	120
8	CORONA RING	1	N/A	

SELECTED LOAD CASE

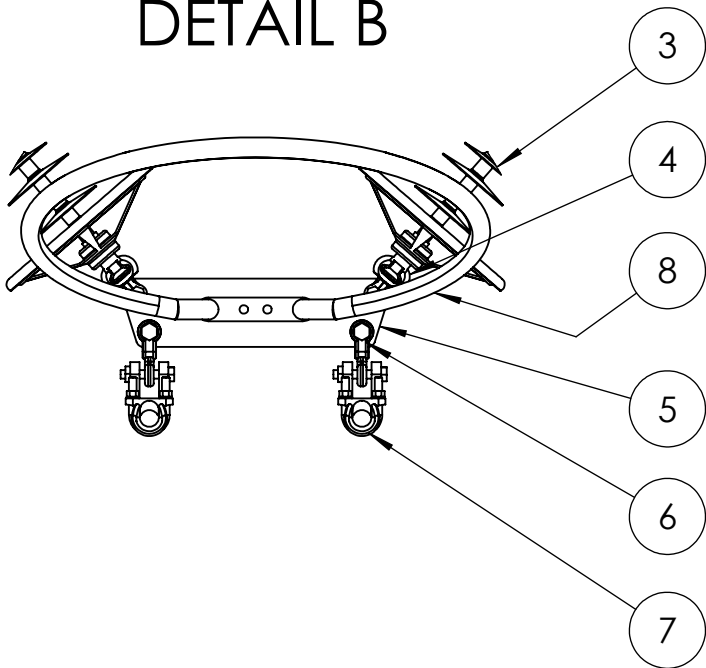


SUB-CONDUCTOR SPACING (X)	
380mm	
450mm	
570mm	

DETAIL A



DETAIL B



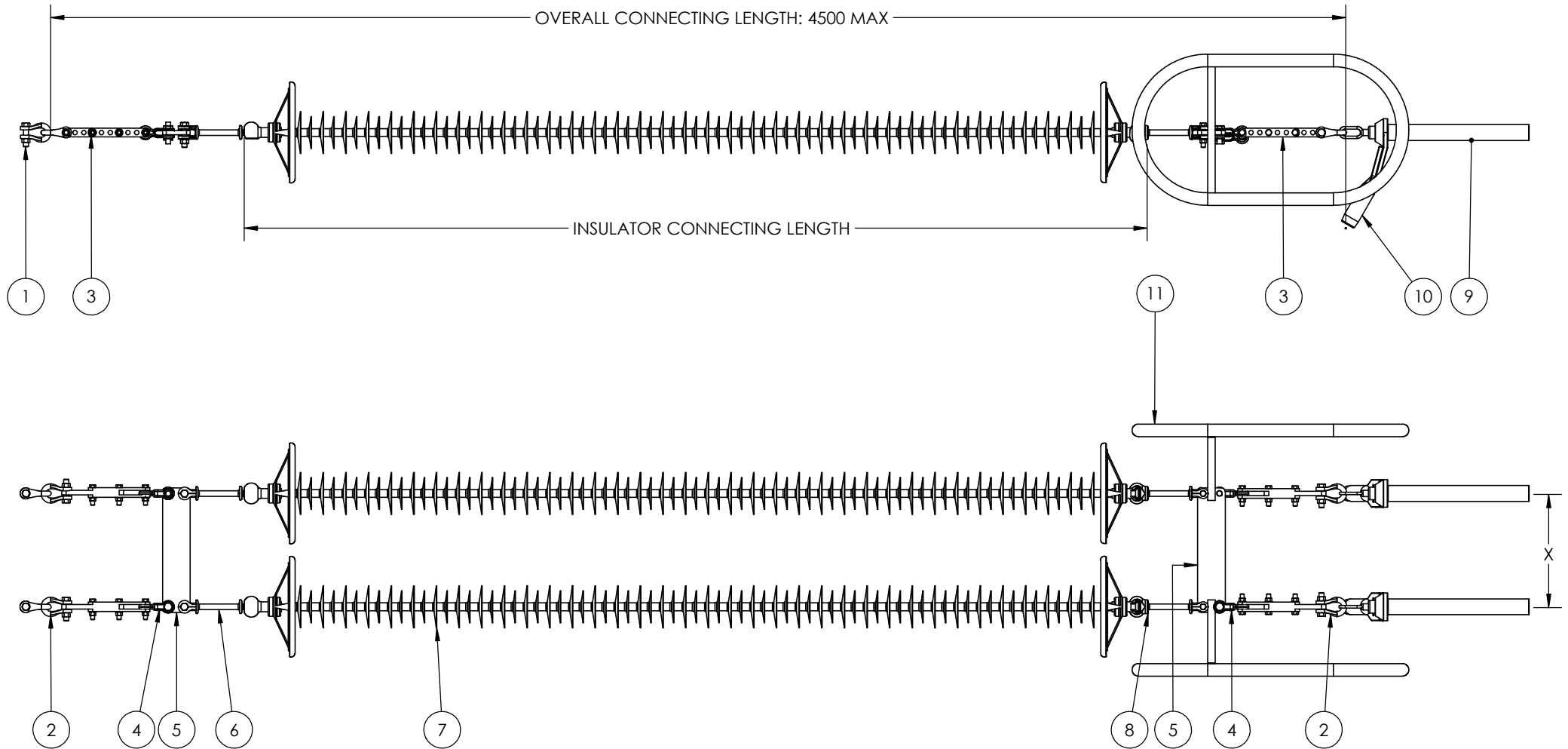
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DATE

CHANGES MADE



REV NR.

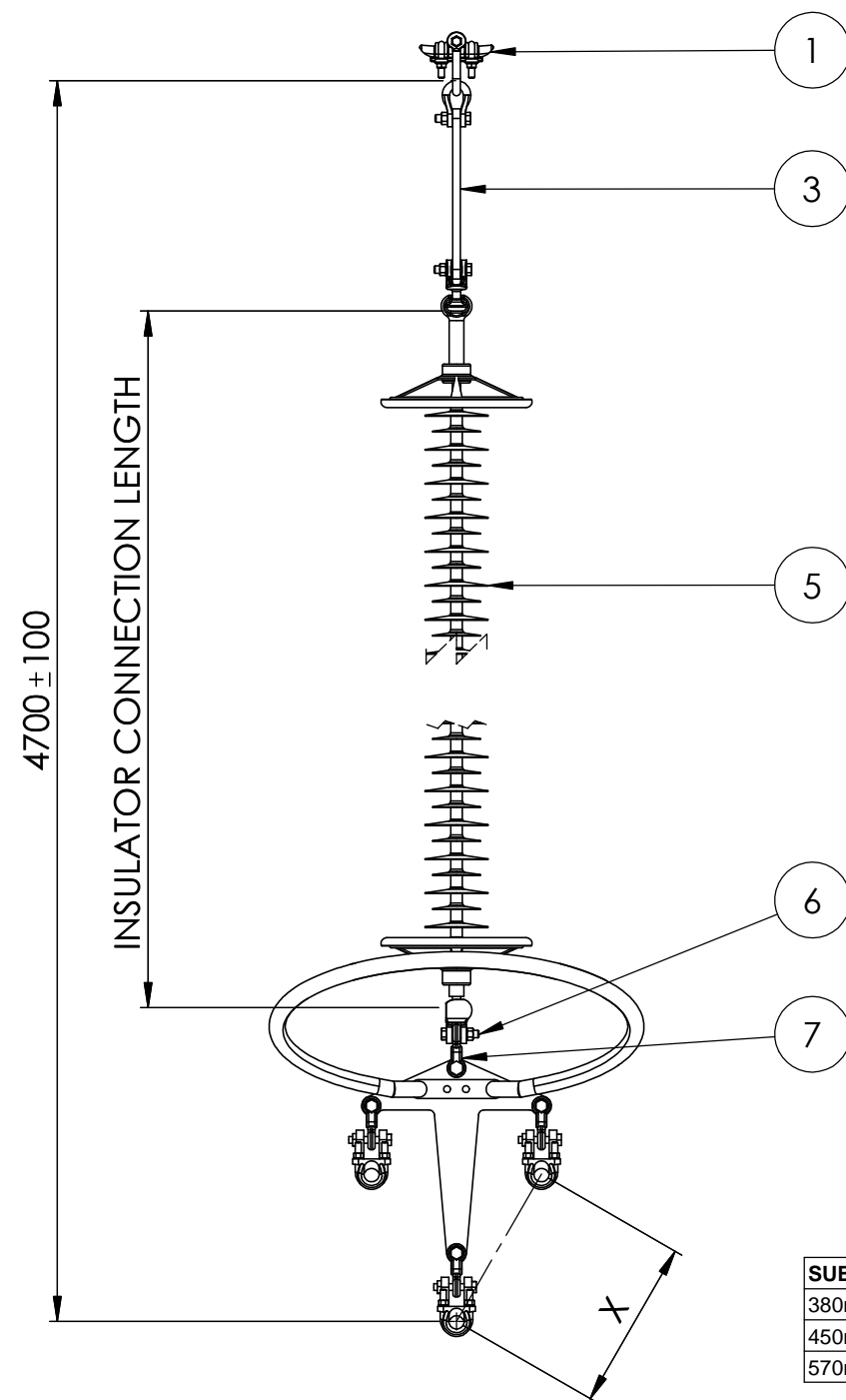
INSULATOR CONNECTING LENGTHS (mm)					
INSULATOR TYPE	SELECTED INSULATOR	120kN	210kN	300kN	400kN
GLASS		19XU120 = 2774	16XU210 = 2720	13XU300 = 2535	
COMPOSITE		2700 ± 100	2700 ± 100	2700 ± 100	
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2018/01/28	DESCRIPTION: CONCEPTUAL 275kV V-SUSPENSION ASSEMBLY FOR 434A&B TOWERS FOR TWIN CONDUCTOR	
CHECKED	B HARIDASS		2018/01/28	ESKOM DWG NO. 275-VSUSP-434A,B-2	
ESKOM - GROUP TECHNOLOGY					REVISION: 1.0
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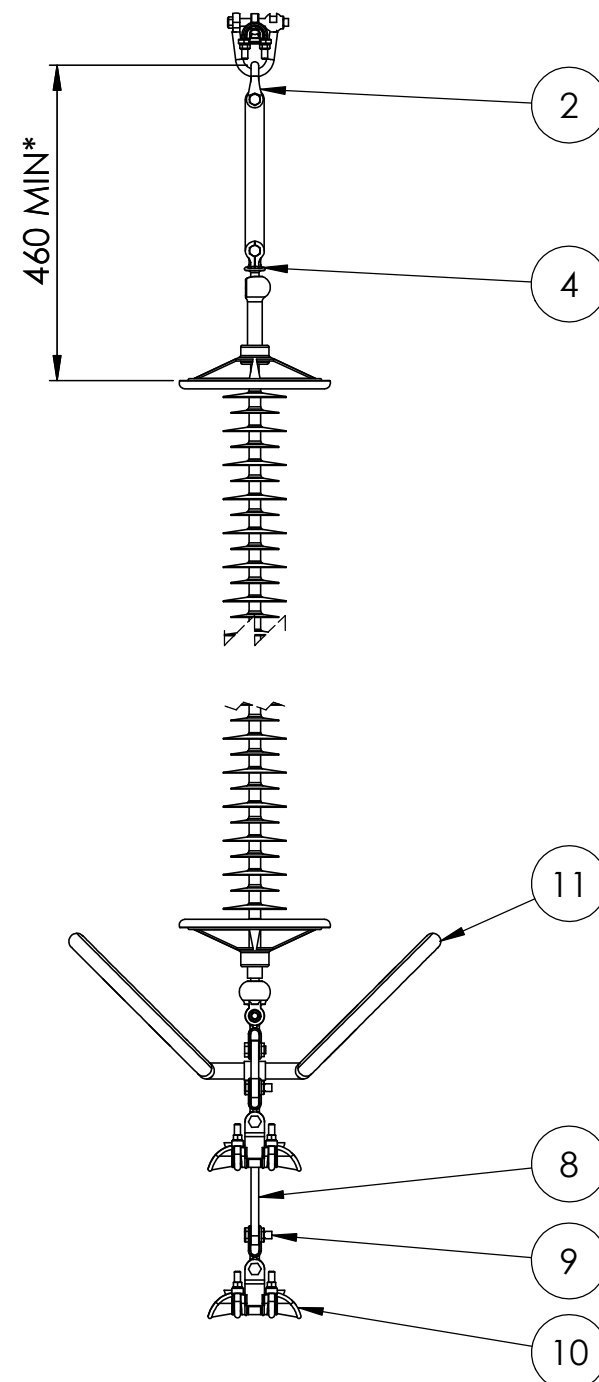
ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	TOWER SHACKLE	2	SUPPLIED WITH TOWER	
2	SHACKLE	4	120	210
3	ADJUSTABLE EXTENSION LINK	4	120	210
4	CLEVIS TONGUE - TWISTED	4	120	210
5	RECTANGULAR YOKE PLATE	2	210	300
6	BALL CLEVIS HL	2	120	210
7	GLASS/COMPOSITE INSULATOR	2	120	210
8	SOCKET CLEVIS HL	2	120	210
9	DEAD END ASSEMBLY	2	95% U.T.S.	95% U.T.S.
10	JUMPER FLAG	2	N/A	N/A
11	CORONA RING	2	N/A	N/A

PROJECT SPECIFIC REQUIREMENTS			
BREAKING LOAD		BREAKING LOAD 2	
SUB-CONDUCTOR SPACING		380mm	
INSULATOR TYPE		COMPOSITE	
REV NR.	CHANGES MADE	DATE	REVISED BY

INSULATOR TYPE	120kN CONNECTING LENGTH (mm)	210kN CONNECTING LENGTH (mm)	300kN CONNECTING LENGTH (mm)		
GLASS	19XU120 = 2774	16XU210 = 2720	13XU300 = 2535		
COMPOSITE	2700±100	2700±100	2700±100		
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2015/07/09	DESCRIPTION: CONCEPTUAL 275kV STRAIN ASSEMBLY WITH DOUBLE ATTACHMENT FOR TWIN CONDUCTOR	
CHECKED	AS JACOBS		2015/06/18	ESKOM DWG NO. 275-DSTRAIN-XXX-2	REVISION: 1.0
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SUB-CONDUCTOR SPACING (X)	
380mm	
450mm	
570mm	



