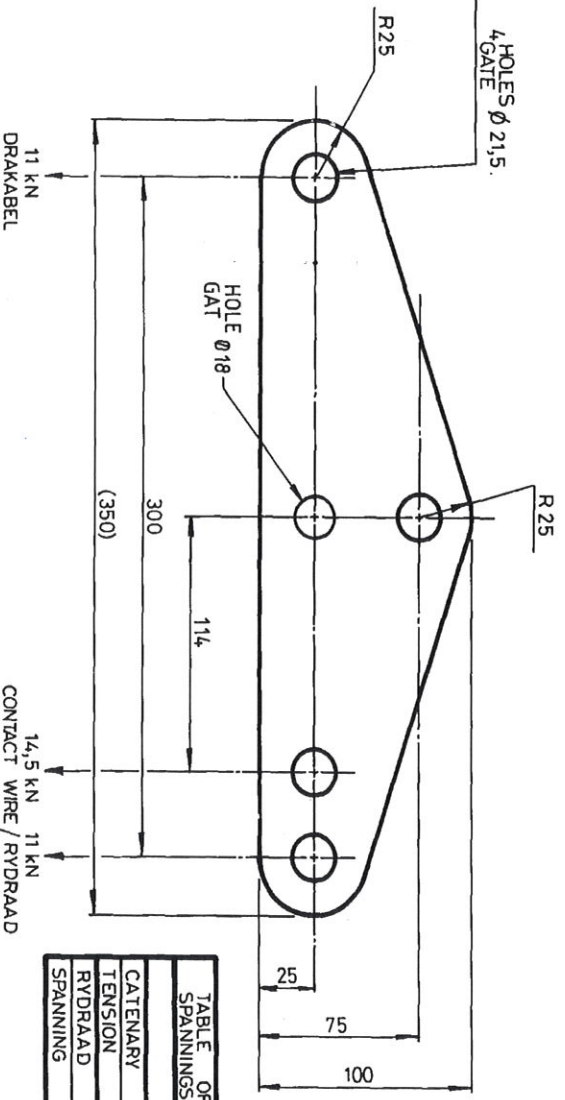


4 HOLES  $\phi$  21,5.  
GATE



DIMENSIONS : MILLIMETRES.  
AFMETINGS : MILLIMETER.

MATERIAL - MATERIAAL

STEEL, FLAT 100 \* 16 \* 350 L.  
STAAL, PLAT  
SPEC. CME. 9 SYM. 7.  
SPES. CME. 9 SIM. 7.  
STORES ITEM NO. (M) 11/12635.  
MAGASYN- SUID-AFRIKAANSE Vervoerdiens

SOUTH AFRICAN TRANSPORT SERVICES  
SUID-AFRIKAANSE Vervoerdiens

NOTE / OPM.  
ZINC COAT TO SPEC. S.A.B.S. 763.  
SINKBEDEK VOLG. SPES.

TABLE OF TENSIONS SPANNINGSTABEL		
	AC / WS	DC / GS
CATENARY TENSION	80mm <sup>2</sup>	100mm <sup>2</sup>
RYDRAAD TENSION	11 kN	11 kN
RYDRAAD SPANNING	107mm <sup>2</sup>	161mm <sup>2</sup>
	11 kN	14,5 kN

DRN. B.J.vdWesthuizen  
GET. B.J.vdWesthuizen  
TRCD. B.J.vdWesthuizen  
NGT. B.J.vdWesthuizen  
CKD. J.SWIEGERS.  
NGS. J.SWIEGERS.

GEN. TOLERANCES : LN : 0,5.  
ALG. TOLERANSIES : ANG./HOEK  
D.O. REF. T2/80/24  
TK. VERW. IR.  
DATE 31.09.08  
DATE 31.09.08

for ns  
JOHANNESBURG

ASSY. DRG. / SAMEST-TEK  
DRAWING NO. CEE-  
TEKENING TMHF-99.

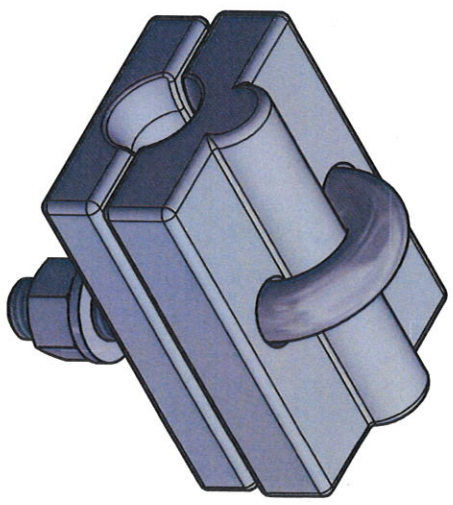
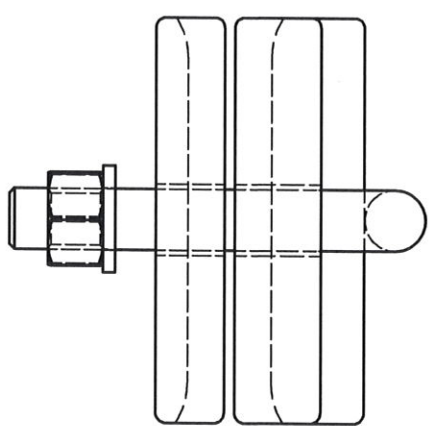
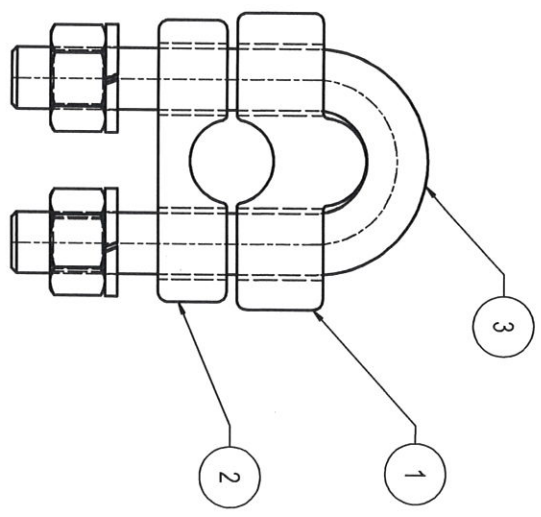
AMENDMENTS WYSIGINGS		
NO.	NAME NAAM	DATE DATUM
1	T. Humar.	82-04-20.

DRG. REVISED  
TEK. HERSIEN.  
D.O. REF. T1/82/28  
TK. VERW. T1/82/28

CEE - TV-157 SHT 1  
VEL. 1  
CEE - TV-178



TABLE	
STORES ITEM NO.	WIRE SIZE mm <sup>2</sup>
54002033	50mm <sup>2</sup> AI
54015147	52mm <sup>2</sup> ACSR - RABBIT
54010496	100mm <sup>2</sup> ACSR - SKUNK
	161mm <sup>2</sup> ACSR - TIGER



- NOTES
1. USE BRIGHT STEEL DISTANCE PIECES WHEN CHECKING HOLE SIZE.
  2. THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE:
    - (a) TRANSNET LOGO.
    - (b) MANUFACTURER'S IDENTIFICATION.
    - (c) DATED BATCH NUMBER.
    - (d) WIRE SIZE.

ITEM	DESCRIPTION	QTY	STORES ITEM NO.	DRAWING NO.
3	U-BOLT	1	-	BHH1233 SHT 2/ITEM 6
2	ALUMINIUM CLAMP	1	-	CEE-TN-0371 SHT 1
1	ALUMINIUM CLAMP	1	-	CEE-TN-0371 SHT 1



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DIMENSIONS : mm  
 TOLERANCE : LIN ± 1 ANG ± -  
 MATERIAL : -  
 SCALE : 1:1:1  
 ITEM NO. : -

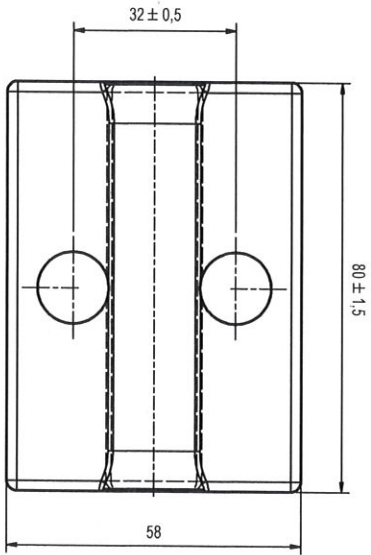
VERSION INFO : REVISED AND REDRAWN

APPROVED : W. SCHOEEMAN  
 29/07/2020

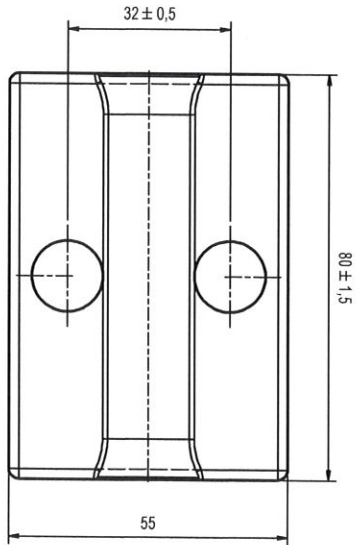
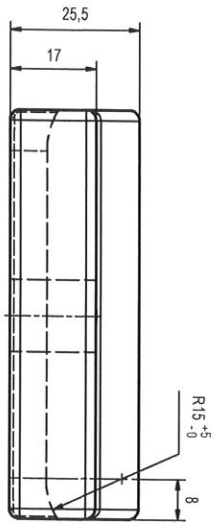
AUTHORISED : S. SMT  
 29/07/2020

EARTH WIRE CLAMP ASSEMBLY 50/9mm<sup>2</sup>,  
 50mm<sup>2</sup>, 100mm<sup>2</sup> OR 160mm<sup>2</sup>

**TRANSNET**  
 freight rail  
 CEE-TN-0371  
 VERSION 5



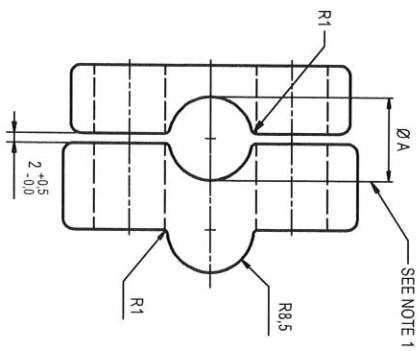
ITEM 1



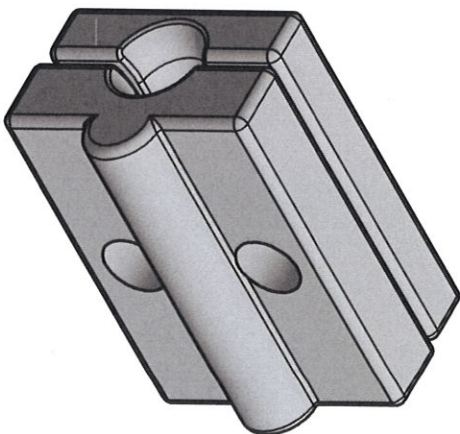
ITEM 2



TABLE	
DIAMETER A (mm)	WIRE SIZE (mm <sup>2</sup> )
10 -0.0	50 Al
12 -0.0	52mm <sup>2</sup> ACSR - RABBIT
16.5 +0.5/-0.0	100mm <sup>2</sup> ACSR - SKUNK
	161mm <sup>2</sup> ACSR - TIGER



(SEE TABLE)



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DIMENSIONS : mm SCALE : 1 : 1

TOLERANCE : LN ± 1 ANG ± .