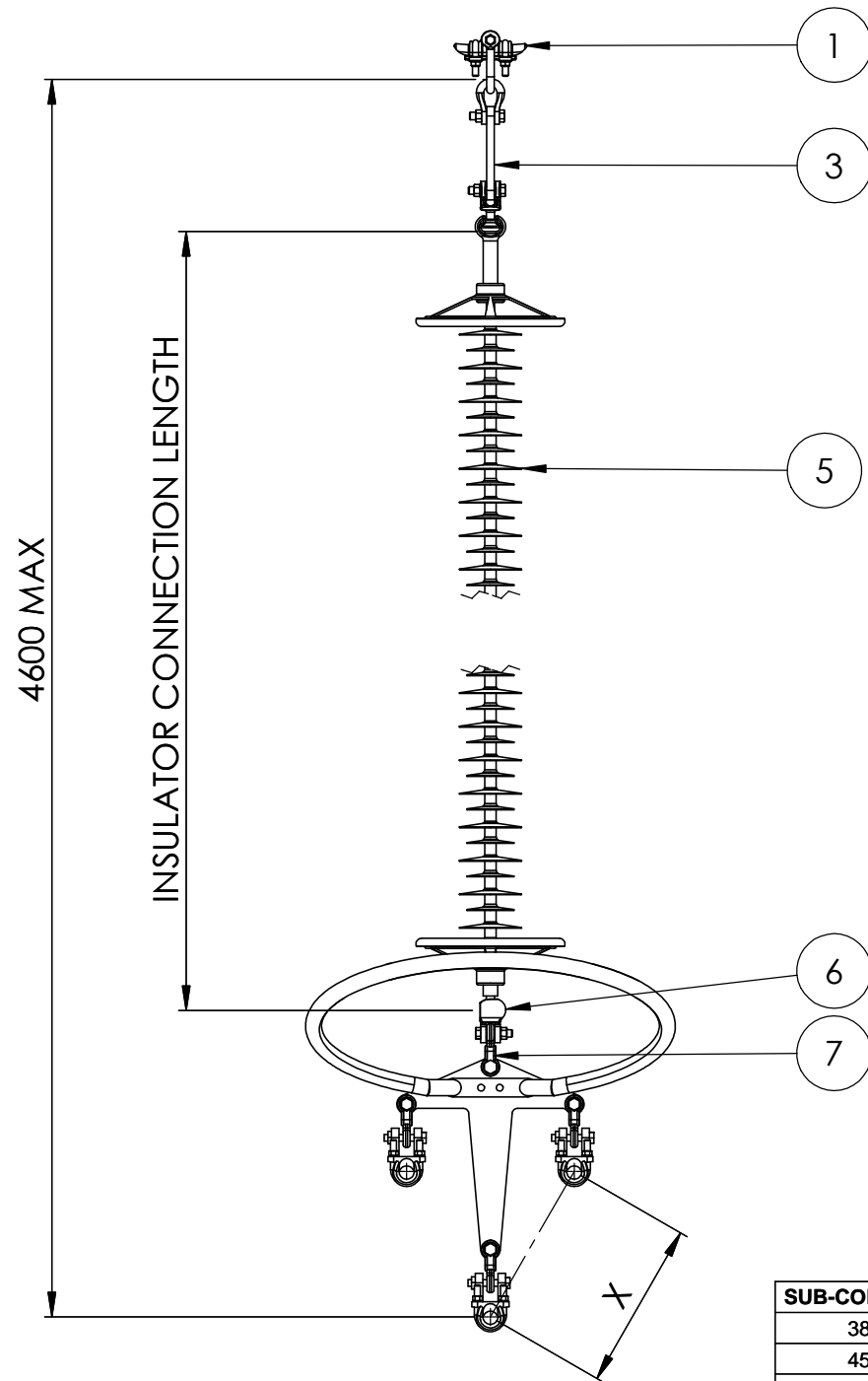
*Distance is measured from top of shackle to either the corona ring on composite insulator or first glass disk of a glass insulator.

ITEM NO.	DESCRIPTION	QTY	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	INVERTED SUSPENSION CLAMP	1	SUPPLIED WITH TOWER	
2	SHACKLE	1	120	210
3	EXTENSION LINK	1	120	210
4	BALL CLEVIS	1	120	210
5	GLASS/COMPOSITE INSULATOR	1	120	210
6	SOCKET CLEVIS	1	120	210
7	CLEVIS TONGUE - TWISTED	1	120	210
8	Y-TYPE YOKE PLATE	1	120	210
9	CLEVIS TONGUE - TWISTED	3	120	120
10	SUSPENSION CLAMP	3	120	120
11	CORONA RING	1	N/A	

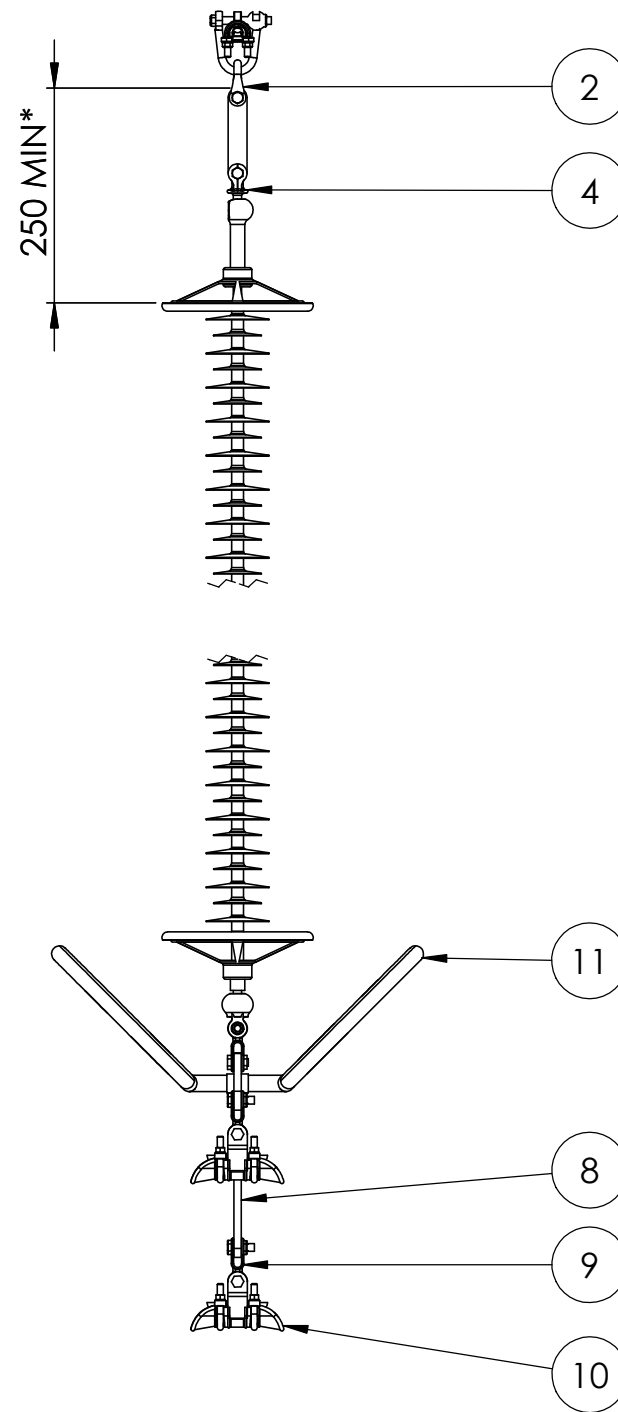
SELECTED LOAD CASE

INSULATOR CONNECTING LENGTHS (mm)					
INSULATOR TYPE	SELECTED INSULATOR	120kN	210kN	300kN	400kN
GLASS		26XU120 = 3796	23XU210 = 3910	18XU300 = 3510	17XU400 = 3485
COMPOSITE		3700 ± 100	3700 ± 100	3700 ± 100	3700 ± 100
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	SL BLOMEFIELD		2015/11/17	DESCRIPTION: CONCEPTUAL 400kV I-SUSPENSION OUTER PHASE ASSEMBLY FOR 529A AND C TOWERS TRIPLE CONDUCTOR	
CHECKED	AS JACOBS		2015/11/17	ESKOM DWG NO. 400-ISUSP-529A,C:OP-3	
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SUB-CONDUCTOR SPACING (X)	
380mm	
450mm	
570mm	



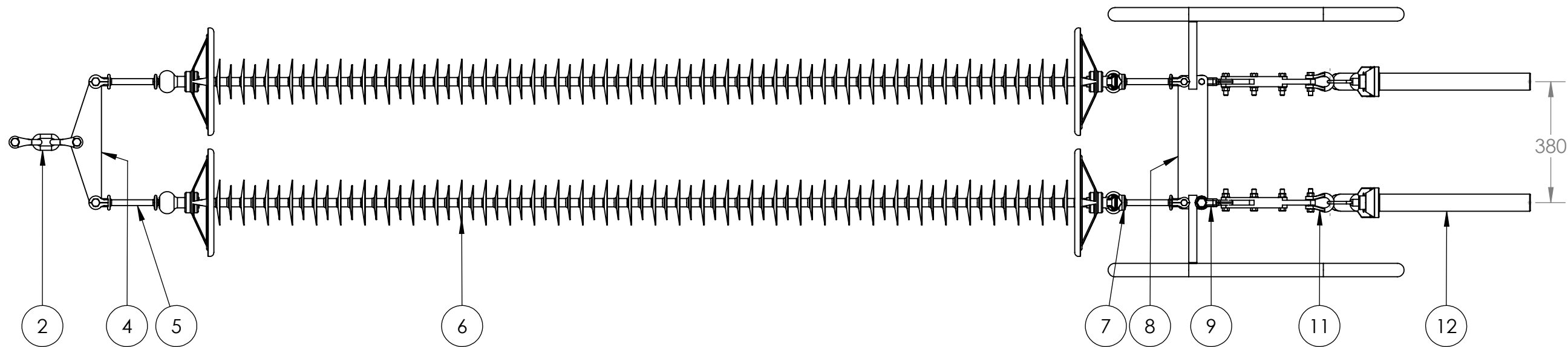
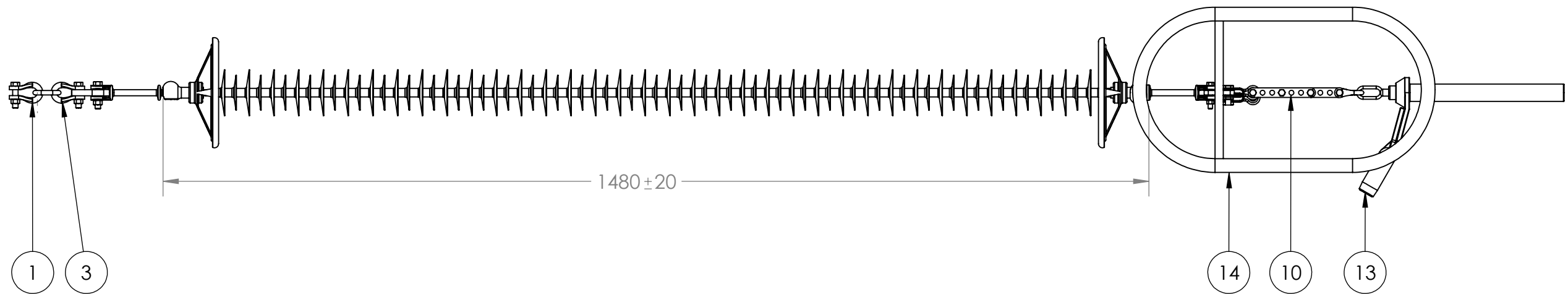
*Distance is measured from top of shackle to either the corona ring on composite insulator or first glass disk of a glass insulator.

ITEM NO.	DESCRIPTION	Inner/Default/Qty.	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	INVERTED SUSPENSION CLAMP	1	SUPPLIED WITH TOWER	
2	SHACKLE	1	120	210
3	EXTENSION LINK	1	120	210
4	BALL CLEVIS	1	120	210
5	GLASS/COMPOSITE INSULATOR	1	120	210
6	SOCKET CLEVIS	1	120	210
7	CLEVIS TONGUE - TWISTED	1	120	210
8	Y-TYPE YOKE PLATE	1	120	210
9	CLEVIS TONGUE - TWISTED	3	120	120
10	SUSPENSION CLAMP	3	120	120
11	CORONA RING	1	N/A	