MATERIAL : ALUMINIUM GRADE 6063 OF BS EN 573-3

DRAWN : D.HATTINGH CHECKED : D.HATTINGH

EARTH WIRE CLAMP

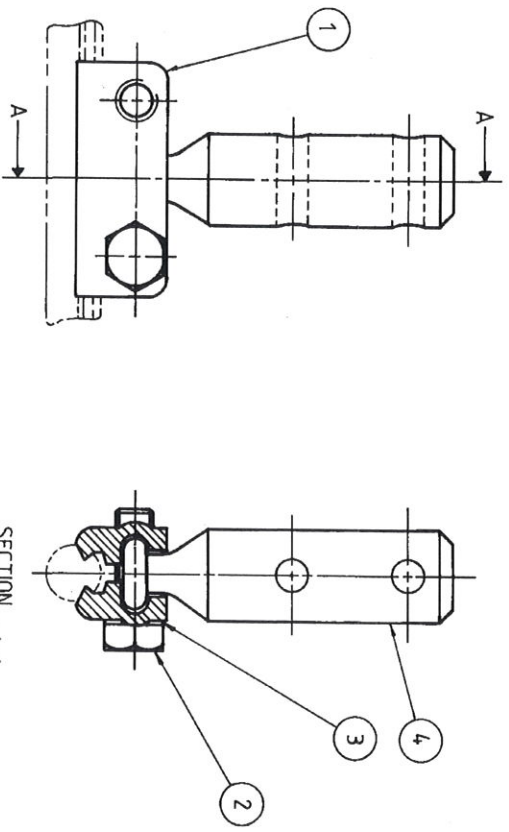


**TRANSNET**  
freight rail

CEE-TN-0371 SHT 1

VERSION 5 A3

ITEM	DESCRIPTION BESKRYWING	QTY HYLD	STORES MAGASYN	ITEM NO.	DRAWING NO TEKENING	NO. CEE- VEL	AMENDMENTS WYSIGINGS
1	CLAMP ELECTRICAL. Klamp, Elektriese.	2			TN-378	SHT 2.	NO. NAME DATE T. Humman 85-04-03
2	SCREW MACHINE HEX HEAD, ALLOY. SKROEF MASJEN SESK KOP, ALLOI, M8 x 25L.	2	(M) 54/				1. REF DRG NO ADDED VERW TEK NO BYGEVOEG DO REF 12/85/8 TK-VERW
3	WASHER, LOCK INTERNAL TOOTH, PHOSPHOR BRONZE, M8. WASHER SLUIT BINNE-TAND, FOSFORBRONS.	2	(M) 54/				
4	STEADY ARM FITTING. SLINGE RINGSARMTOEBEHORE.	1			TN-378	SHT 3.	2. J.SWIEGERS 83-06-09 ITEM NO (54/11983) REMOVED/VERWYDER. D O REF T 89/005 TK-VERW



SECTION  
DEURSNEE A-A.

**DIMENSIONS: MILLIMETRES**  
**AFMETINGS: MILLIMETER**

DRN. C.R. AMBROSE  
GET. C.R. AMBROSE

TRCD. C.R. AMBROSE  
NGT. NGT.

CKD. T. Humman  
NGS. NGS.

DATE 85.02.19

GEN. TOLERANCES: LIN. \_\_\_\_\_  
ALG. TOLERANSIES: ANG/HOEK \_\_\_\_\_

D.O. REF. T2/84/91  
TK-VERW IR

ENG. R. J. S.

ELECTRIFICATION TYPE E. BRITS - THABAZIMBI  
CLAMP, ELECTRICAL, ASSEMBLY.

107 mm<sup>2</sup> Cu CONTACT WIRE.

ELEKTRIFIKASIE TYP E.  
KLAMP, ELEKTRIESE, SAMESTEL.

107 mm<sup>2</sup> Cu RYDRAAD

PREVIOUS ITEM NO.  
VORGE

DRAWING NO. CEE-  
TEKENING TN-378

SHEET 1 OF VAN 3.

CHIEF ELECTRICAL ENGINEER  
ELEKTRIESE HOOFINGENIEUR

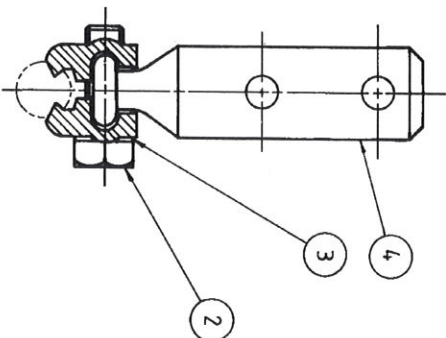
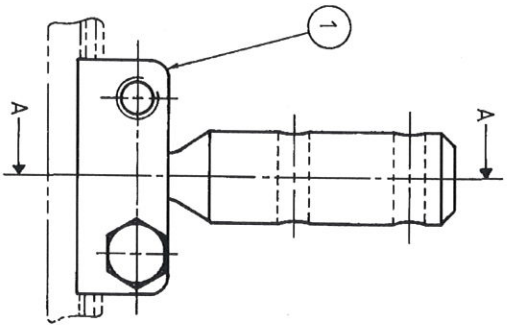
SOUTH AFRICAN TRANSPORT SERVICES  
SUID-AFRIKAANSE VERVOERDIENSTE

JOHANNESBURG

for. ns.

PHOTIA

ITEM	DESCRIPTION BESKRYWING	QTY HYLD	STORES MAGASYN	ITEM NO.	DRAWING TEKENING	NO CEE- VEL	AMENDMENTS WYSIGINGS		
							NO.	NAME NAAM	DATE DATUM
1	CLAMP ELECTRICAL KLAMP ELEKTRIESE	2			TN-378	SHT 2	1.	T. Hurrau	85-04-03
2	SCREW MACHINE HEX HEAD SKROEF MASJIE N' SESK KOP	2	(M) 54/						
3	WASHER LOCK INTERNAL TOOTH WASIER, SLUIT BINNE-TAND	2	(M) 54/						
4	STEADY ARM FITTING SLINGERINGSARMTOEBEHORE	1			TN-378	SHT 3			
2	JSMIEKERS			69-06-09					
ITEM NO (54/11983) REMOVED/VERWYDER. D O REF T 89/005 TK-VERW									



SECTION  
DEURSNEE A-A



DIMENSIONS: MILLIMETRES  
AFMETINGS: MILLIMETER

DRN. GET.	C. R. AMBROSE	GEN. TOLERANCES: LIN.	
TRCD. NGT.	C. R. AMBROSE	ALG. TOLERANSIES: ANG/HOEK	
NGS.	T. Hurrau	DO. REF. TK-VERW	T2/84/91
DATE	85-02-19	ENG.	R. S.

CHIEF ELECTRICAL ENGINEER  
ELEKTRIESE HOOFINGENIEUR  
JOHANNESBURG

SOUTH AFRICAN TRANSPORT SERVICES  
SUID-AFRIKAANSE VERVOERDIENSTE

ELECTRIFICATION TYPE E. BRITS - THABAZIMBI  
CLAMP, ELECTRICAL ASSEMBLY.

107 mm<sup>2</sup> CU CONTACT WIRE.  
ELEKTRIFIKASIE TYPE E.

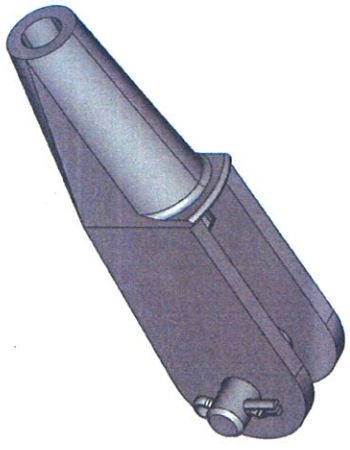
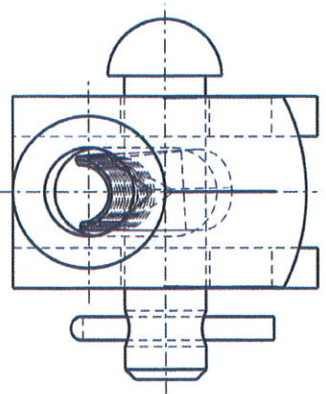
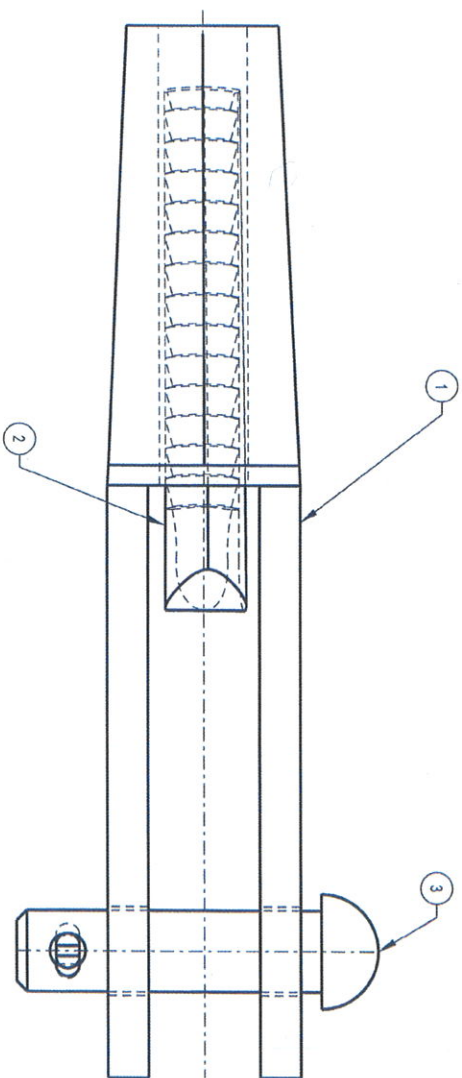
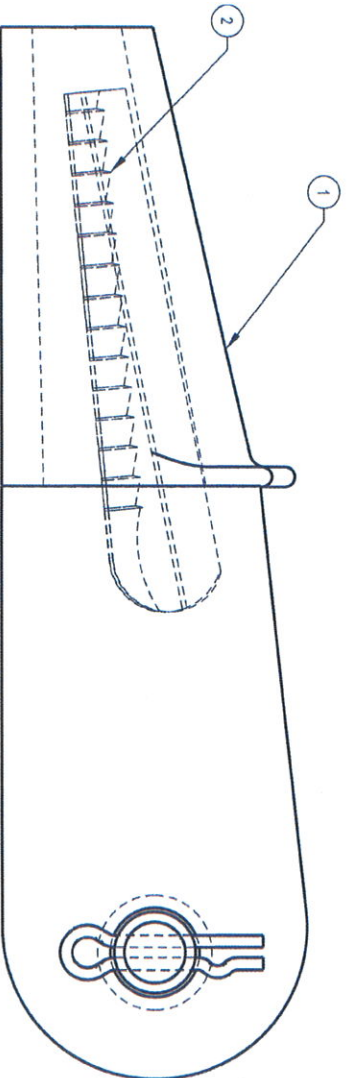
KLAMP, ELEKTRIESE, SAMESTEL.  
107 mm<sup>2</sup> CU RYDRAAD.

ASSY DRG  
SAMEST-TEK  
ELECTRIFICATION TYPES REF  
DRG NO CEE-MA-26 SH-7B  
ELEKTRIFIKASIE Tipes VERW  
TEK NO CEE-MA-369 VEL 7B  
MODULUS ITEM NO.

PREVIOUS ITEM NO.  
VORIGE

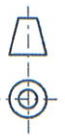
DRAWING NO. CEE-  
TEKENING TN-378

SHEET 1 OF VAN 3.



NOTES  
 1. MINIMUM ULTIMATE TENSILE = 90kN  
 2. TEST SAMPLES OF EACH BATCH SHALL BE ROUTINE TESTED IN TENSION WITH A STEEL BAR TO 63kN

ITEM NO	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO
3	CLEVIS PIN, Ø16 x 60 LONG COMPLETE WITH LOCKING SPLIT PIN	1	54004020	CEE-TX-0098
2	CONE BODY	1		CEE-TNB-0036 SH. 2
1	WEDGE	1		CEE-TNB-0036 SH. 1



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DIMENSIONS : mm SCALE : 1 : 1  
 TOLERANCE : LINE - ANG1 - ITEM NO : 54004978  
 MATERIAL :  
 VERSION INFO : REDRAW AND UPDATE

+ 2017-08-16

+ 2017-08-16

APPROVED S. SMIT

AUTHORISED L. BORCHARD

WIRE ENDING CONE ASSEMBLY  
 107mm<sup>2</sup> / 161mm<sup>2</sup> Cu CONTACT WIRE



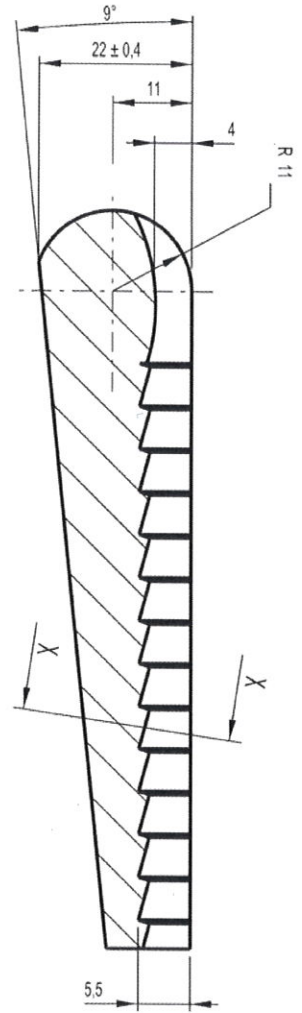
CEE-TNB-0036  
 VERSION 2

DIMENSIONS : mm SCALE : 1 : 1  
 TOLERANCE : LINE 1 ANG ± 0.5°  
 MATERIAL : SPHEROIDAL GRAPHITE IRON TO SANS 936  
 GRADE SG 50  
 DRAWN : MP SAKO CHECKED : D HATTINGH

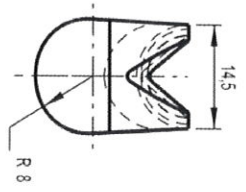
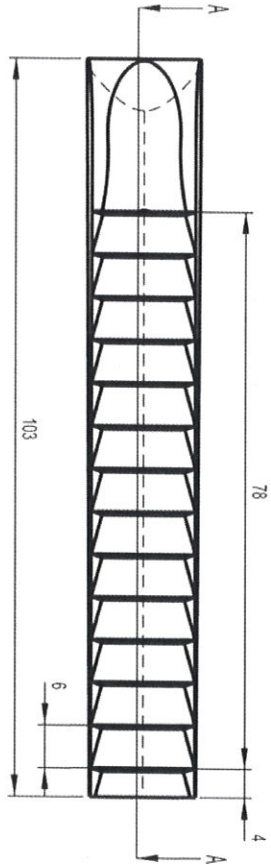
WEDGE  
 107mm<sup>2</sup> / 161mm<sup>2</sup> Cu CONTACT  
 WIRE ENDING CONE

**TRANSNET**  
*freight rail*  
 CEE-TNB-0036 Sht 1  
 VERSION 2  
 A4

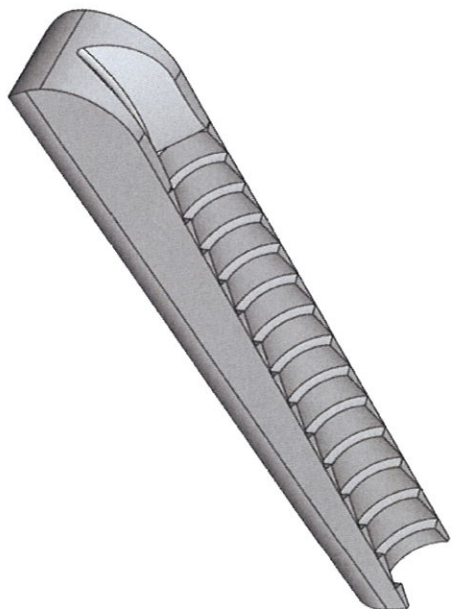
- NOTES.  
 1. THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE  
 2. FINISH: HOT DIP GALVANISED TO SANS 121



SECTION A - A

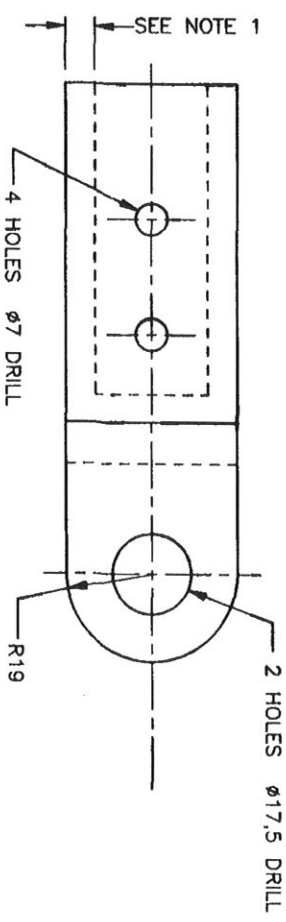
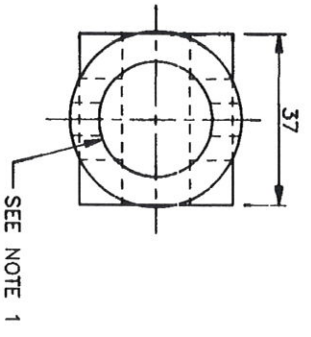
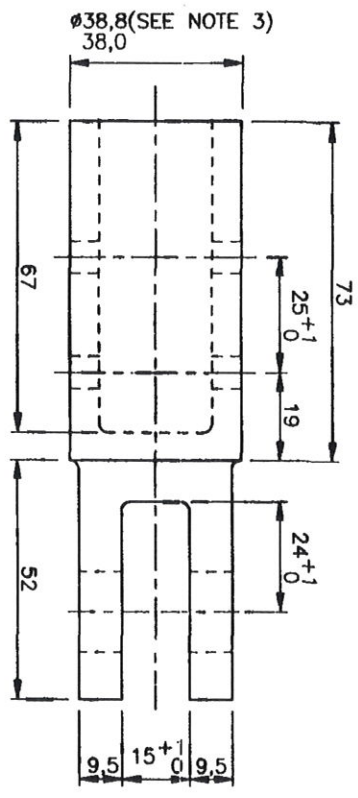


SECTION X - X









NOTES

1. SHOULD FITTING BE CORED THEN WALL THICKNESS MUST NOT BE LESS THAN 6,5.
2. O. D. MUST BE TO DIMENSION SHOWN AFTER COATING.
3. THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE:  
 a) SPOORNET b) MAKER'S IDENTIFICATION  
 c) BATCH NUMBER.
4. ZINC COAT TO SABS 763 FOR CONDITIONS IN SITU.

MATERIAL: SPHEROIDAL GRAPHITE IRON TO SPEC SABS 936 GRADE SG 50

DO REF: J71/228

GEN TOL: LINA 1,0 ANGE

DRN: J.V.S.

CKD: \_\_\_\_\_

DATE: 56-10-22

ENG: F. P.

W. LEHMAN

for CHIEF ENG

INFRASTRUCTURE  
(ELECTRICAL)



CLEVIS SOCKET  
PUSH-PULL-OFF TUBE

AMENDMENTS	
NO	NAME DATE
1	JVT 95-09-11

REVISED, DRG NO WAS  
CEE-TN-408.  
DO REF: T95/051

STORES ITEM NO  
54/1420

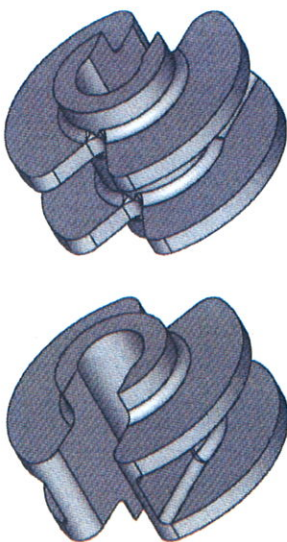
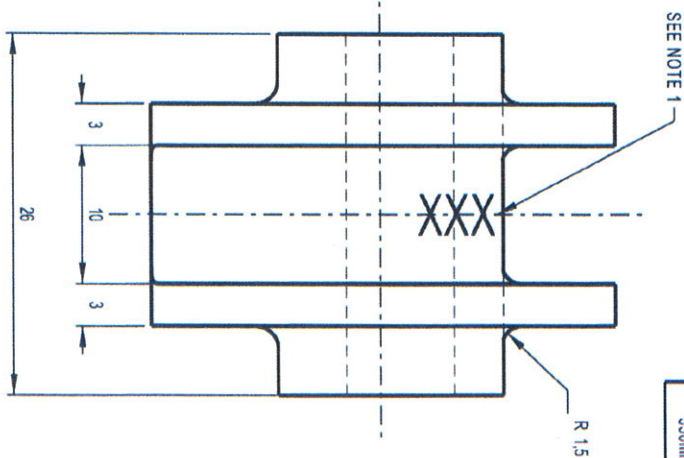
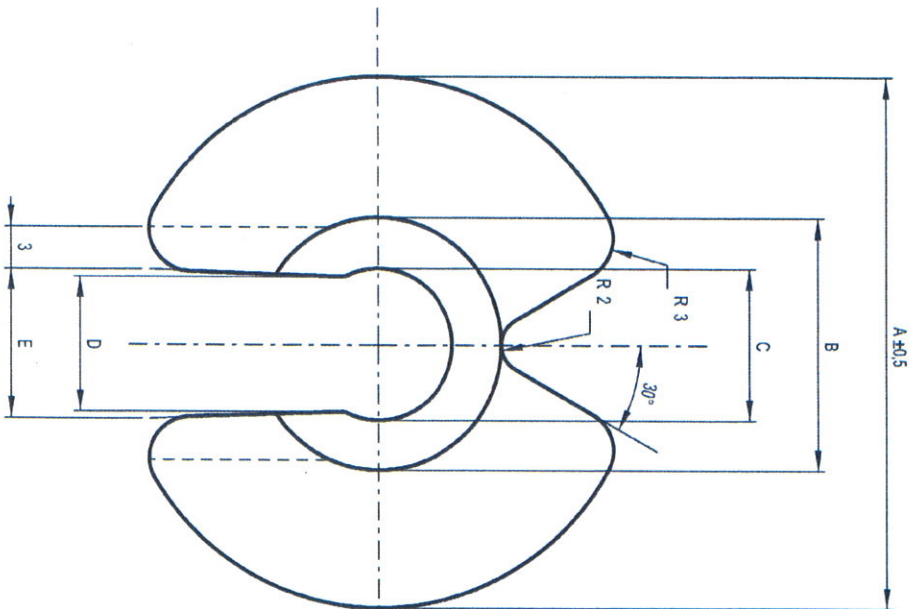
DIMENSION: mm  
SCALE: 1:1



DRAWING NO CEE-

TNB-40  
SHEET - OF -

CATENARY	ACSR CODE NAME	A	B	C	D	E	ITEM NO.
80mm <sup>2</sup>	-	038	018	010.8	9.6	10.6 ±1	54006940
100mm <sup>2</sup>	SKUNK	040.8	020.8	012.8	11.4	12.6 ±1	54016861
148mm <sup>2</sup>	LEOPARD	044.5	024.5	015.5	13.9	15.3 ±1	-
160mm <sup>2</sup>	TIGER	046.7	026.7	016.2	14.4	16 ±1	54016936
250mm <sup>2</sup>	-	054	033.9	020.5	18.2	20.0 ±1.5	54016948
530mm <sup>2</sup>	DEER	068	048.1	029.4	26	28.5 ±1.5	54031701



**NOTE**

1. APPLICABLE CONDUCTOR SIZE \* XXXmm<sup>2</sup> TO BE CAST OR PUNCHED IN POSITION SHOWN. (3mm CHARACTER HEIGHT)
2. A MANUFACTURERS IDENTIFICATION MARK MUST BE CAST OR PUNCHED ON THE CLIP.