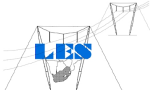
INSULATOR CONNECTING LENGTHS (mm)					
INSULATOR TYPE	SELECTED INSULATOR	120kN	210kN	300kN	400kN
GLASS		26XU120 = 3796	23XU210 = 3910	18XU300 = 3510	17XU400 = 3485
COMPOSITE		3700±100	3700±100	3700±100	3700±100
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	SL BLOMEFIELD		2015/11/17	DESCRIPTION: CONCEPTUAL 400kV I-SUSPENSION CENTER PHASE ASSEMBLY FOR 529A TOWERS FOR TRIPLE CONDUCTOR	
CHECKED	AS JACOBS		2015/11/17	ESKOM DWG NO. 400-ISUSP-529A:IP-3	
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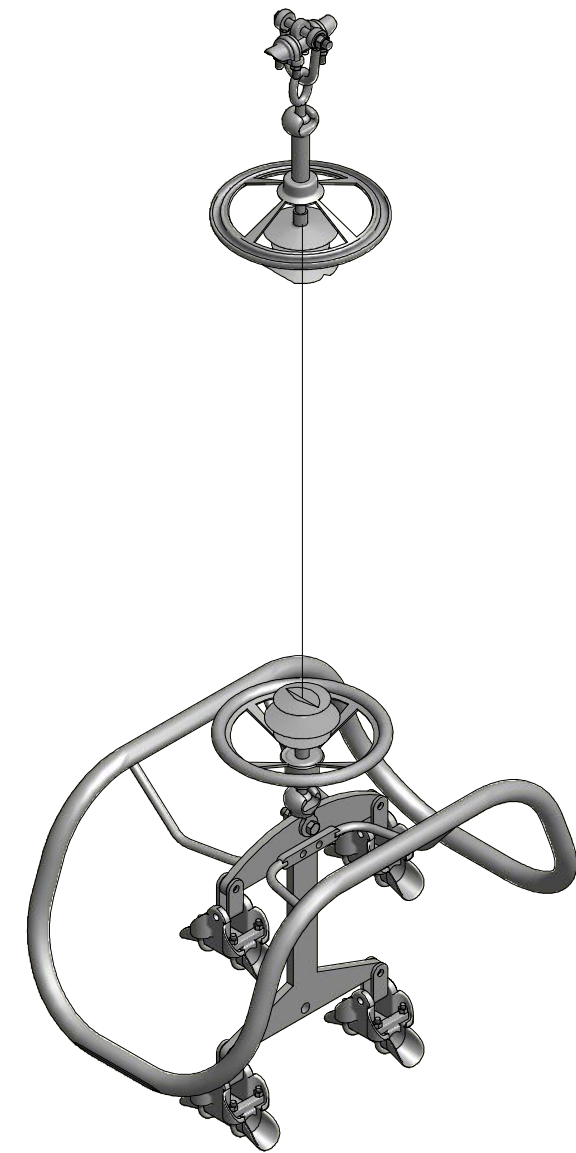
SELECTED LOAD CASE






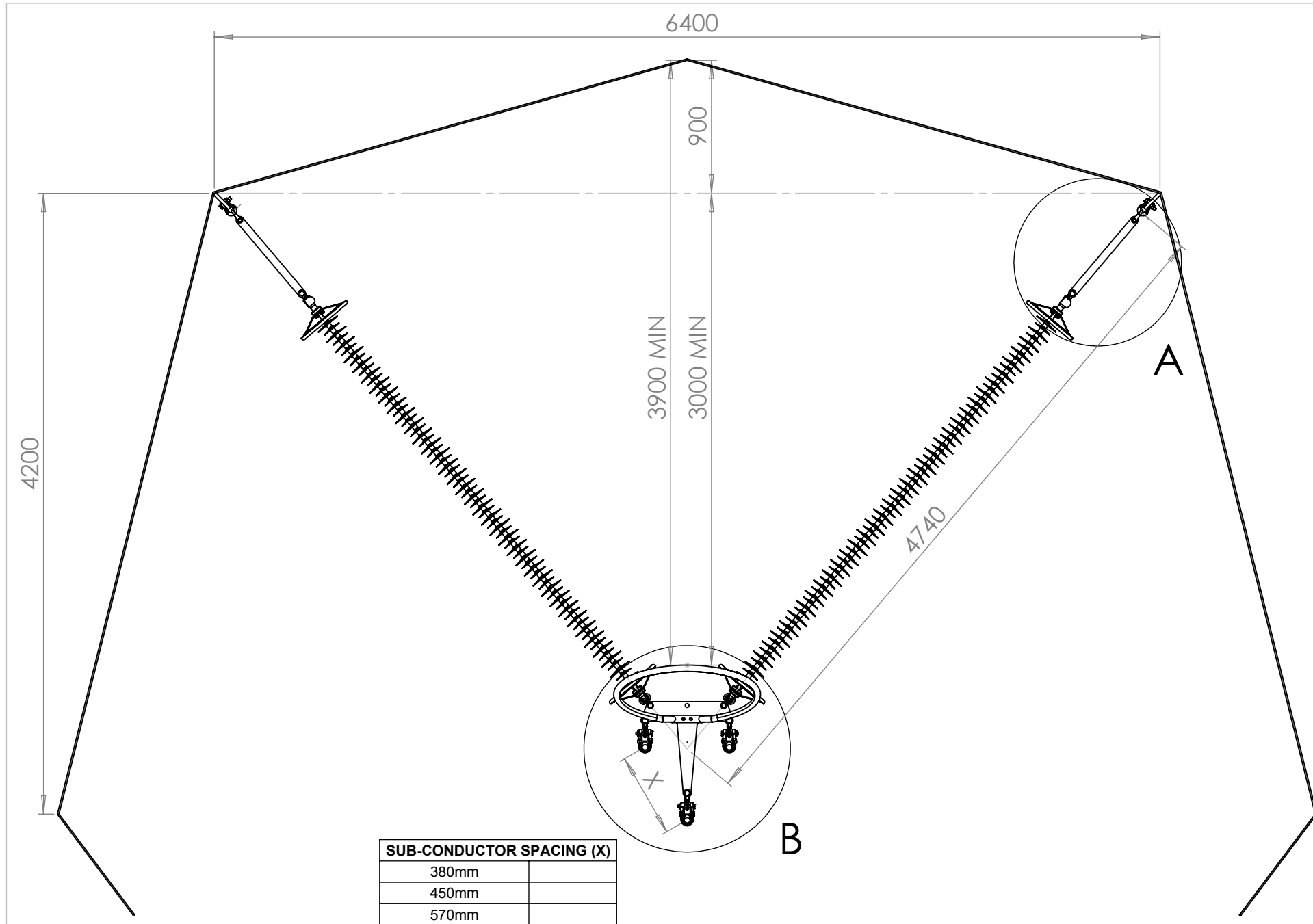
ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD
1	TOWER SHACKLE	1	SUPPLIED WITH TOWER
2	CHAINLINK	1	210
3	SHACKLE	1	210
4	TRIANGULAR YOKE PLATE	1	210
5	BALL CLEVIS HL	2	120
6	COMPOSITE INSULATOR	2	120
7	SOCKET CLEVIS HL	2	120
8	RECTANGULAR YOKE PLATE	1	210
9	CLEVIS TONGUE - TWISTED	2	120
10	ADJUSTABLE EXTENSION LINK	2	120
11	SHACKLE	2	120
12	DEAD END ASSEMBLY	2	95% U.T.S.
13	JUMPER FLAG	2	N/A
14	CORONA RING	2	N/A

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2016/08/22	DESCRIPTION: CONCEPTUAL 132kV SINGLE ATTACHMENT STRAIN ASSEMBLY FOR TWIN CONDUCTOR	
CHECKED	AS JACOBS		2015/10/01	ESKOM DWG NO. 132-SSTRAIN-XXX-2	REVISION: 1.0
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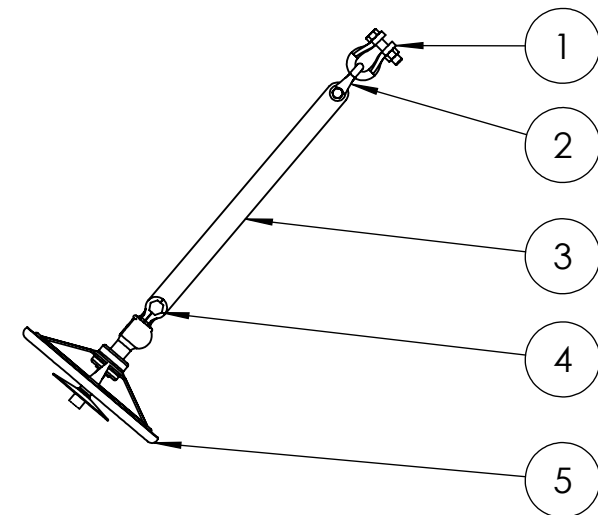


Connecting length (Class 100)		21XØ120-357mm		21XØ210-557mm	
SIGN		DATE		TITLE	
DRAWN: Neels		2010/10/21		CONCEPTUAL 400kV I-Suspension Assembly for Quad Conductor	
				ESKOM DRAWING No.	
				400kV I-susp assy 4xXXXX	
				REVISION NO.	
					
				ESKOM - GROUP TECHNOLOGY LES - LINE ENGINEERING SERVICES	
					
				SHEET OF	
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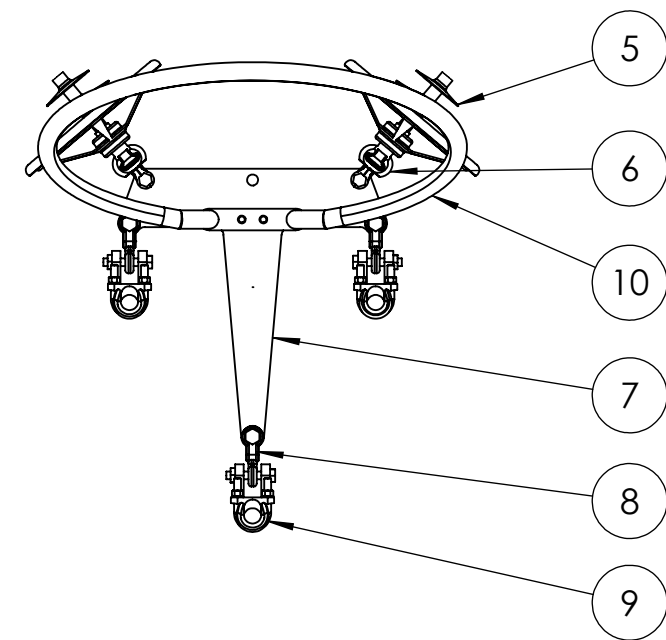


SUB-CONDUCTOR SPACING (X)	
380mm	
450mm	
570mm	

DETAIL A



DETAIL B



ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD 1 (kN)	BREAKING LOAD 2 (kN)
1	TOWER SHACKLE	2	SUPPLIED WITH TOWER	
2	SHACKLE	2	120	210
3	EXTENSION LINK	2	120	210
4	BALL CLEVIS	2	120	210
5	GLASS/COMPOSITE INSULATOR	2	120	210
6	SOCKET CLEVIS	2	120	210
7	YOKE PLATE	1	210	300
8	CLEVIS TONGUE - TWISTED	3	120	120
9	SUSPENSION CLAMP	3	120	120
10	CORONA RING	1	N/A	N/A

SELECTED LOAD CASE

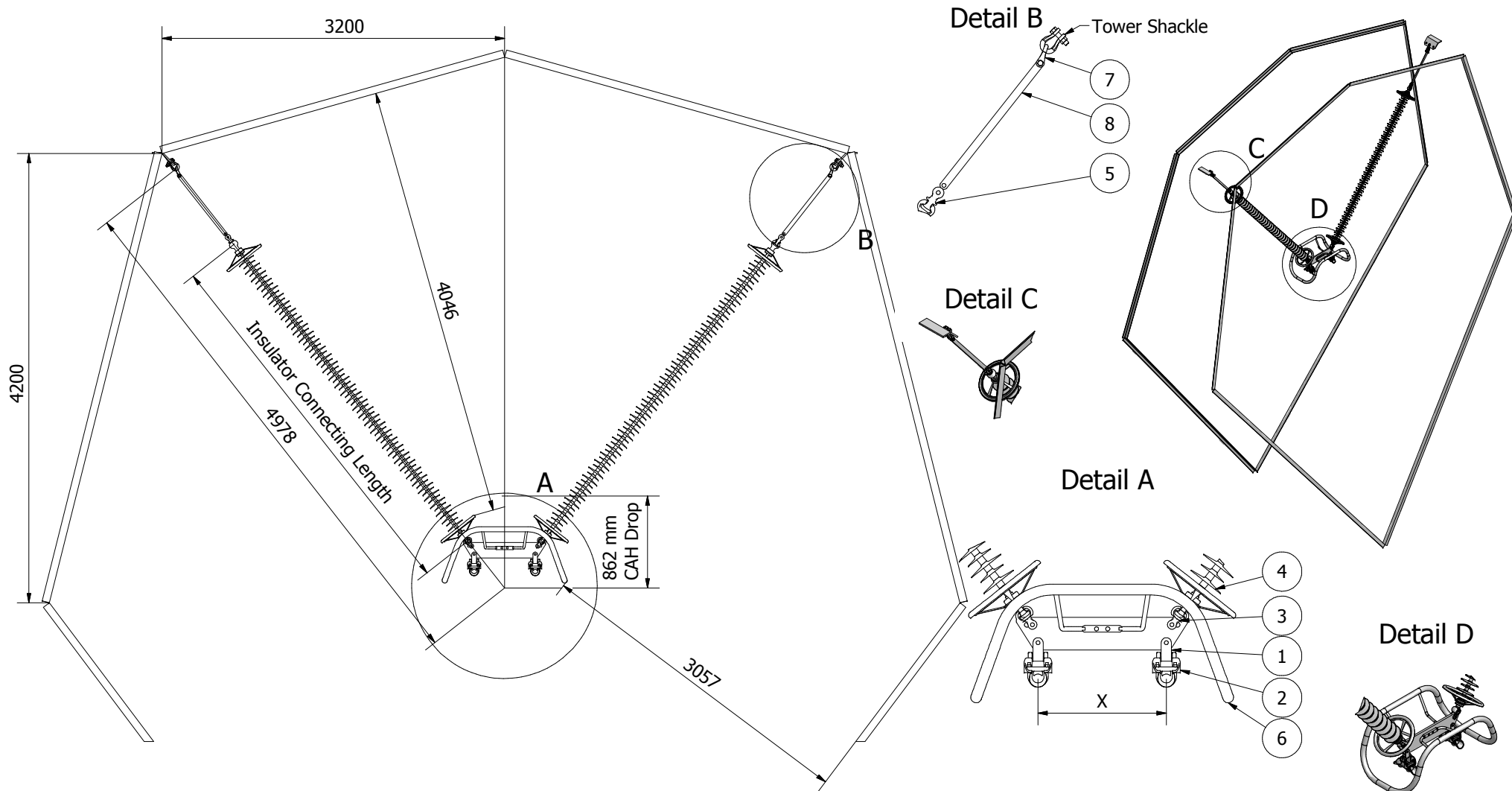
INSULATOR CONNECTING LENGTHS (mm)					
INSULATOR TYPE	SELECTED INSULATOR	120kN	210kN	300kN	400kN
GLASS		26XU120 = 3796	23XU210 = 3910	18XU300 = 3510	17XU400 = 3485
COMPOSITE		3700±100	3700±100	3700±100	3700±100
	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2018/01/28	DESCRIPTION: CONCEPTUAL V-SUSPENSION ASSEMBLY FOR 518H AND 520B TOWERS FOR TRIPLE CONDUCTOR	
CHECKED	AS JACOBS		2015/11/17	ESKOM DWG NO. 400-VSUSP-518H&520B-3	
ESKOM - GROUP TECHNOLOGY					REVISION: 2.0
LES - LINE ENGINEERING SERVICES					A4 N.T.S.
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REVISED BY
ES PETERS

DATE
JAN 2018

CHANGES MADE
REMOVED 518E TOWER FROM DESCRIPTION.