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**DIMENSIONS** : mm  
**TOLERANCE** :  $\pm 0.2$  ANG  $\pm 0.5^\circ$  ITEM NO :  
**MATERIAL** : NYLON 66 PIGMENT: BLACK  
**VERSION INFO** : 148mm<sup>2</sup> CATENARY ADDED

SCALE : 2:1

+ 28/5/2020  
 APPROVED *S. Smit*

+ 28/5/2020  
 AUTHORIZED *S. Smit*

**CATENARY DROPPER CLIP**  
**CLIP-ON TYPE**

80mm<sup>2</sup>, 100mm<sup>2</sup>, 148mm<sup>2</sup>, 160mm<sup>2</sup>, 250mm<sup>2</sup> AND 530mm<sup>2</sup> CATENARIES



CEE-TND-0005

VERSION 7

A4

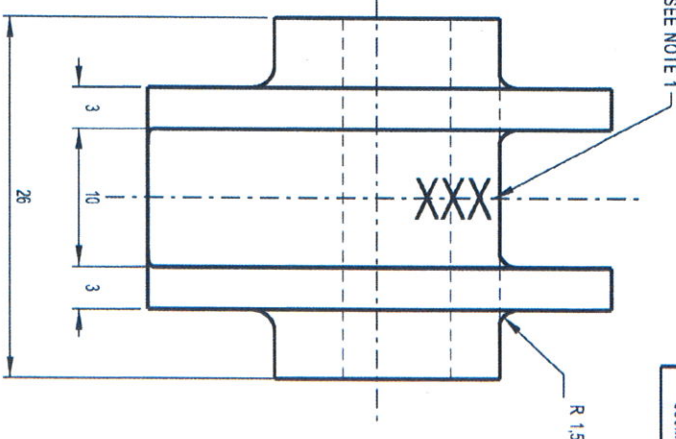
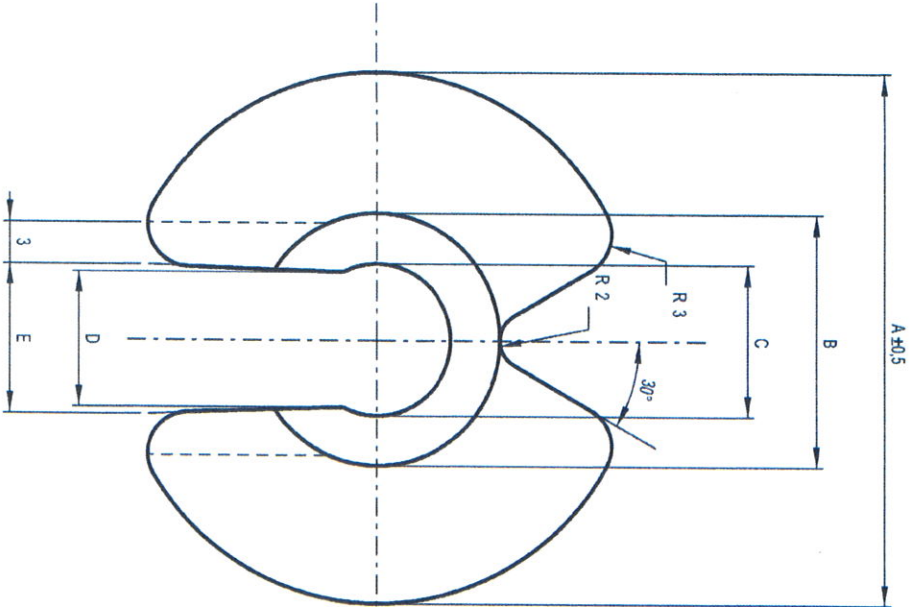
DO REF: CDO/ 9539

ECP REF: -

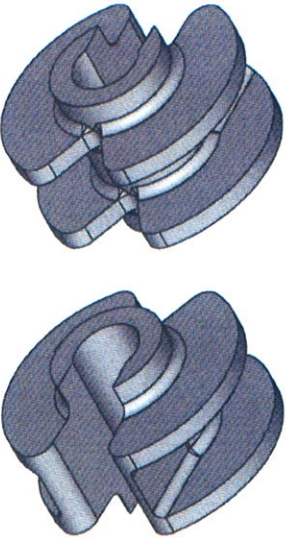
DRAWN: S. MAZIBUKO

DESIGNED: -

CHECKED: S. MAZIBUKO

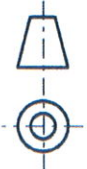


CATENARY	ACSR CODE NAME	A	B	C	D	E	ITEM NO.
80mm <sup>2</sup>	-	Ø38	Ø18	Ø10.8	9.6	10.6±1	54006840
100mm <sup>2</sup>	SKUNK	Ø40.8	Ø20.8	Ø12.8	11.4	12.6±1	54016861
148mm <sup>2</sup>	LEOPARD	Ø44.5	Ø24.5	Ø15.5	13.9	15.3±1	-
160mm <sup>2</sup>	TIGER	Ø46.7	Ø26.7	Ø16.2	14.4	16±1	54016836
250mm <sup>2</sup>	-	Ø54	Ø33.9	Ø20.5	18.2	20.0±1.5	54016848
530mm <sup>2</sup>	DEER	Ø68	Ø48.1	Ø29.4	26	28.5±1.5	54031701



**NOTE**

1. APPLICABLE CONDUCTOR SIZE \* XXXmm<sup>2</sup> TO BE CAST OR PUNCHED IN POSITION SHOWN. (3mm CHARACTER HEIGHT)
2. A MANUFACTURERS IDENTIFICATION MARK MUST BE CAST OR PUNCHED ON THE CLIP.



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**DIMENSIONS** : mm      **SCALE** : 2:1  
**TOLERANCE** : LINES ±0.2 ANGLES ±0.5° ITEM NO. : -  
**MATERIAL** : NYLON 66    **PIGMENT**: BLACK  
**VERSION INFO** : 148mm<sup>2</sup> CATENARY ADDED

+ 28/5/2020  
  
 APPROVED S. Smit

+ 28/5/2020  
  
 AUTHORISED S. Smit

**CATENARY DROPPER CLIP**  
**CLIP-ON TYPE**  
 80mm<sup>2</sup>, 100mm<sup>2</sup>, 148mm<sup>2</sup>, 160mm<sup>2</sup>, 250mm<sup>2</sup> AND 530mm<sup>2</sup> CATENARIES

**TRANSNET**  
 Freight rail

**CEE-TND-0005**  
 VERSION 7

DO REF: CDOJ 9539      ECP REF: -      DRAWN: S. MAZIBUKO      DESIGNED: -      CHECKED: S. MAZIBUKO      A4

THIS DRAWING CONTAINS PERSONAL INFORMATION AS DEFINED IN THE PROTECTION OF PERSONAL INFORMATION ACT, 2013 (POPIA). THE INFORMATION CONTAINED HEREIN WILL BE PROCESSED IN ACCORDANCE WITH THE PROVISIONS OF POPIA.

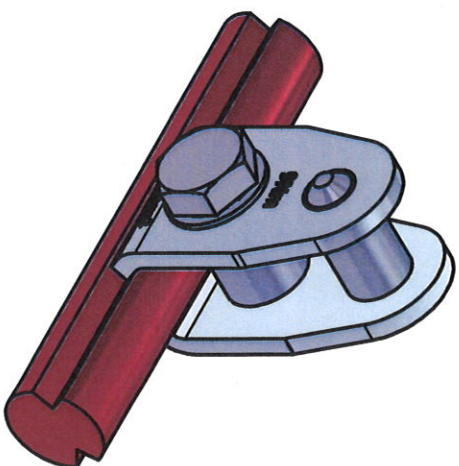
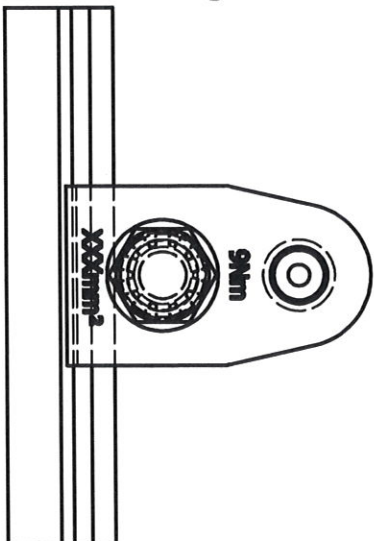
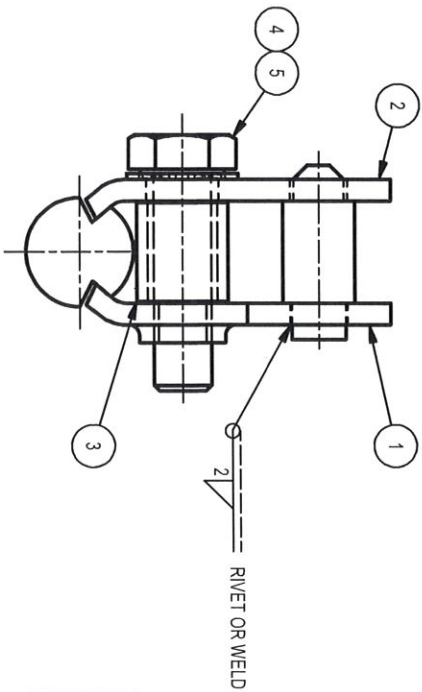


TABLE 1

CONTACT WIRE	STORES ITEM NO.
161mm <sup>2</sup>	54017312
107mm <sup>2</sup>	54006787

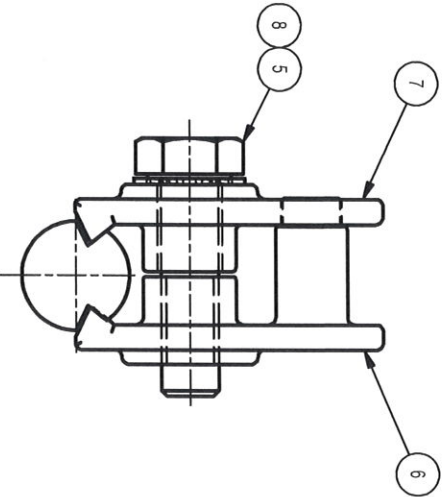
TABLE 2

CONTACT WIRE	ITEM NO.	BOLT LENGTH
107mm <sup>2</sup>	8	25mm
161mm <sup>2</sup>	8	30mm

- NOTES
- STOPPER TO PREVENT OVER TORQUE. STOPPER MAY NOT INTERFERE WITH CONTACT WIRE.
  - ASSEMBLES DROPPER MINIMUM WORKING LOAD OF 4kN.
  - ASSEMBLED DROPPER CLIP MUST BE PERMANENTLY MARKED WITH THE FOLLOWING
    - TRANSNET LOGO
    - MANUFACTURERS IDENTIFICATION.
    - DATED BATCH NUMBER.
    - WIRE SIZES.
    - TORQUE = 9Nm.

ITEM NO.	DESCRIPTION	QTY	STORES ITEM NO.	DRAWING NO.
8	HEXAGON BOLT, STAINLESS STEEL, GRADE AISI 304, M8 X SEE TABLE 2.	1	-	-
7	HALF DROPPER CLIP WITHOUT THREAD. (TIN-BRASS)	1	-	CEE-TND-0022 SHT 2
6	HALF DROPPER CLIP WITH THREAD (TIN-BRASS)	1	-	CEE-TND-0022 SHT 2
5	LOCK WASHER, INTERNAL TOOTH, STAINLESS STEEL, AISI GRADE 316, M8	1	-	-
4	HEXAGON BOLT, STAINLESS STEEL, GRADE AISI 316, M8 X 30mm LONG.	1	-	-
3	STOPPER	1	-	CEE-TND-0022 SHT 1
2	HALF DROPPER CLIP WITHOUT THREAD.	1	-	CEE-TND-0022 SHT 1
1	HALF DROPPER CLIP WITH THREAD AND SPACER PIN ASSEMBLY	1	-	CEE-TND-0022 SHT 1

ALTERNATIVE DROPPER CLIP



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DIMENSIONS : mm SCALE : 1:1  
 TOLERANCE : LIN ± - ANG ± - ITEM NO. :-  
 MATERIAL : -

VERSION INFO : ITEM 6 AND 7 ADDED.

29/02/2024

APPROVED : W.SCHOEMAN

AUTHORISED : T.GOVENDER

DROPPER CLIP  
 107mm<sup>2</sup> / 161mm<sup>2</sup> CONTACT WIRE

TRANSNET  
 freight rail  
 CEE-TND-0022  
 VERSION 8

DO REF : CDO/E0471

ECP REF : -

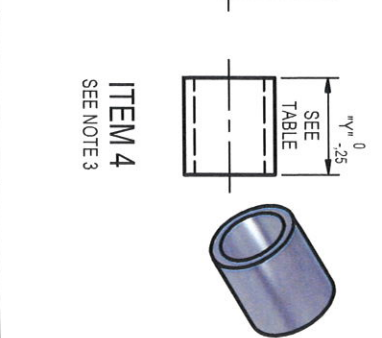
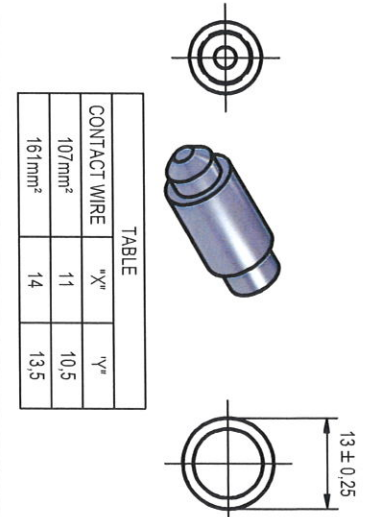
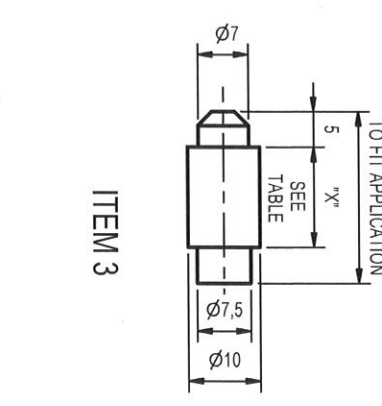
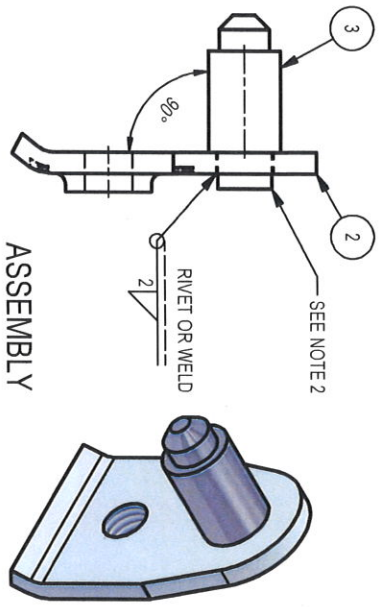
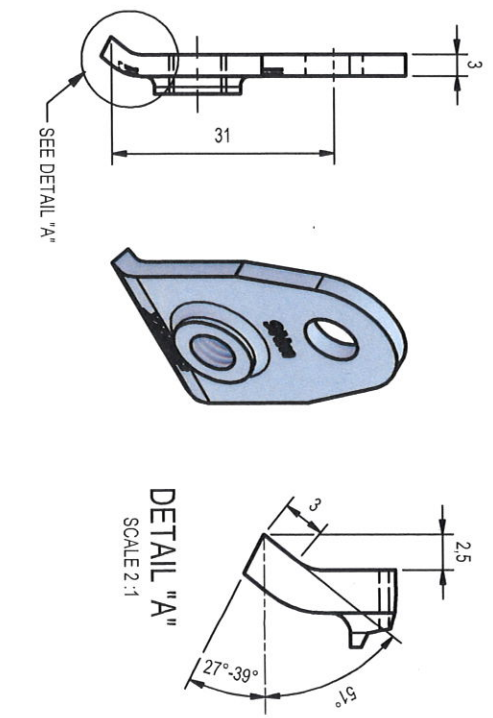
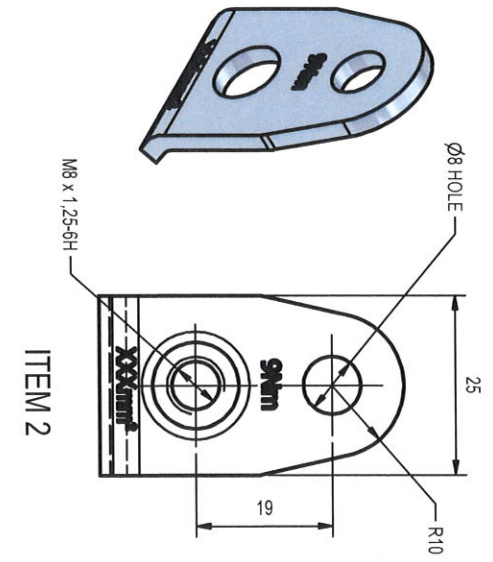
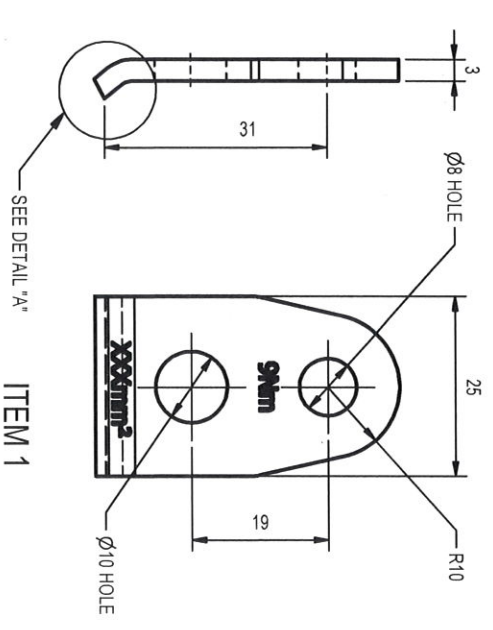
DRAWN : D.HATTINGH

DESIGNED : -

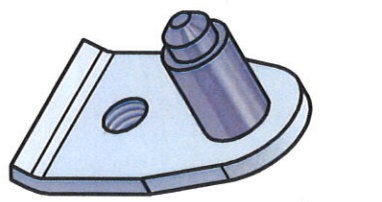
CHECKED : D.HATTINGH

A4

\*THIS DRAWING CONTAINS PERSONAL INFORMATION AS DEFINED IN THE PROTECTION OF PERSONAL INFORMATION ACT, 2013 (POPIA). THE INFORMATION CONTAINED HEREIN WILL BE PROCESSED IN ACCORDANCE WITH THE PROVISIONS OF POPIA.\*

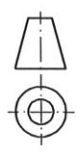


**ASSEMBLY**



NOTES  
 1. THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE:

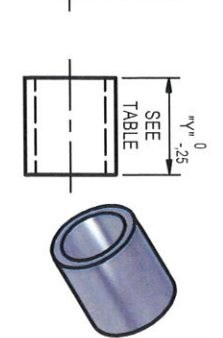
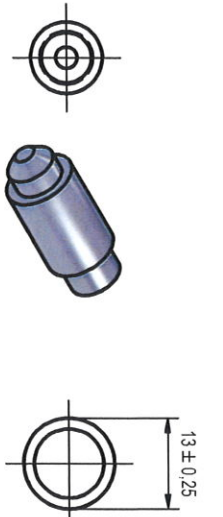
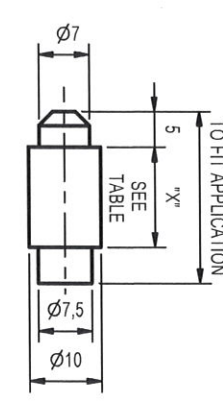
- (a) TRANSNET LOGO
  - (b) MANUFACTURERS IDENTIFICATION.
  - (c) DATED BATCH NUMBER.
  - (d) WIRE SIZES.
  - (e) TORQUE = 9Nm.
2. DRAW THROUGH FOR INCREASED THREAD LENGTH.  
 3. THE LENGTH OF THE TUBE MUST NOT INTERFERE WITH THE CLAMPING OF THE DROPPER CLIP.



ITEM NO.	DESCRIPTION	QTY	STORES ITEM NO.	DRAWING NO.
1	STOPPER, STAINLESS STEEL TUBE TO AISI GRADE 304, Ø12,7 O.D. 1,5mm WALL THICKNESS.	1	-	-
2	SPACER PIN, ROUND BAR, STAINLESS STEEL TO AISI GRADE 304, Ø10 x 24mm LONG.	1	-	-
3	DROPPER CLIP WITH THREAD, STAINLESS STEEL TO AISI GRADE 304.	1	-	-
4	DROPPER CLIP WITHOUT THREAD, STAINLESS STEEL TO AISI GRADE 304.	1	-	-

TABLE			
CONTACT WIRE	"X"	"Y"	
107mm <sup>2</sup>	11	10,5	
161mm <sup>2</sup>	14	13,5	

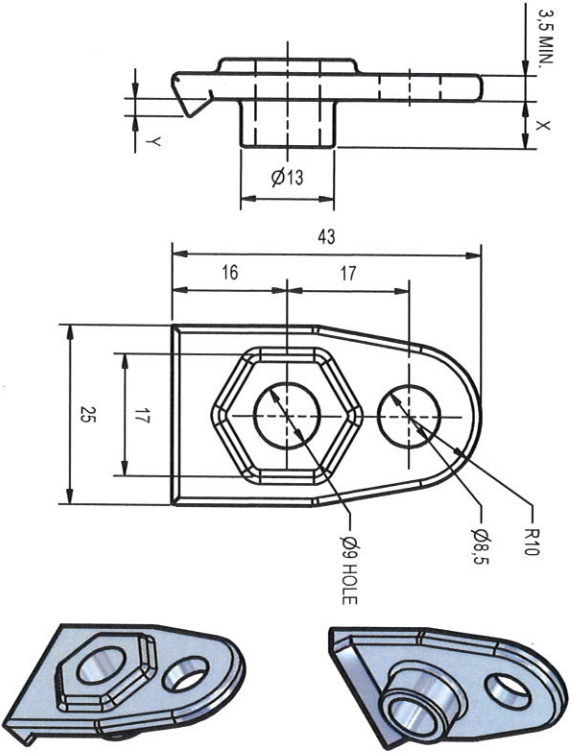
**ITEM 4**  
SEE NOTE 3



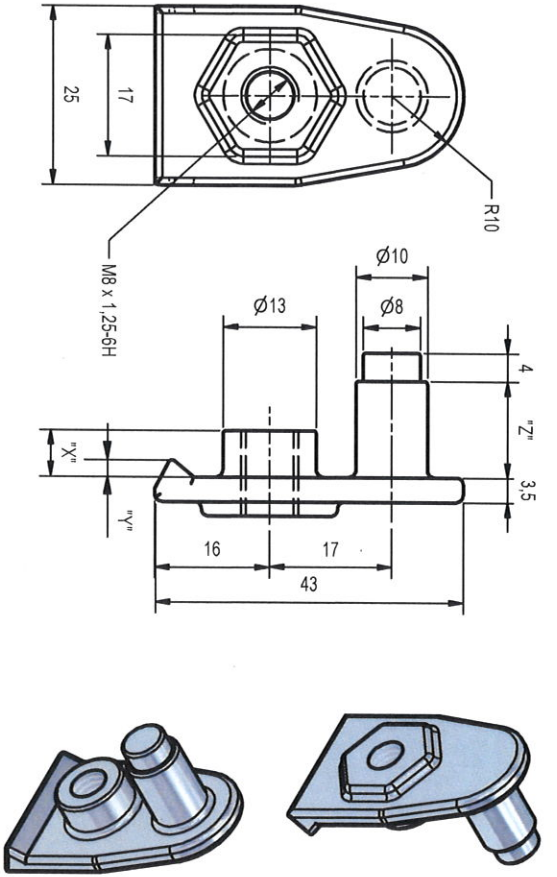
DIMENSIONS : mm  
 TOLERANCE : LIN ± 0,5 ANG ± 1°  
 MATERIAL :  
 SCALE : 1:1  
 ITEM NO. : -  
 DRAWN : D HATTINGH  
 CHECKED : D HATTINGH

**COMPONENTS OF 107mm<sup>2</sup> / 161mm<sup>2</sup> STAINLESS STEEL DROPPER CLIP**

**TRANSNET**  
*Freight rail*  
**CEE-TND-0022 SHT 1**  
 VERSION 8  
 A4



ITEM 1



ITEM 2

- NOTES
- THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE:
    - TRANSNET LOGO.
    - MANUFACTURERS IDENTIFICATION.
    - DATED BATCH NUMBER.
    - WIRE SIZE.
    - TORQUE = 9Nm.
  - DIMENSION "Y" SHOULD NOT INTERFERE WITH THE CLAMPING OF THE DROPPER CLIP.