REV NR.
2

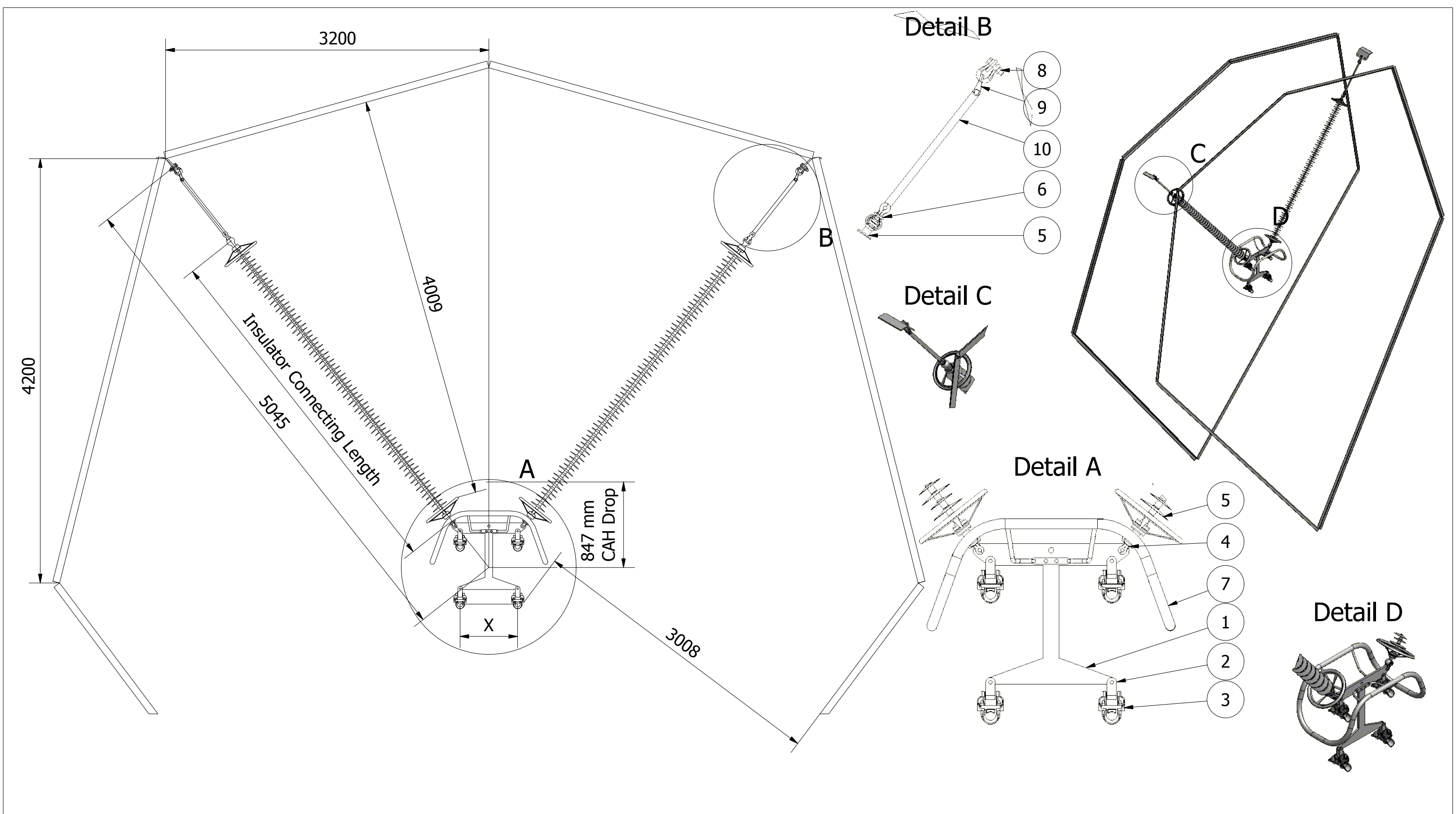


ITEM	QTY	DESCRIPTION	BREAKING LOAD	BREAKING LOAD 2
1	2	Strap Shackle	120kN	120kN
2	2	Suspension Clamp	120kN	120kN
3	2	Socket Clevis	120kN	210kN
4	2	Composite Insulator	120kN	210kN
5	2	Ball Clevis	120kN	210kN
6	1	Corona Ring	N/A	N/A
7	2	Shackle	120kN	210kN
8	2	Extension link	120kN	210kN
9	1	Rectangular Yoke	210kN	300kN

*Note: Tower shackle is supplied with the tower.
It is suggested that the supplier designs a sag adjuster or extension link to cater for all insulator connecting lengths associated with each breaking strength.

Note: X = 380, 450 or 570mm.

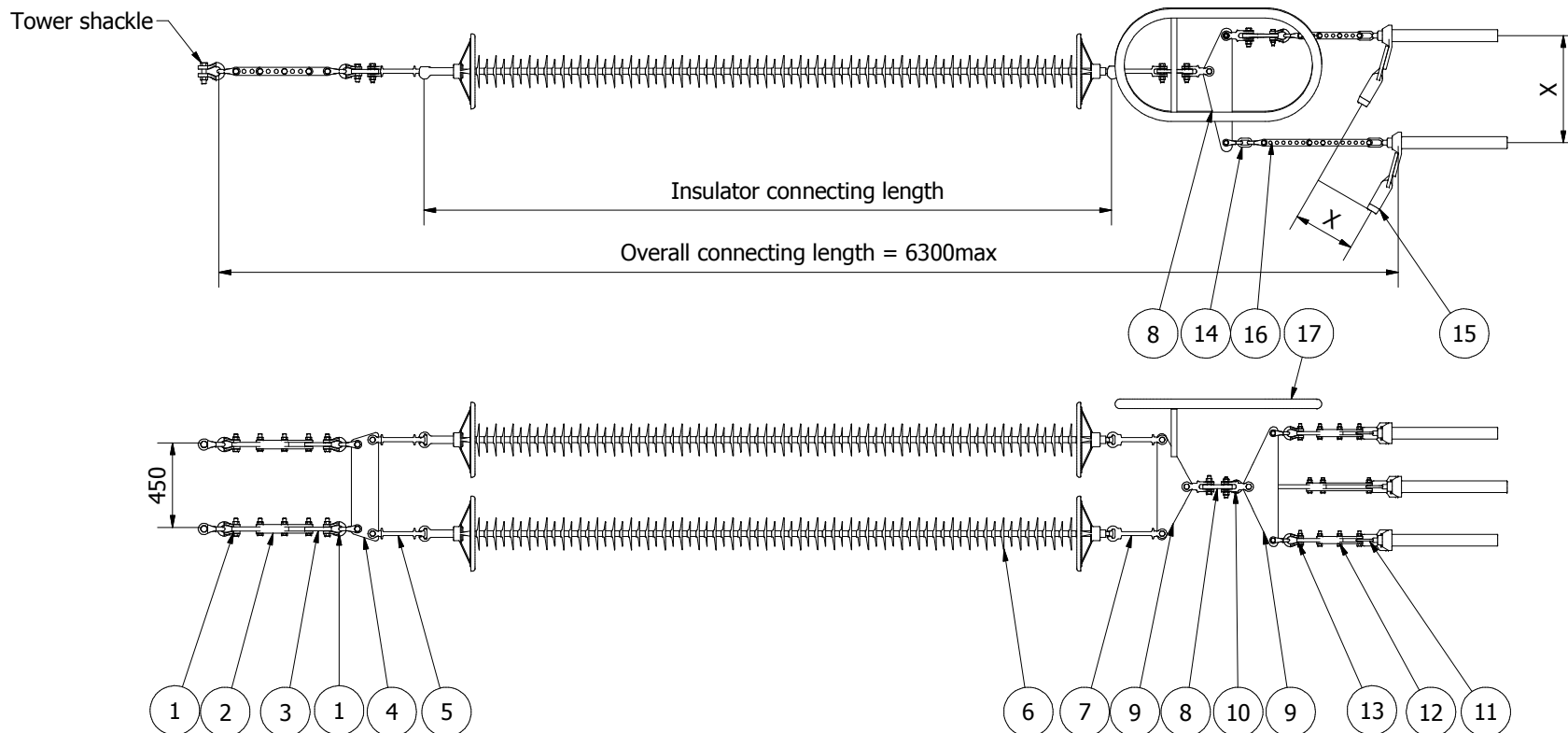
Ins Type			400kV - 120kN	400kV - 210kN
Connecting length (31mm/kV)			3575mm	3688mm
Connecting length (25mm/kV)			3575mm	3688mm
Connecting length (Glass discs)			24xU120=3504mm	21xU210=3570mm
CONCEPTUAL 400kV 518H & 520B V-Suspension Assembly for Twin Conductor				
ESKOM DRAWING NO. 518H/520B 400kV V-susp assy 2xXXXX				
DRAWN:	SIGN Neels	DATE 2010/10/21	TITLE	
				SCALE A3
				REVISION NO.
				
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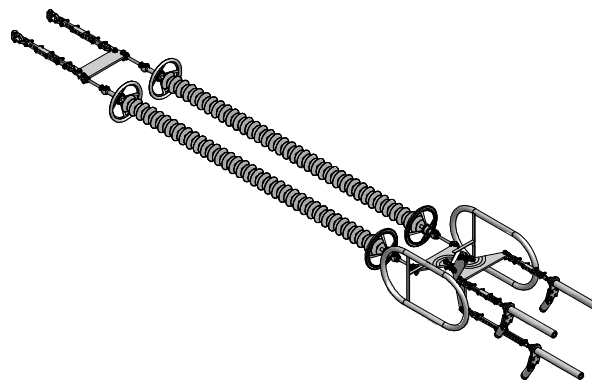
ITEM	QTY	DESCRIPTION	BREAKING LOAD	BREAKING LOAD 2
1	1	Square config yoke plate	210kN	300kN
2	4	Strap Shackle	120kN	210kN
3	4	Suspension Clamp	120kN	210kN
4	2	Socket Clevis	120kN	210kN
5	2	Composite Insulator	120kN	210kN
6	2	Ball Clevis	120kN	210kN
7	1	Corona Ring	N/A	N/A
8	2	Tower Shackle	210kN	210kN
9	2	Shackle	120kN	210kN
10	2	Extension link	120kN	210kN

*Note: Tower shackle is supplied with the tower.
It is suggested that the supplier designs a sag adjuster or extension link to cater for all insulator connecting lengths associated with each breaking strength.
Note: X = 380, 450 or 570mm.

Ins Type		400kV - 120kN	400kV - 210kN
Connecting length (31mm/kV)		3575mm	3688mm
Connecting length (25mm/kV)		3575mm	3688mm
Connecting length (Glass discs)		24xU120=3504mm	21xU210=3570mm
DRAWN: Neels		SIGN: Neels	DATE: 2010/10/21
TITLE: CONCEPTUAL 400kV 518H Assembly for Quad Conductor		ESKOM DRAWING No. 518H 400kV V-susp assy 4xXXXX	
SCALE: A3		REVISION NO.	
ESKOM - GROUP TECHNOLOGY		LES - LINE ENGINEERING SERVICES	
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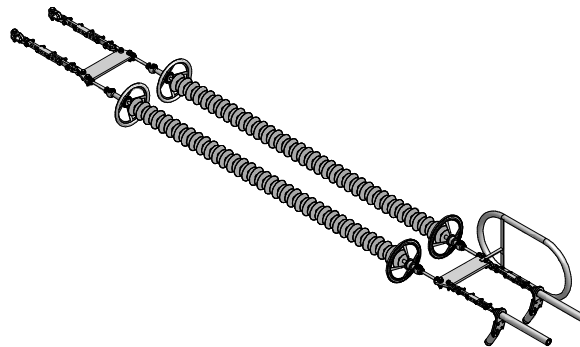
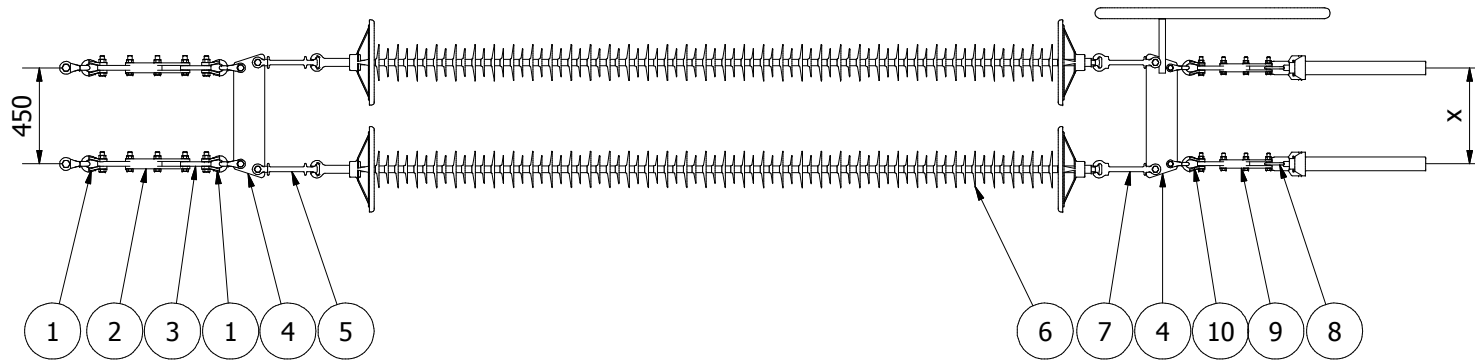
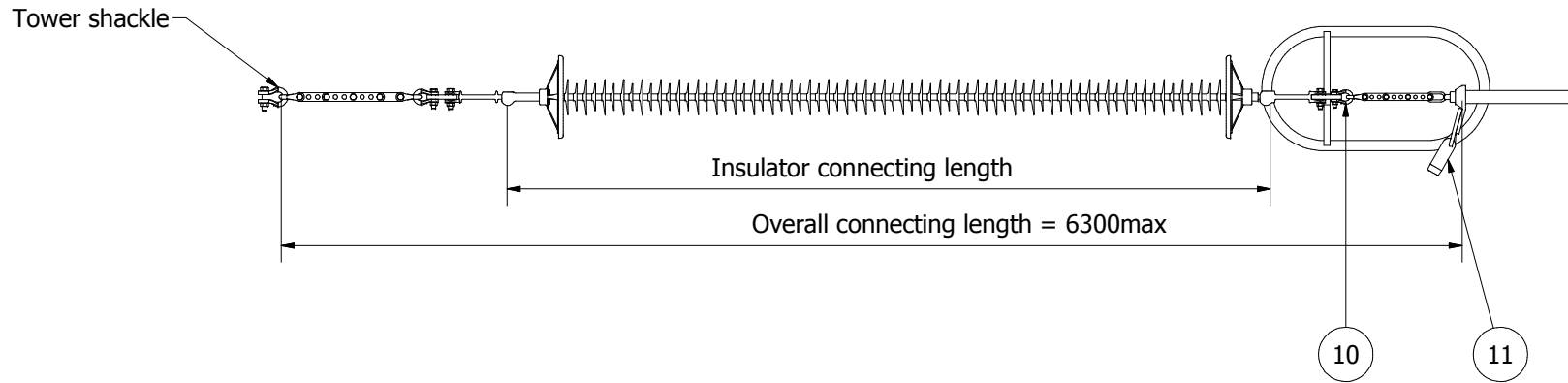


ITEM	QTY	DESCRIPTION	BREAKING LOAD	BREAKING LOAD 2
1	6	Shackle	210kN	300kN
2	2	Adjustable Extension link	210kN	300kN
3	2	Extension strap	210kN	300kN
4	1	Rectangular Yoke	300kN	600kN
5	2	Ball Clevis HL	210kN	300kN
6	2	Composite Insulator	210kN	300kN
7	2	Socket Clevis HL	210kN	300kN
8	1	Offset Triangle yoke	300kN	600kN
9	2	Triangle yoke	300kN	600kN
10	2	90deg Double Clevis	300kN	600kN
11	3	Dead-end	95% UTS	95% UTS
12	2	Adjustable Extension link	120kN	210kN
13	6	Shackle	120kN	210kN
14	1	Chainlink	120kN	210kN
15	3	Jumper Flag	N/A	N/A
16	1	Adjustable Extension link - long	120kN	210kN
17	2	Corona Ring	N/A	N/A



Note: X = 380, 450 or 570mm.

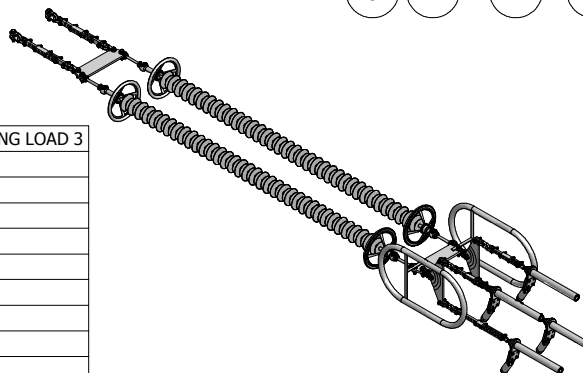
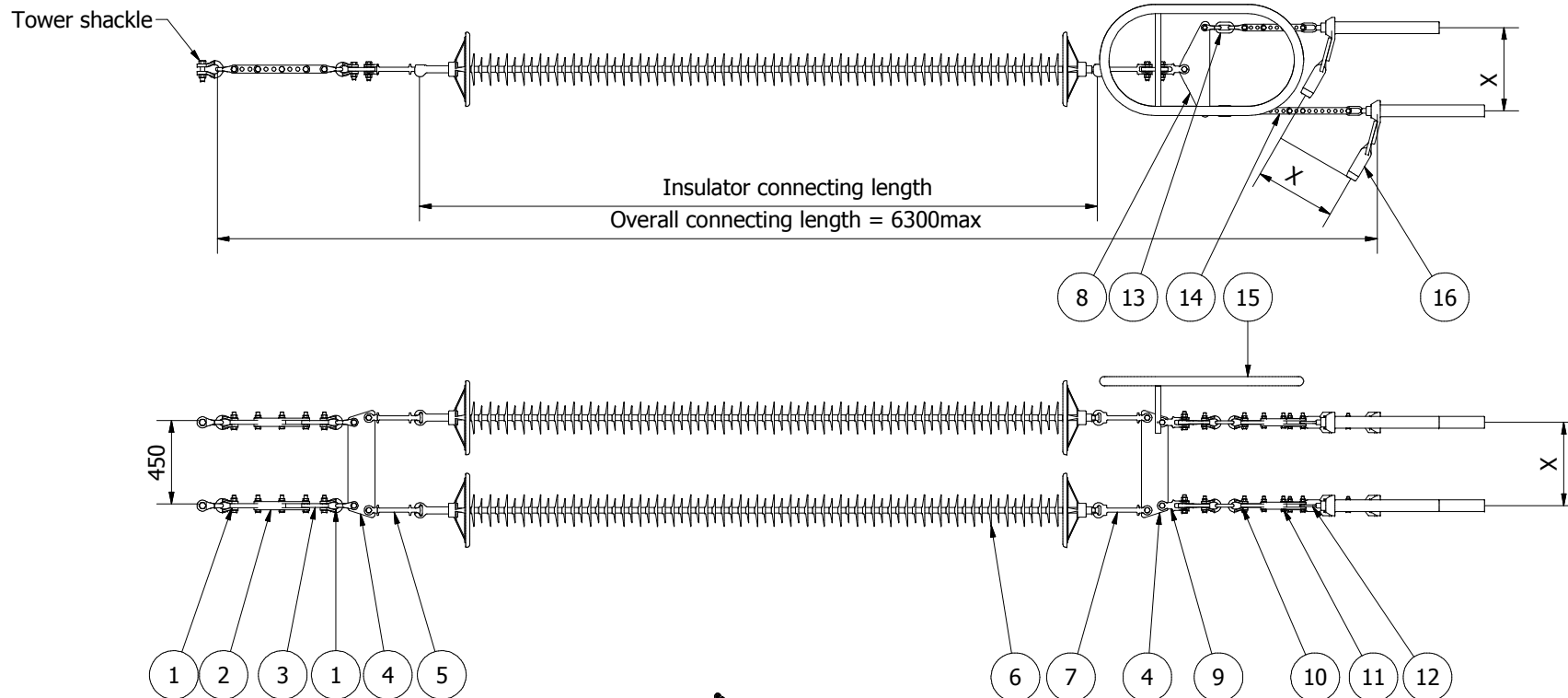
Ins Type		400kV - 210kN	400kV - 300kN
Connecting length (31mm/kV)		3700mm	3700mm
Connecting length (25mm/kV)		3700mm	3700mm
Connecting length (Glass discs)		23xU210 = 3910mm	18xU300 = 3510mm
DRAWN:	SIGN ES Peters	DATE 2014/10/27	TITLE CONCEPTUAL 400kV Strain Assembly with double attachment for Triple Conductor
ESKOM DRAWING No.			400kV Strain assy double att 3xXXXX
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Note: X = 380, 450 or 570mm.


ITEM	QTY	DESCRIPTION	BREAKING LOAD	BREAKING LOAD 2
1	6	Shackle	120kN	210kN
2	2	Adjustable Extension link	120kN	210kN
3	2	Extension strap	120kN	210kN
4	2	Rectangular Yoke	210kN	300kN
5	2	Ball Clevis HL	120kN	210kN
6	2	Composite Insulator	120kN	210kN
7	2	Socket Clevis HL	120kN	210kN
8	2	Dead-end	95% UTS	95% UTS
9	2	Adjustable Extension link	120kN	210kN
10	4	Shackle	120kN	210kN
11	2	Jumper Flag	N/A	N/A
12	1	Corona Ring	N/A	N/A

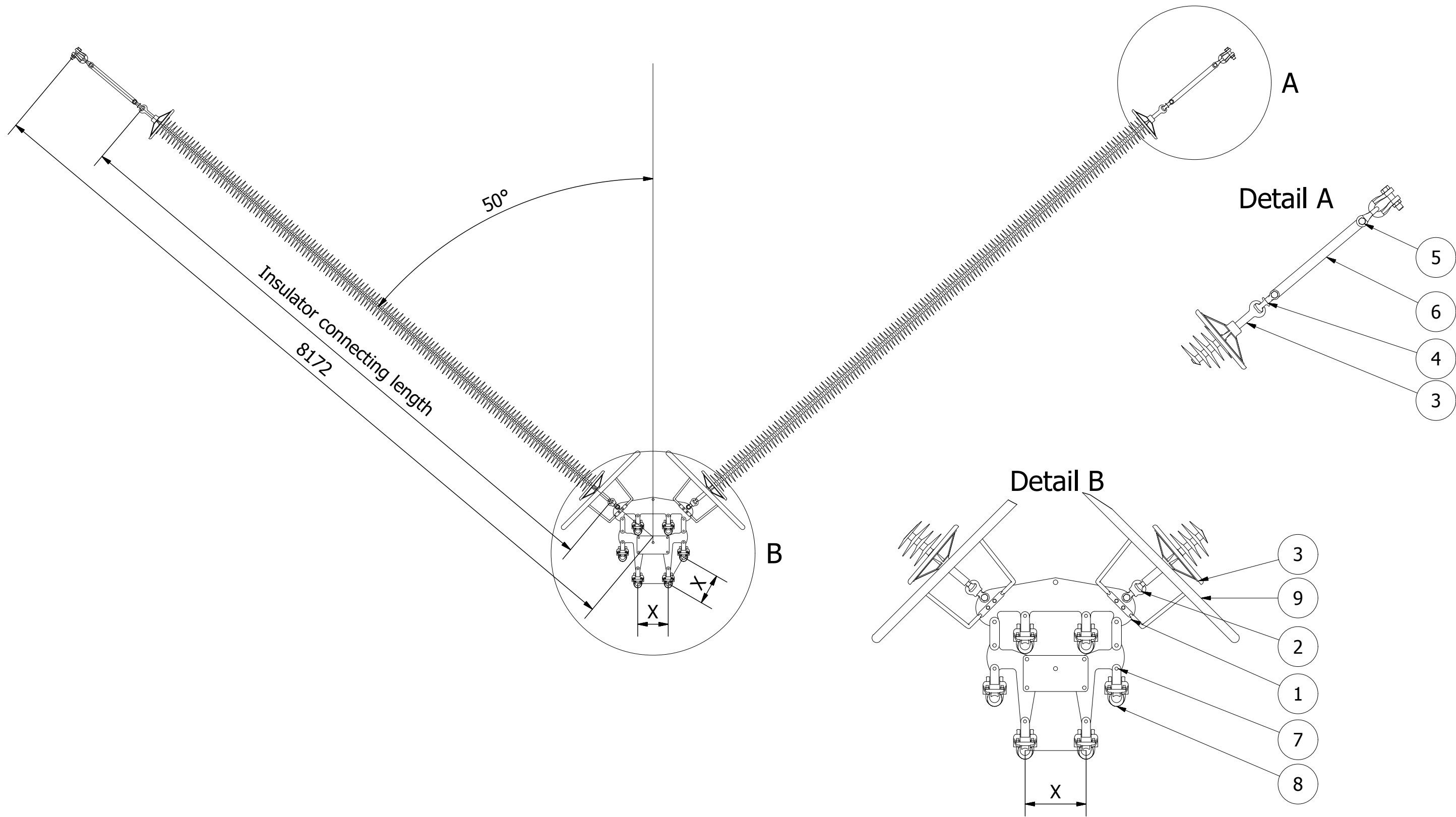
Ins Type		400kV - 210kN	400kV - 300kN
Connecting length (31mm/kV)		3688mm	
Connecting length (25mm/kV)		3688mm	
Connecting length (Glass discs)		21xU210 = 3570mm	19xU300 = 3705mm
DRAWN:	SIGN Needs	DATE 2010/10/21	TITLE: CONCEPTUAL 400kV Strain Assembly with double attachment for Twin Conductor
			ESKOM DRAWING No. 400kV Strain assy double att 2xXXXX
			REVISION NO.
			SCALE A3
			OF
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ITEM	QTY	DESCRIPTION	BREAKING LOAD	BREAKING LOAD 2	BREAKING LOAD 3
1	6	Shackle	210kN	300kN	400kN
2	2	Adjustable Extension link	210kN	300kN	400kN
3	2	Extension strap	210kN	300kN	400kN
4	2	Rectangular Yoke	400kN	600kN	800kN
5	2	Ball Clevis HL	210kN	300kN	400kN
6	2	Composite Insulator	210kN	300kN	400kN
7	2	Socket Clevis HL	210kN	300kN	400kN
8	2	Triangle yoke	210kN	300kN	400kN
9	2	90deg Double Clevis	210kN	300kN	400kN
10	8	Shackle	120kN	210kN	210kN
11	2	Adjustable Extension link	120kN	210kN	210kN
12	4	Dead-end	95% UTS	95% UTS	95% UTS
16	4	Jumper Flag	N/A	N/A	N/A
14	2	Adjustable Extension link - long	120kN	210kN	210kN
15	2	Corona Ring	N/A	N/A	N/A
13	4	Chainlink	120kN	210kN	210kN

Note: X = 380, 450 or 570mm.