TABLE			
DIMENSIONS	"X"	"Y"	"Z"
107mm <sup>2</sup>	4,3	1,9	9,5
161mm <sup>2</sup>	6,5	2,4	13,5



ITEM NO.	DESCRIPTION	QTY	STORES ITEM NO.	DRAWING NO.
1	HALF DROPPER CLIP WITH THREAD.	1	-	-
2	HALF DROPPER CLIP WITHOUT THREAD.	1	-	-

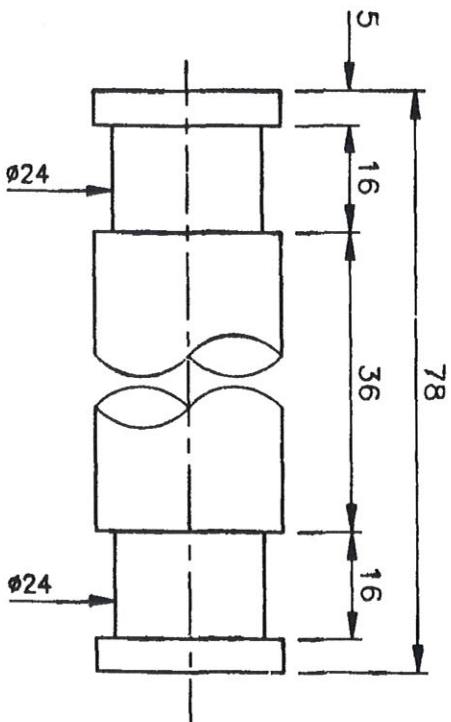
DIMENSIONS : mm  
 TOLERANCE : LIN ± 0.2 ANG ± 0.5 ITEM NO. :-  
 MATERIAL : TIN BRASS

SCALE : 1 : 1

COMPONENTS OF 107mm<sup>2</sup> / 161mm<sup>2</sup>  
 TIN BRASS DROPPER CLIP



CEE-TND-0022 SHT 2



FINISH  
 1. MACHINE THUS  
 2. ZINC COAT TO SPEC SABS 763 FOR CONDITIONS IN SITU.

MATERIAL: ITEM NO 11/002816 STEEL, ROUND,  $\phi 30$  X 80 LG

DO REF: T79/20	GEN TOL: LINF	1	ANG $\pm$	-
DRN: B v D WEST	CKD: J SWIEGERS	DATE: 80-07-28		
ENG: -	GA WILLIAMS	for CHIEF ENG		

INFRASTRUCTURE  
(ELECTRICAL)



PIN

STAY WIRE

AMENDMENTS		
NO	NAME	DATE
1	J HARCUS	95-08-21

REDRAWN. DRG NO WAS TMHB-8.  
DO REF T95/050

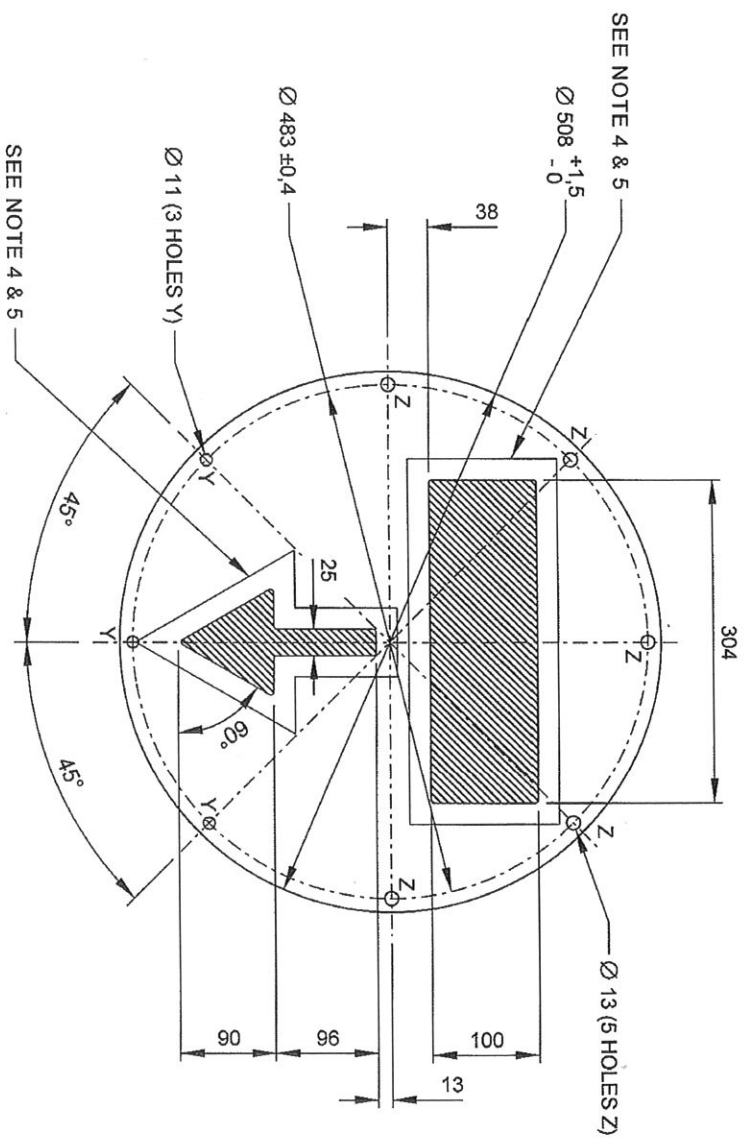
DIMENSIONS: mm  
SCALE: 1:1



DRG NO CEE-  
TNE-31  
SHT 3 OF 3







- NOTES
1. SHADED AREAS TO BE CUT OUT
  2. FOR TUBULAR FRAME DETAILS SEE DRG NO CEE-TN-47
  3. ALL UNSPECIFIED RADII = 3
  4. ONE SIDE OF THE BOARD MUST HAVE RED REFLECTIVE TAPE(20mm) STUCK AROUND THE CUT-OUT AREA. SEE REPORT BBC6540.
  5. THE SIDE WITH RED REFLECTIVE TAPE MUST FACE ON-COMING TRAFFIC.

MATERIAL:- SHEET, ALUMINIUM, 508 x 508 x 3THK TO SPEC SANS 903

DO REF: -	GEN TOL: LINE 1,5 ANG± 1°
DRN: J.J.K.	CKD: W/GRANT DATE: 73-03-06
ENG: G.V.N.	C.STAFFORD for CHIEF ENG

CENTRAL DRAWING OFFICE **SPOORNET**

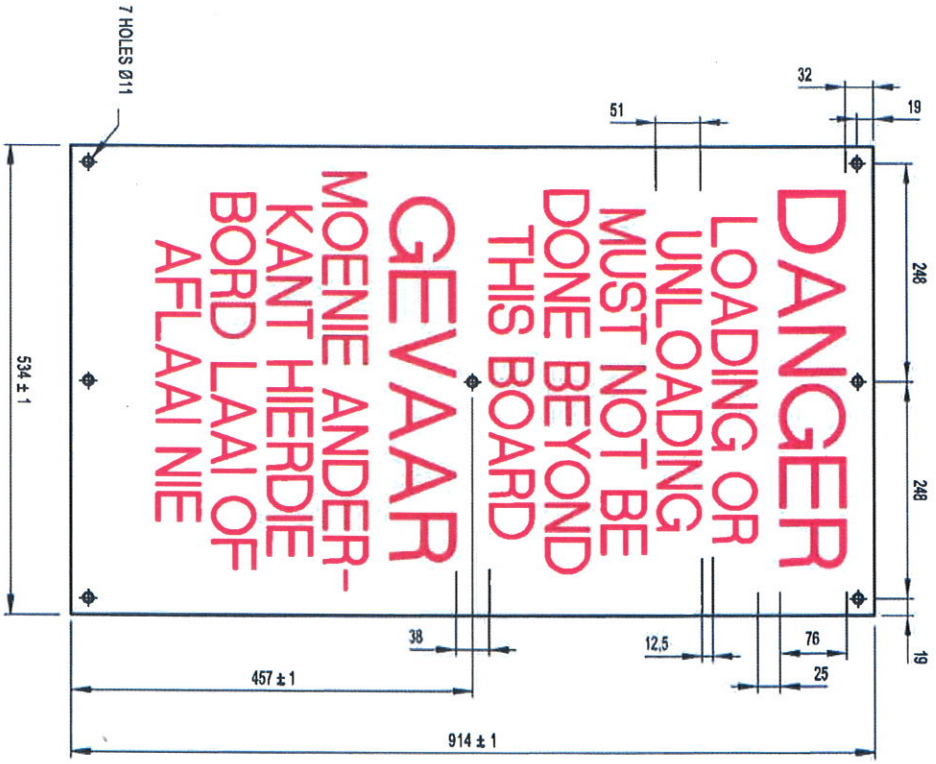
**WARNING SIGN.**  
**ELECTRIC TRAINS NOT TO ENTER**  
**NON-ELECTRIFIED ROAD.**

AMENDMENTS		
NO	NAME	DATE
9	W F MANS	2002-08-02
"CUT-OUT" DIMENSIONS		
REVISED		
ECP REF: 2002008		
DO REF: CDO/1733		
10	<i>[Signature]</i>	2007-7-6
NOTE 4 AND 5 ADDED.		
ECP REF: BBC6596		
DO REF: CDO/5461		

STORES ITEM NO	54/3289
DIMENSIONS:mm	
SCALE: 1:5	



DRAWING NO **CEE-**  
**TWN-9**  
 SHEET - OF -



**DANGER**  
 LOADING OR  
 UNLOADING  
 MUST NOT BE  
 DONE BEYOND  
 THIS BOARD

**GEVAAR**  
 MOENIE ANDER-  
 KANT HERDIE  
 BORD LAAI OF  
 AFLAAI NIE

NOTE  
 WARNING SIGN MUST CONFORM TO SPEC  
 SANS 1186.

COLOURS  
 LETTERS.....RED  
 BACKGROUND.....WHITE

FINISH  
 VITREOUS ENAMELLED - COMMERCIAL ENAMELLING QUALITY.

© COPYRIGHT PROTECTED, PREPARED BY CENTRAL DRAWING OFFICE  
 DIMENSIONS : mm SCALE : 1:5  
 TOLERANCE : UN20,5 ANGE - ITEM NO : 54003917  
 MATERIAL : Vitreous Enamel, Steel, 1,6mm THICK.  
 VERSION INFO : Change and Update

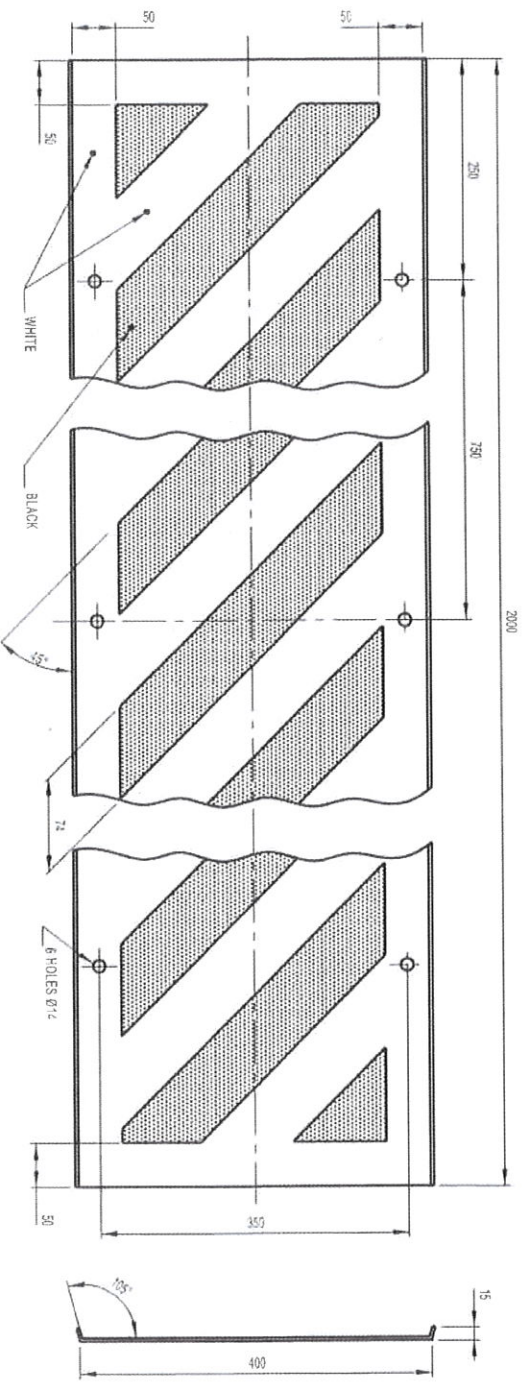
10/11/2020  
 APPROVED - NC MOKGONO  
 2020-11-10  
 AUTHORIZED - L.O BORGCHARD

WARNING NOTICE BOARD  
 LOADING OR UNLOADING MUST NOT BE DONE  
 BEYOND THIS BOARD

TRANSMINER  
 Freight rail  
 CEE - TWN - 0011  
 VERSION 14  
 A3



DO REF: C001 E0047 E22 REF: DRAWN: JP SAND DESIGNED: CHECKED:



**COLORS**  
 BORDER & ALTERNATE STRIPES.....REFLECTIVE WHITE  
 BACKGROUND.....BLACK

**(A) FINISH**  
 HOT DIP GALVANISE TO SPEC SANS 121, THEN APPLY COAT PRIMER AND ONE COAT BLACK ENAMEL BEFORE AFFIXING REFLECTIVE STRIPS

**(B) ALTERNATIVE FINISH**  
 VITREOUS BLACK ENAMEL WITH REFLECTIVE STRIPES AND BORDER AS STATED.

**NOTES**  
 1. PROTECT HOLES WITH BRASS PILETS TO BS 3102 (WITH ALTERNATIVE FINISH)  
 2. WARNING SIGN MUST CONFORM TO SPEC SANS 1196.

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**DIMENSIONS**  
 TOLERANCE : mm SCALE : 1:1.5  
 LINE 2 ANGLE 1° ITEM NO : 54022985  
 MATERIAL : Steel, Steel, 2000 x 400 x 1.2mm THICK.

**VERSION INFO**  
 : Change and Update

10/11/2020  
 APPROVED - NC MOKHOMO  
 AUTHORIZED - L O BORGHARD

**SIGN, RECTANGULAR, NEUTRAL SECTION,  
 25KV AC ELECTRIFICATION.**

**TRANSNER**  
 Freigeist  
 CEE - TNN - 0021  
 VERSION 5



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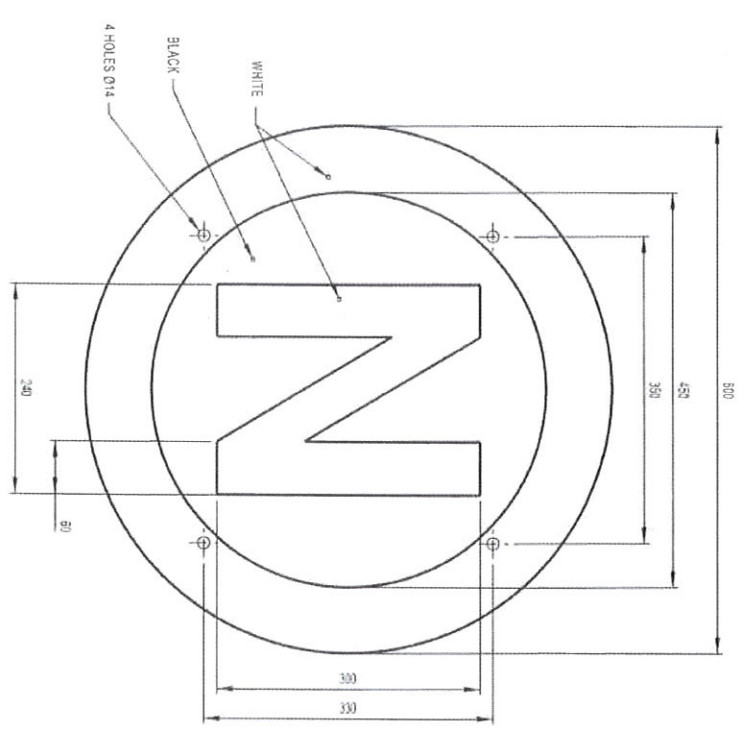
DIMENSIONS : mm SCALE : 1:5  
 TOLERANCE : LINE 1 ANGLE : ITEM NO. : S4022987  
 MATERIAL : Steel, Steel, 600 x 500 x 1.2mm THICK  
 VERSION INFO : Change and Update

APPROVED: NG MORICOMO  
 DESIGNED: [Signature]  
 AUTHORIZED: L. C. SORICHAND

CHECKED: [Signature]

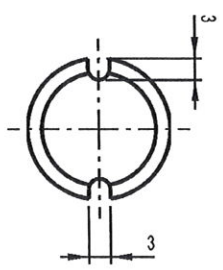
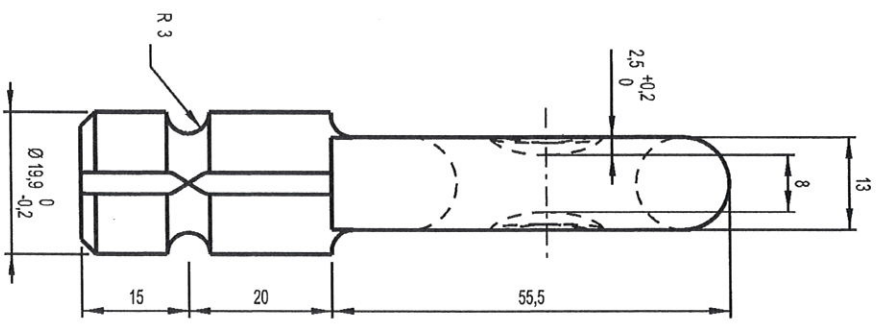
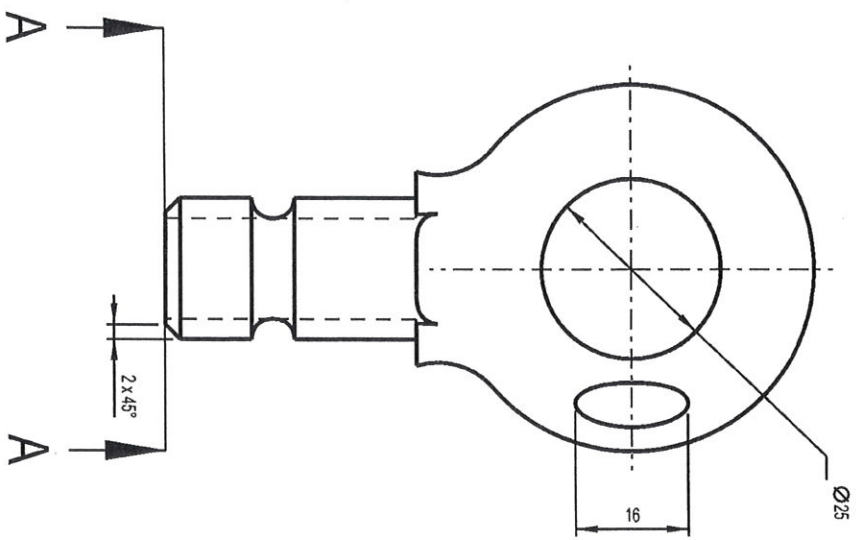
SIGN, ROUND, NEUTRAL SECTION  
 25KV AC ELECTRIFICATION

TRANSMISSION  
 Freight  
 CEE-TMN-0022  
 VERSION B

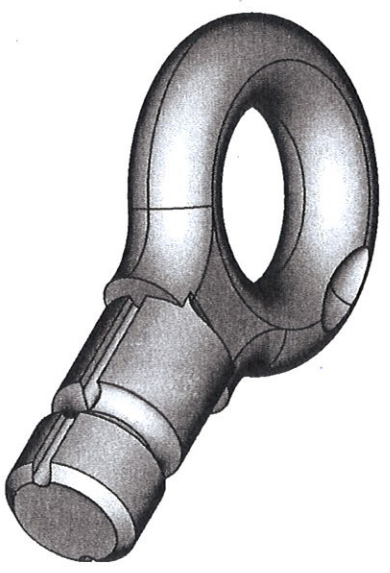


- COLOURS
- BORDER & LETTER 'N'.....REFLECTIVE WHITE  
 BACKGROUND.....BLACK
- (A) FINISH  
 HOT DIP GALVANIZED TO SPEC SANS 121. THEN APPLY ONE COAT  
 PRIMER & ONE COAT BLACK ENAMEL BEFORE  
 AFFIXING REFLECTIVE PORTIONS.
- (B) ALTERNATIVE FINISH  
 VITREOUS BLACK ENAMEL WITH REFLECTIVE STRIPES  
 AND BORDER AS STATED.
- NOTES
1. PROTECT HOLES WITH BRASS EYELETS TO BS 3102 (WITH ALTERNATIVE FINISH)
  2. WARNING SIGN MUST CONFORM TO SPEC SANS 1185

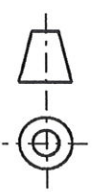




SECTION A-A



NOTE  
 1. HOT DIP GALVANISE TO SPEC SANS 121.  
 2. MAXIMUM WORK LOAD = 7kN



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DIMENSIONS : mm SCALE : 1 : 1  
 TOLERANCE : LINE ± 0.5 ANG ± . ITEM NO. :  
 MATERIAL : GALVANISED STEEL GRADE SG 50 ALT  
 STAINLESS STEEL TO AISI 304  
 VERSION INFO : REVISED AND REDRAWN

+ 2018-03-12

APPROVED

+ 2018-3-12

AUTHORISED

EYE COMPRESSION END  
 FOR Ø25mm O.D. AND Ø20mm I.D.  
 STEADY ARM TUBE

**TRANSNET**  
 freight rail

CEE-TZ7-0143 SHT 7  
 VERSION 2

A4

DO REF: CDO/ 9035

ECP REF: .

DRAWN: D HATTINGH

DESIGNED: .

CHECKED: H VAN VUUREN







3

4

4

4

3

100  
0.55

**CEE-TZ-9/30**

erh. Korrosionsgefahr  
Regelausführung

**BBC**  
BRUNNEN BOHRER

TECHNISCHE CONNECTION FOR Ø16  
TUBE Gelenkstück im Gebel ✓  
für Rohr Ø26.9

GV13 506 795

Stück	Bezeichnung	Menge	Material	Gravur
2	Seitenmutter B 112	5	A4-50	GV13
1	Wälzlager mit Spindel	4	A4	GV13
2	Schrauben	3	A4-80	GV13
1	Keilbohrer mit Spindel	2	St	GV13
1	Bohrerstück mit Spindel	1	St	GV13
1	Ölwanne	1	Alu	GV13

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1. The drawing is not to be used for the production of parts in case of  
 change of a part of the drawing. The drawing is not to be used for the  
 right of reproduction in particular reproduction or housing.  
 2. The drawing is not to be used for the production of parts in case of  
 change of a part of the drawing. The drawing is not to be used for the  
 right of reproduction in particular reproduction or housing.  
 3. The drawing is not to be used for the production of parts in case of  
 change of a part of the drawing. The drawing is not to be used for the  
 right of reproduction in particular reproduction or housing.