Ins Type			400kv - 210kN	400kv - 300kN
Connecting length (31mm/kV)			3700mm	3700mm
Connecting length (25mm/kV)			3700mm	3700mm
Connecting length (Glass discs)			23xU210 = 3910mm	18xU300 = 3510mm
REVISION:	NAME:	DATE:	TITLE: CONCEPTUAL 400kv Strain Assembly with double attachment for Quad Conductor	 SCALE: SIZE: A3 REVISION NO. 1.0
0.1	J HENDERSON	2014/06/18		
1.0	ES Peters	2014/10/28		
ESKOM DRAWING No.			400kv Strain assy double att 4xXXXX	
			</	



ITEM	QTY	DESCRIPTION	BREAKING LOAD
1	1	Suspension Yoke Plate for six conductors	450kN
2	2	Socket Clevis	300kN
3	2	Insulator	300kN
4	2	Ball Clevis	300kN
5	2	Shackle	300kN
6	2	Extension link	300kN
7	6	Strap Shackle	120kN
8	6	Suspension Clamp	120kN
9	2	Corona Ring	

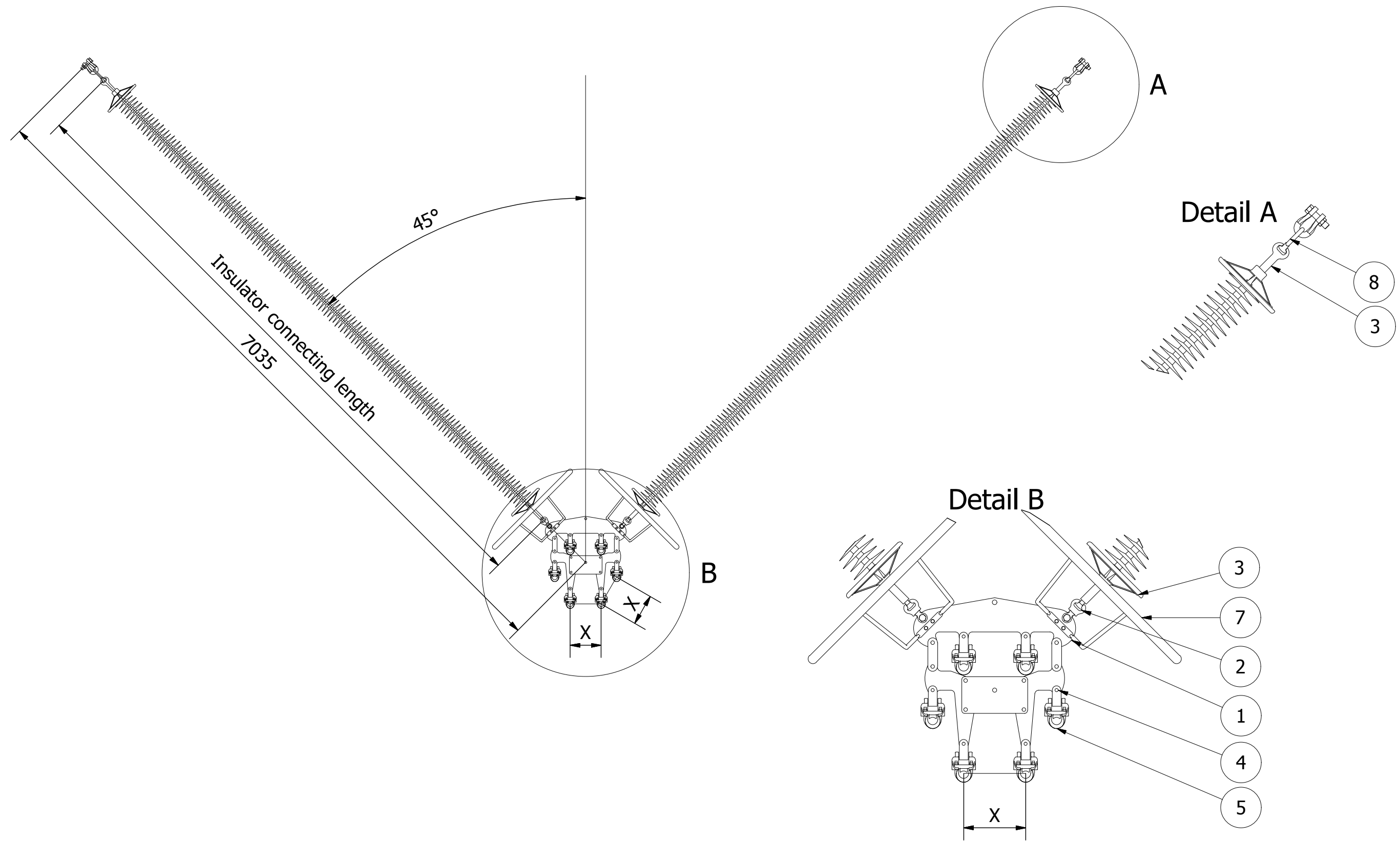
*Note: Tower shackle is supplied with the tower.
It is suggested that the supplier designs a sag adjuster or extension link to cater for insulator connecting lengths for the glass and composite insulators.

Note: X = 320mm.

Ins Type	765kV - 300kN
Connecting length (31mm/kV)	6420mm
Connecting length (25mm/kV)	6420mm
Connecting length (Glass discs)	33xU300=6435mm

DRAWN:	SIGN Neels	DATE 2010/10/21	TITLE: CONCEPTUAL 765kV V-Suspension Assembly for Six Conductors	SCALE AS SHOWN	SIZE A3
			ESKOM DRAWING NO. 701C 765kV V-susp assy 6xXXXX	REVISION NO.	
LES ESKOM - GROUP TECHNOLOGY LES - LINE ENGINEERING SERVICES			Eskom		
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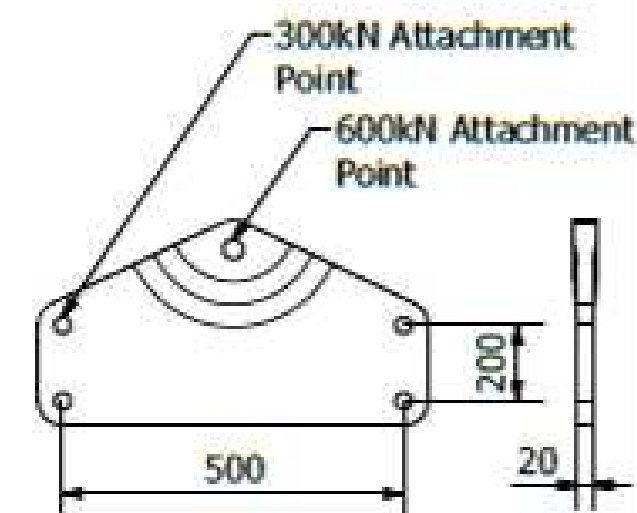
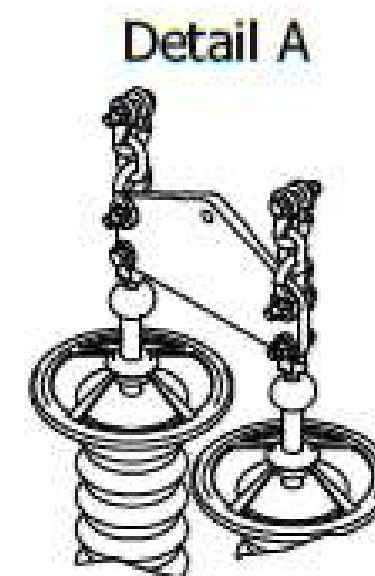
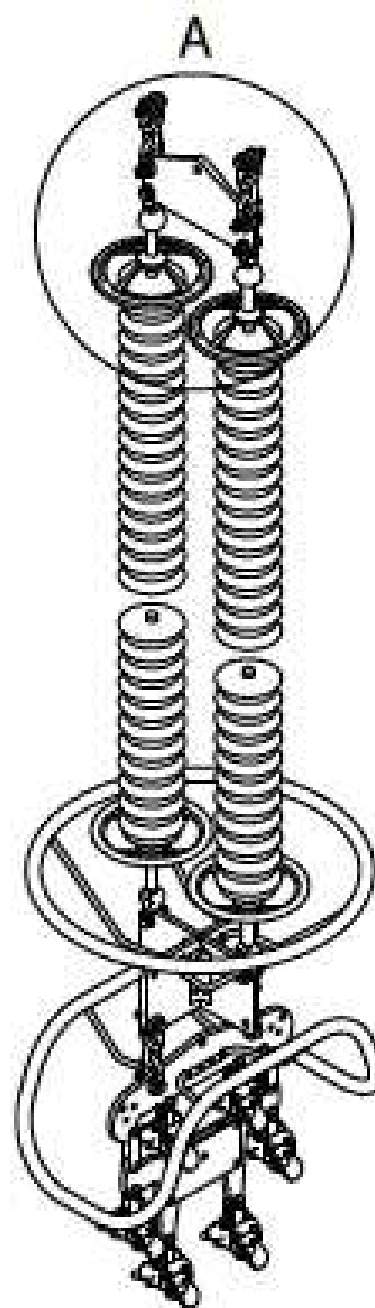
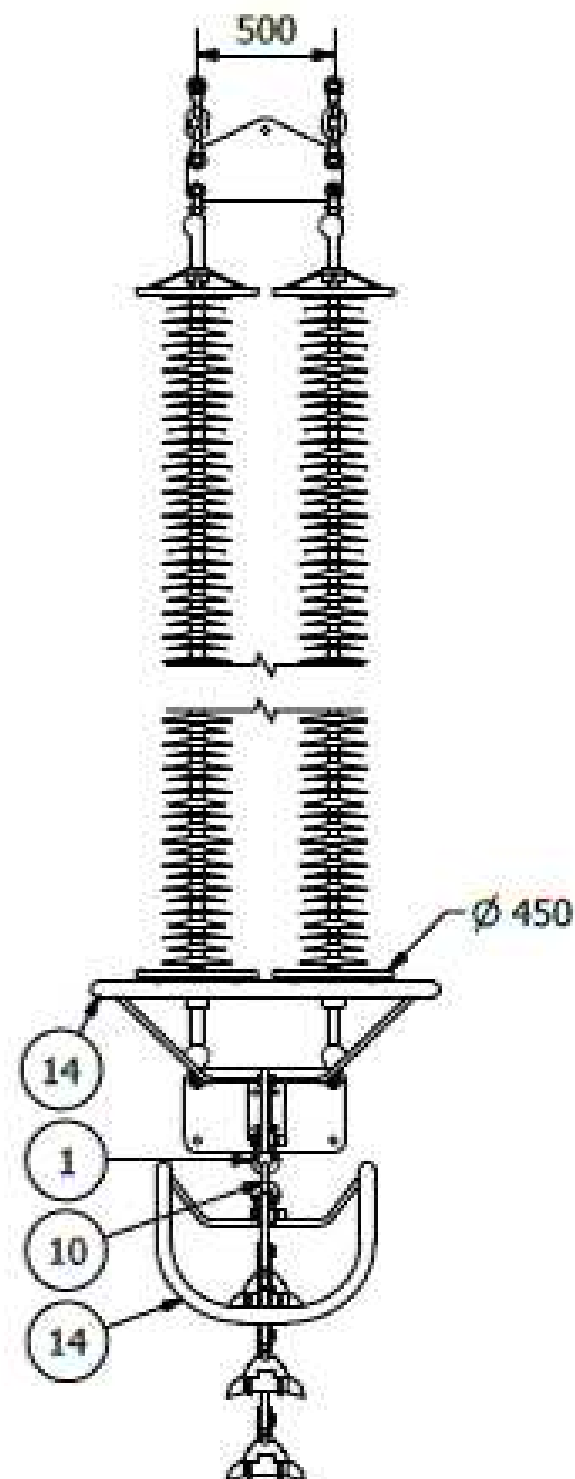
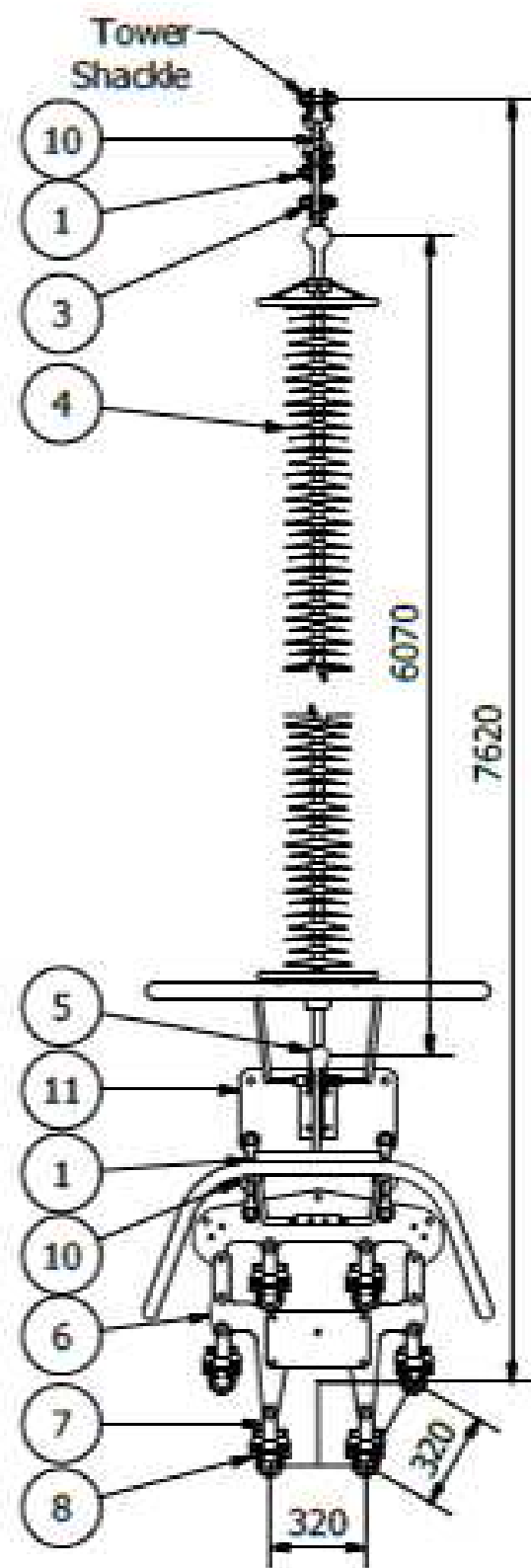
ITEM	QTY	DESCRIPTION	BREAKING LOAD
1	1	Suspension Yoke Plate for six conductors	450kN
2	2	Socket Clevis	300kN
3	2	Insulator	300kN
4	6	Strap Shackle	120kN
5	6	Suspension Clamp	120kN
6	2	Shackle	450kN
7	2	Corona Ring	
8	2	Ball oval eye	300kN

*Note: Tower shackle is supplied with the tower.
It is suggested that the supplier designs a sag adjuster or extension link to cater for insulator connecting lengths for the glass and composite insulators.

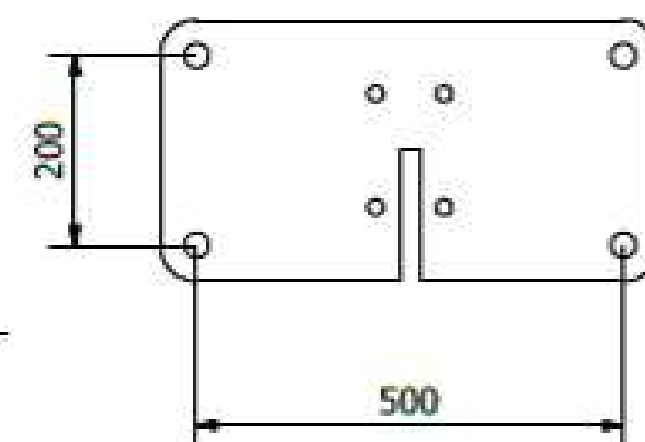
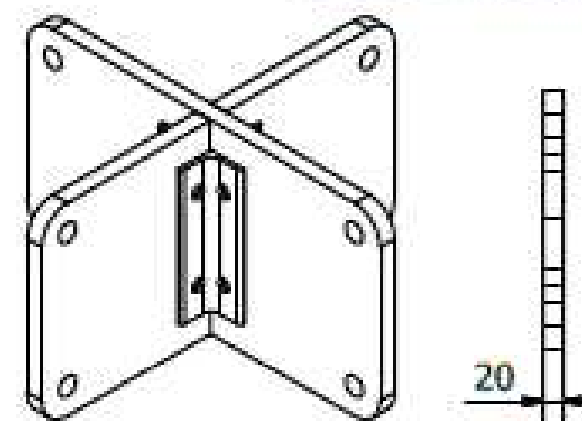
Note: X = 320mm.

Ins Type	765kV - 300kN
Connecting length (31mm/kV)	6420mm
Connecting length (25mm/kV)	6420mm
Connecting length (Glass discs)	33xU300=6435mm

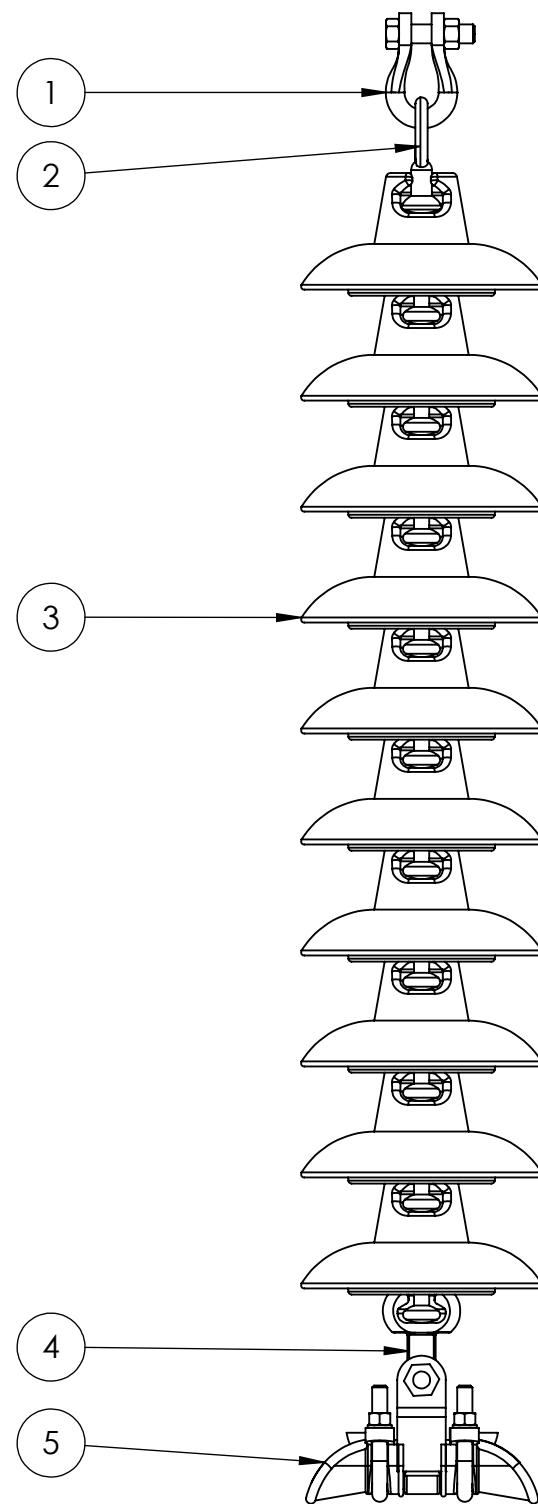
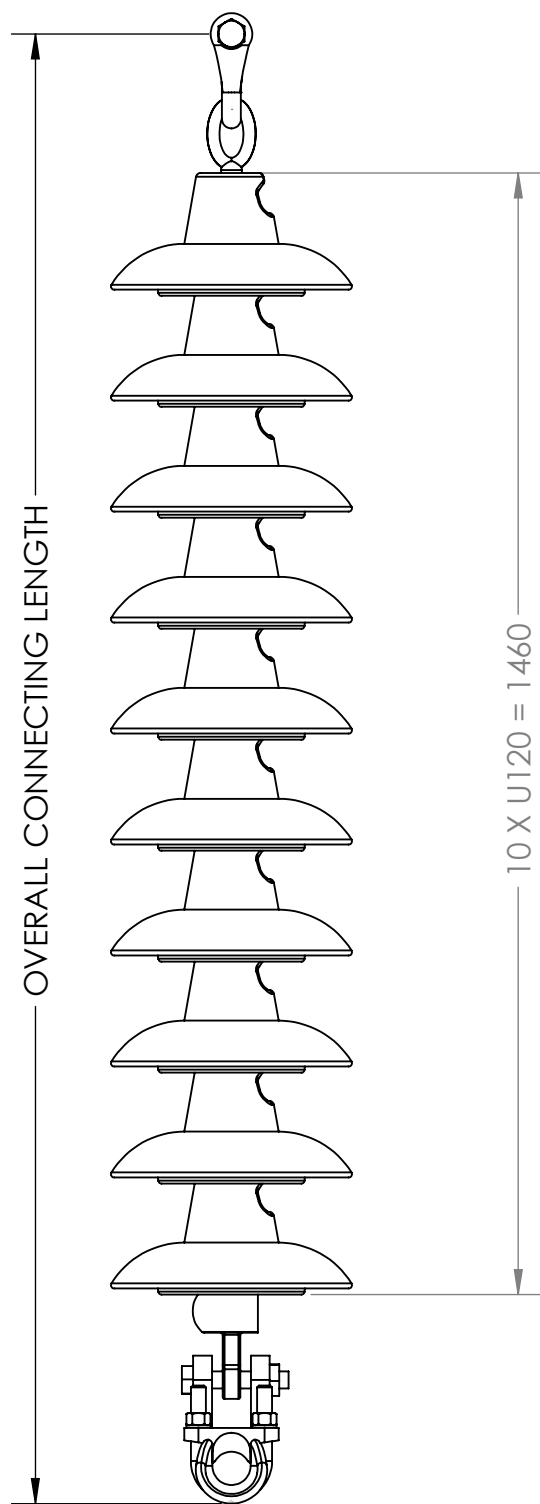
DRAWN:	SIGN Neels	DATE 2010/10/21	TITLE: CONCEPTUAL 765kV 703B Assembly for Hex Conductor	SCALE 1:1	SIZE A3
			ESKOM DRAWING NO. 703B 765kV V-susp assy 6xXXXX	REVISION NO.	
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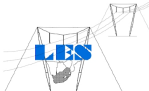
****Note:** Composite yoke comprises of two similar plates joined together by sliding into each other and bolted together with angle iron for support.



ITEM	QTY	DESCRIPTION	BREAKING LO
1	8	Shackle	30 0kN
3	2	Ball Clevis	30 0kN
4	2	Composite Insulator	30 0kN
5	2	Socket Clevis	30 0kN
6	1	Suspension yoke plate for 6 conductors	45 0kN
7	6	Strap Shackle	12 0kN
8	6	Suspension Clamp	12 0kN
10	4	Chainlink	30 0kN
11	1	Composite Rectangular Yoke	30 0kN
13	1	Triangle yoke 450mm 450kN	60 0kN
14	2	Corona Ring	



ITEM NO.	DESCRIPTION	QTY.	BREAKING LOAD
1	TOWER SHACKLE	1	SUPPLIED WITH TOWER
2	BALL OVAL EYE	1	120
3	GLASS INSULATOR DISC	10	120
4	SOCKET TONGUE	1	120
5	SUSPENSION CLAMP	1	120

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2016/06/03	DESCRIPTION: CONCEPTUAL 132kV I-SUSPENSION ASSEMBLY FOR SINGLE CONDUCTOR	
CHECKED	AS JACOBS		2016/06/03	ESKOM DWG NO. 132-ISUSP-XXX-1	REVISION: 1.0
				ESKOM - GROUP TECHNOLOGY LES - LINE ENGINEERING SERVICES	A4 N.T.S.
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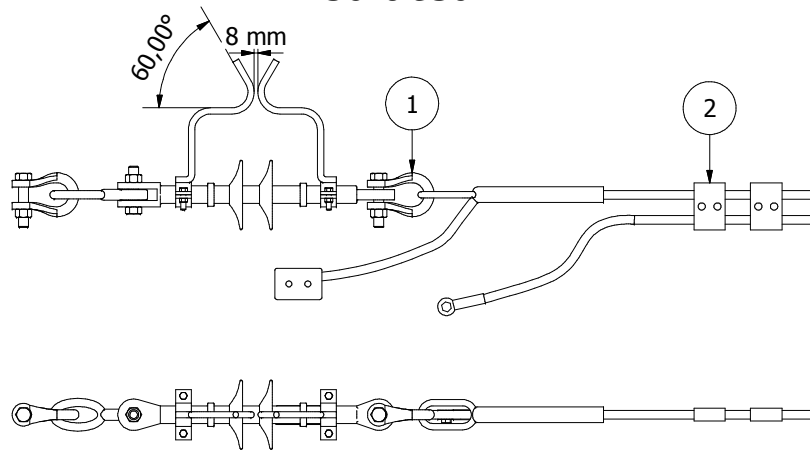
REVISED BY

DATE

CHANGES MADE

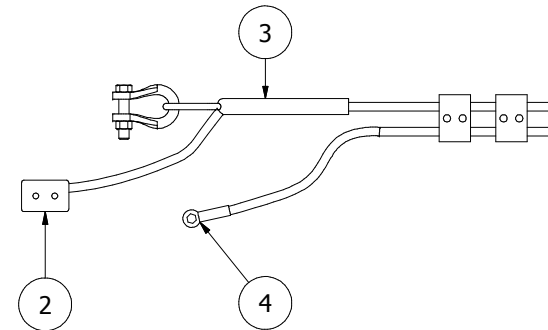
REV NR.

Insulated

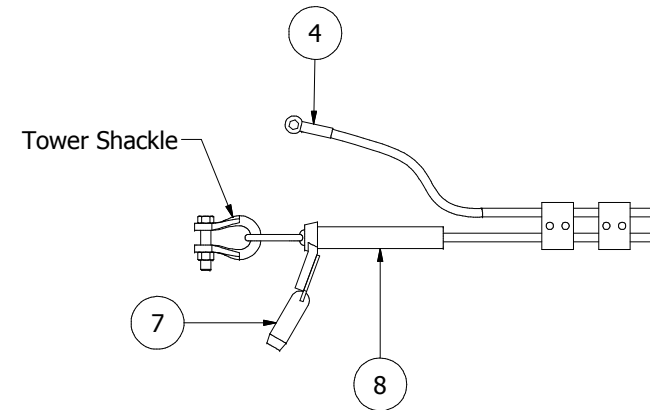
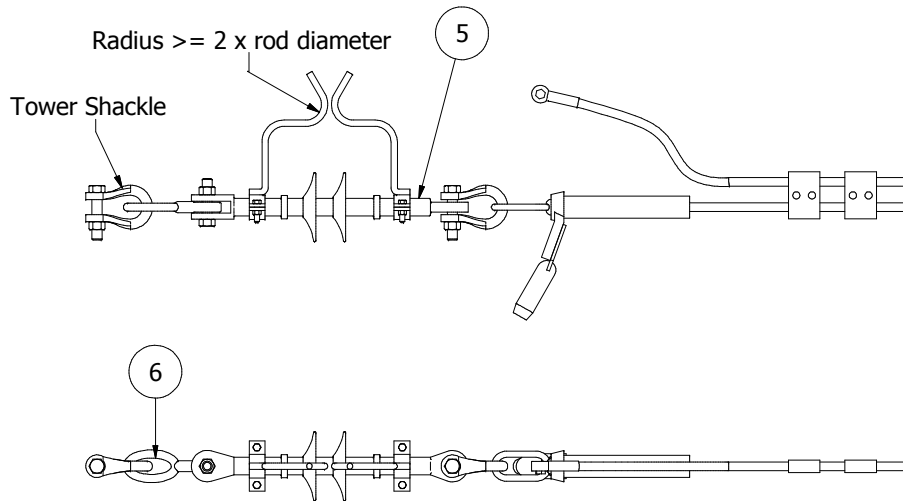


Steelwire




Standard



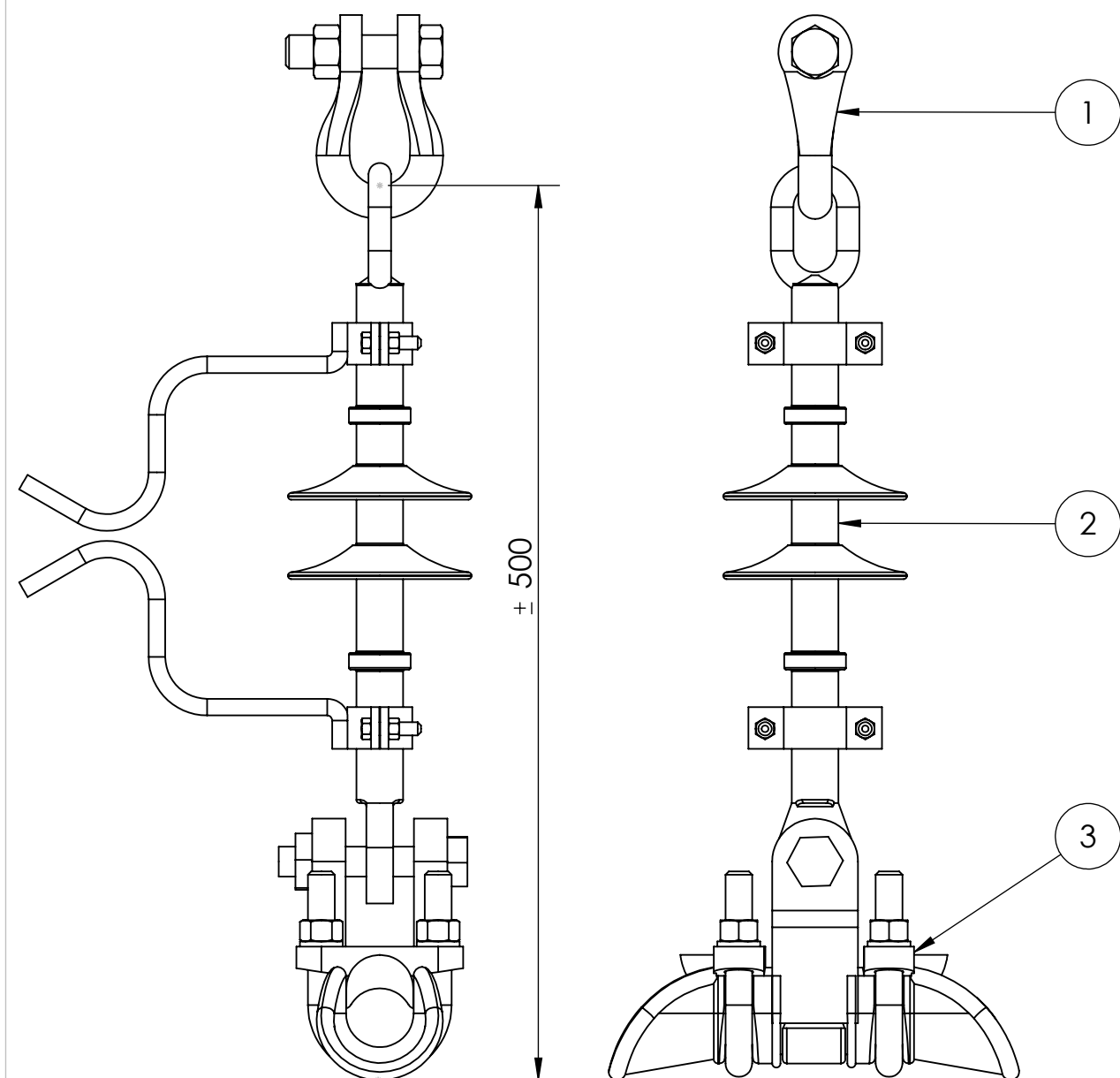
ACSR



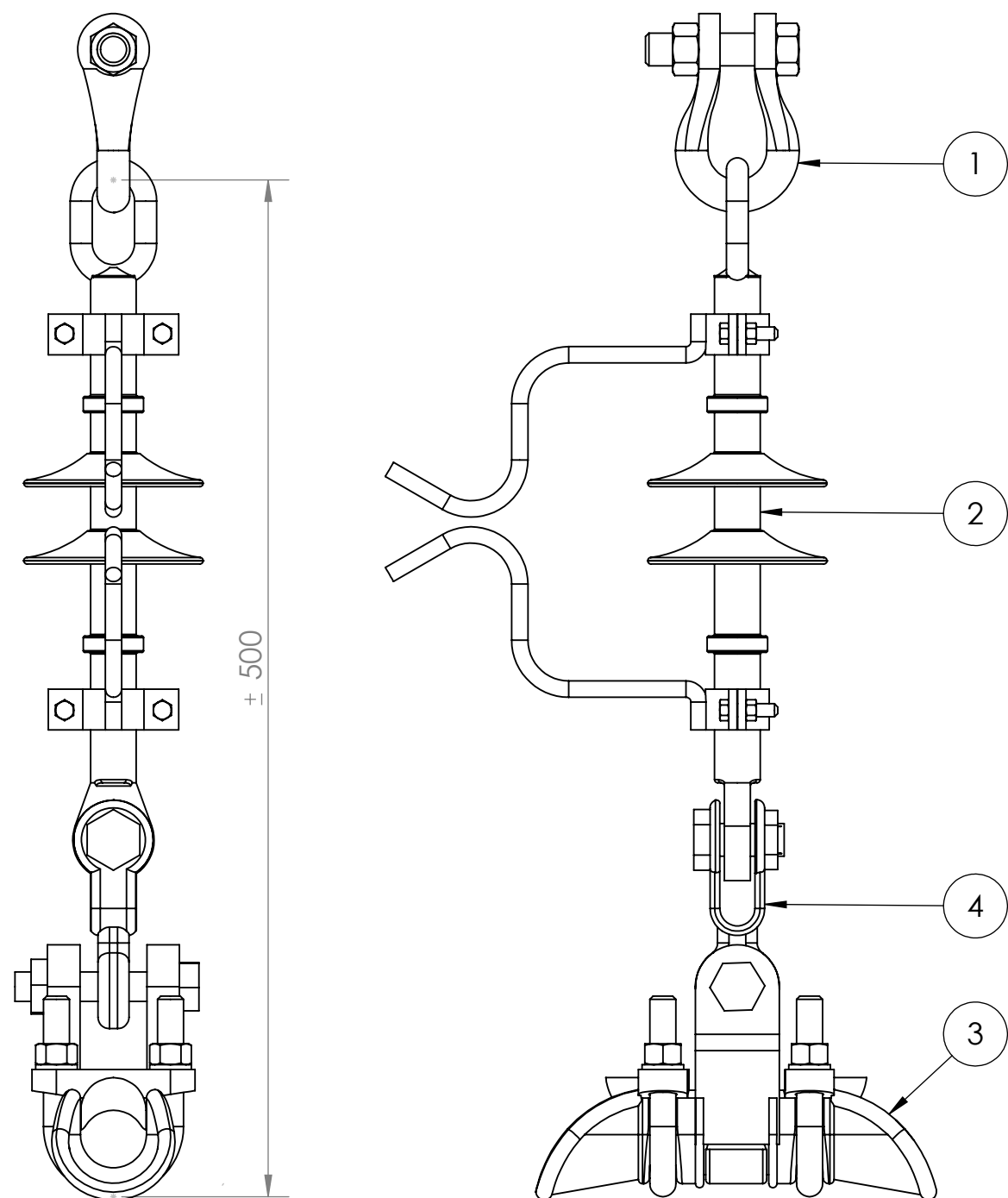
ITEM	DESCRIPTION	BREAKING LOAD
1	Shackle	120kN
2	Parallel Groove Clamp	N/A
3	Compression Dead-End Assembly for Steelwire	N/A
4	Compression Terminal Lug	N/A
5	Composite Insulator with A/Horn	120kN
6	Tongue Oval Eye	120kN
7	Compressor Jumper Terminal for ACSR	N/A
8	Compression Dead-End Assembly for ACSR	N/A

REVISION:	NAME:	DATE:	TITLE:			
0.1	<input type="checkbox"/> Henderson	2014/06/18	CONCEPTUAL Earth Wire Strain Assembly	SCALE	SIZE	
1.0	<input checked="" type="checkbox"/> ES Peters	2015/01/07			A3	
				ESKOM DRAWING No.	REVISION NO.	
					1.0	
			ESKOM - GROUP TECHNOLOGY			
			LES - LINE ENGINEERING SERVICES	SHEET		
				2015/01		
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OPTION 1 ☐



OPTION 2 ☐



ITEM NO.	DESCRIPTION	OPTION 1 QTY.	OPTION 2 QTY.	BREAKING LOAD (kN)
1	TOWER SHACKLE	1	1	SUPPLIED WITH TOWER
2	EARTH WIRE COMPOSITE INSULATOR	1	1	120
3	SUSPENSION CLAMP	1	1	120
4	CLEVIS TONGUE - TWISTED	-	1	120

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2016/07/06	DESCRIPTION: CONCEPTUAL INSULATED EARTH WIRE SUSPENSION ASSEMBLY	
CHECKED	AS JACOBS		2016/07/06	ESKOM DWG NO. EW-SUSP-INS	REVISION: 1.0
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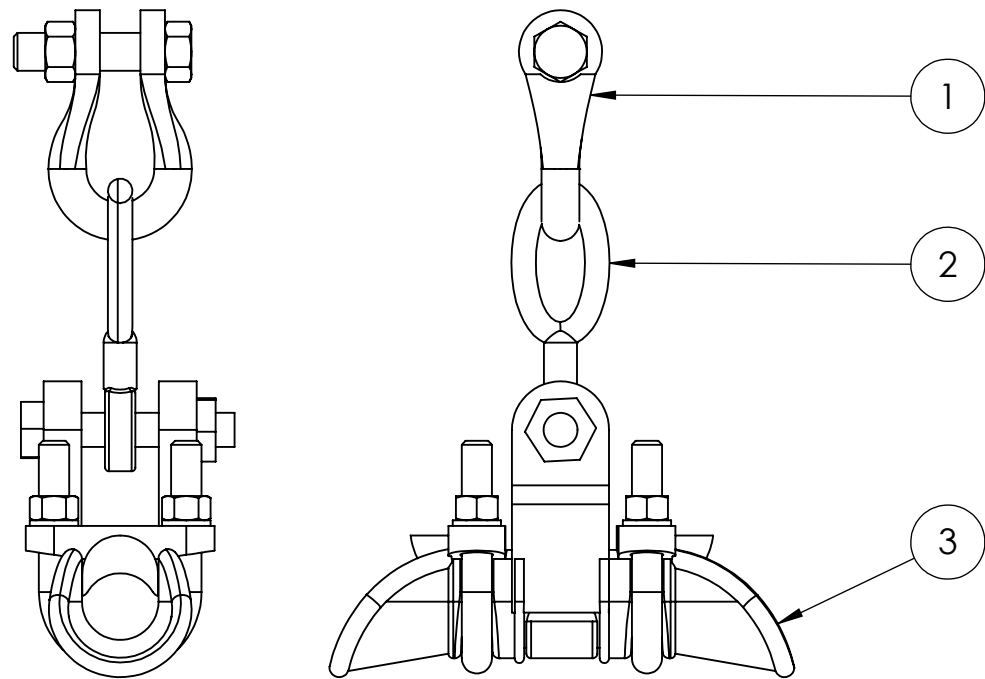
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DATE

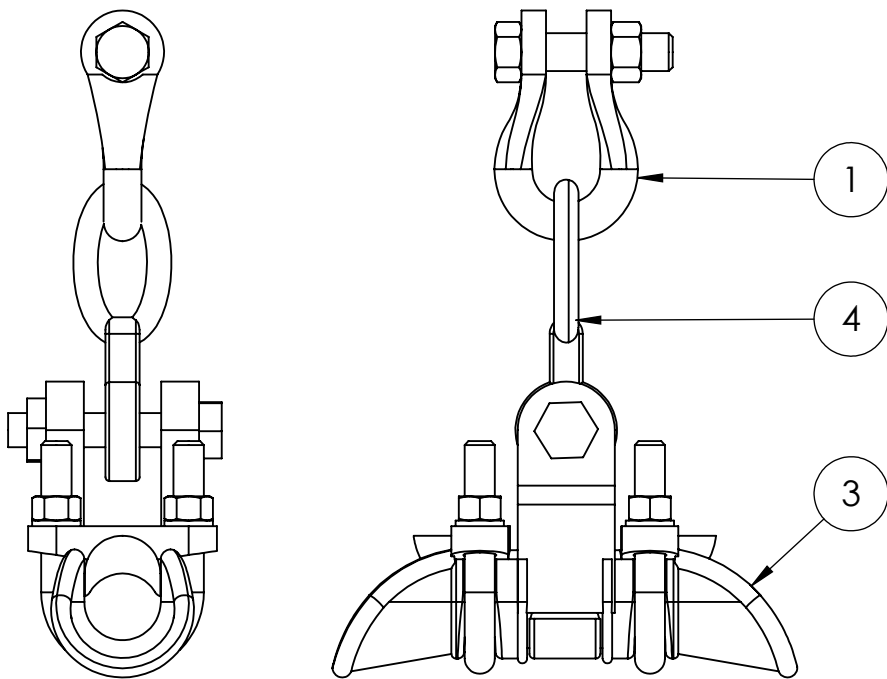
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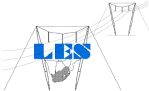
OPTION 1 ☐



OPTION 2 ☐



ITEM NO.	DESCRIPTION	OPTION 1 QTY.	OPTION 2 QTY.	BREAKING LOAD (kN)
1	TOWER SHACKLE	1	1	SUPPLIED WITH TOWER
2	TONGUE OVAL EYE	1	-	120
3	SUSPENSION CLAMP	1	1	120
4	TONGUE OVAL EYE - TWISTED	-	1	120

	NAME	SIGNATURE	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS	
DRAWN	ES PETERS		2016/07/06	DESCRIPTION: CONCEPTUAL NON-INSULATED EARTH WIRE SUSPENSION ASSEMBLY	
CHECKED	AS JACOBS		2016/07/06	ESKOM DWG NO. EW-SUSP-NON	REVISION: 1.0
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