**BBC**  
 BUCHEN BOWEN

**Abt. WZ/F**  
 Zeichnung Nr. 457.542  
 Blatt Nr. 1/1  
 Entwurf: 24.9.44  
 Gezeichnet: 3.9.41  
 Geprüft: 24.9.44  
 Fertigt: 4.9.44  
 Datum: 4.9.44

**ITEM NO 0111 (Normal Area)**  
 0318 (CONSTR. H. ...)

**CEE-TZ-9/35**

**Øenschehle für Rohr Ø508u φ57,15**  
 GVT 4 506 800

Stück	Bezeichnung	Material	Maß	Bemerkung
1	Sechskornmutter M 12	Cu Ni Si	DN 934	
1	Bügelsschraube M 12 gestr. Länge 210	Cu Ni Si		
2	Sechskornmutter M 12	DN 555		
1	Bügelsschraube M 12 gestr. Länge 210	GTW 40		
1	Klemmkörper mit Düse			

1 Drahtschraube  
 2 Schraube  
 30  
 3.5  
 22  
 10.5  
 73.5  
 60  
 2.4  
 31  
 10

BBC GVT 4 506 800

3

4

4

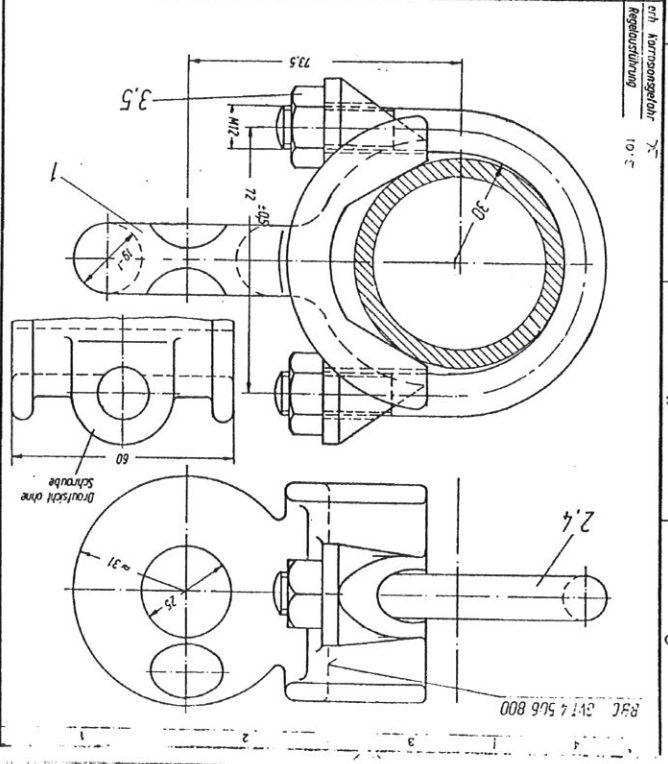
4

4

3

Handwritten notes and technical specifications in German, including 'EYECLAMP FOR SC/57B TUBE' and 'Überschelle für Rohr Ø508x Ø57,15'.

<b>BBC</b> BECKHOFF BROSCHEN		Abt. WK/F 1:1		Maßstab Gezeichnet 3.9.81 Geprüft 7.9.81 Entw. Nr. 57.512		Formel A 4 Nr. 44 Geprüft 05.03.09		Zeichnung Nr. 4506800 Blatt Nr. 1	
ITEM NO 0111 (Normal Area) 0318 (CONSTR. F.R.) <b>CEE-TZ-9/35</b>									
Stück	Bezeichnung	Material	Teil	Bemerkung					
1	Sechskornmutter M 12	Cu N 51	5	DM 934					
1	Bügelschraube M 12 gestr. Länge 210	Cu N 51	4						
2	Sechskornmutter M 12		3						
1	Bügelschraube M 12 gestr. Länge 210		2						
1	Klemmkörper mit Öse	GTW 40	1						
Gegenstand									



Handwritten text '4.3' and other markings.

3

4

4

4

4

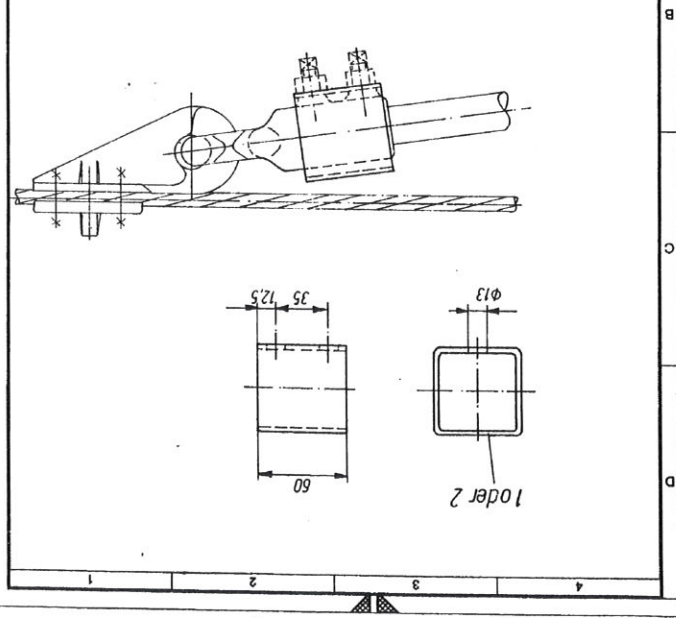
3





1:2021  
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 high reproduction in particular reproduction or handing  
 over to third persons is prohibited. It is strictly and criminal-  
 ly prohibited. SATS may use the DWG for its own purposes.

BIBLIOTHEK		DWG		SCALE		CHECKED		DRAWN		DATE	
BBC		1:25		26.10.81							
lift stop for steady arm of cross wire (LIFT RESTRICTOR FOR STEADY ARM)											
SATS DRW No CEE-TZ-9/38											
6V14506818											
part	description	material	weight	drawing	remarks						
1	MSH 60x60x29...601g	mild steel	0,30kg								
2	MSH 60x60x29...601g	stainless steel	0,30kg								

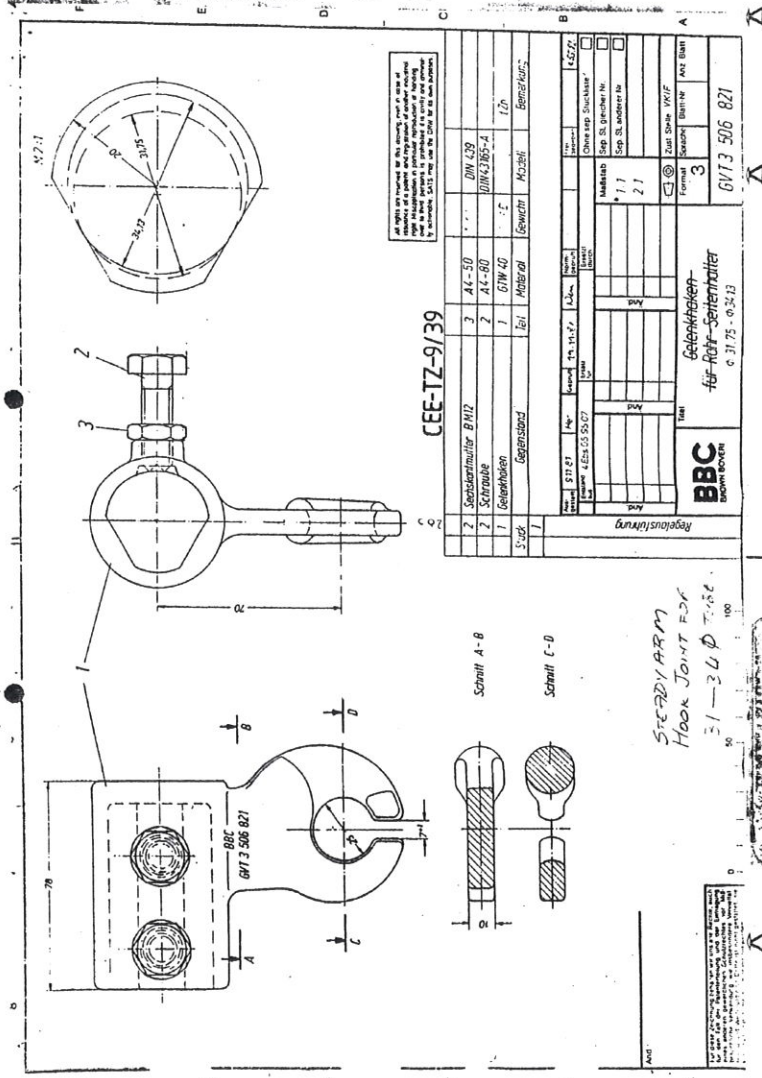


3

4

4

3



Alle Maße sind in mm angegeben. Die Fertigungstoleranzen sind in der Zeichnung angegeben. Die Ausführung ist nach den Angaben zu sein. Die Ausführung ist nach den Angaben zu sein.

CEE-TZ-9/39

2	Spindelmutter B112	3	AK-30	DIN 439
2	Schraube	2	AK-80	DIN 439-A
1	Gelekhölzer	1	GNW 40	EF
1	Stütz	1	Material	Geometri
1	Gegensand	1	Material	Geometri
1	Stütz	1	Material	Geometri

**BBC**  
BREMEN ROVER

Gelekhölzer  
für Rohr-Seitenmutter  
G 3175-03213

GWT 3 506 821

STEERING ARM  
HOOK JOINT FOR  
31-34  
100

3

4

4

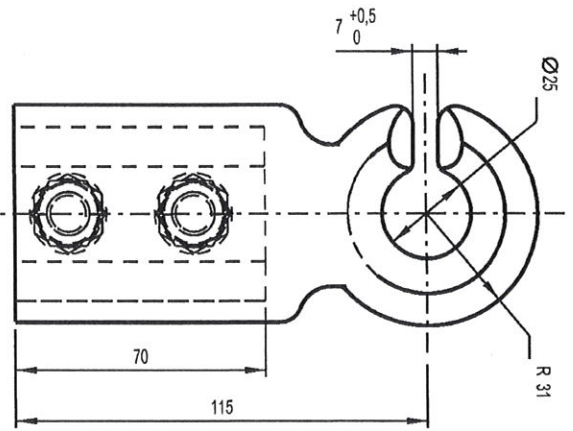
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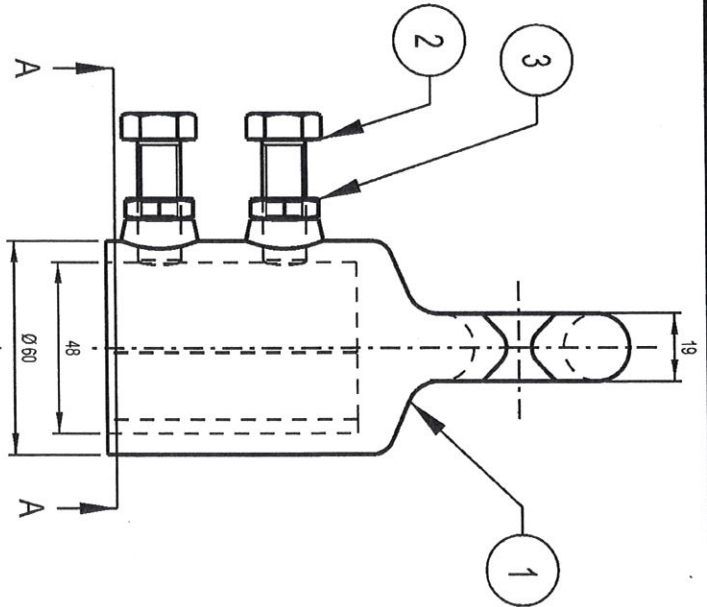




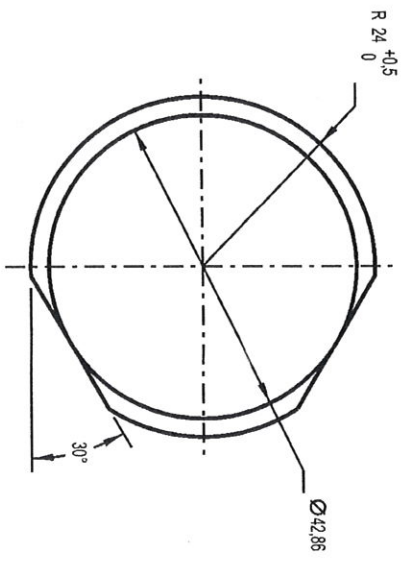




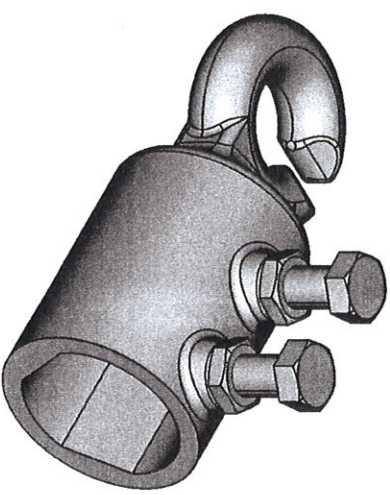
ITEM 1



SECTION A-A



PROFILE  
SCALE 2:1



- NOTES
1. THE FOLLOWING PERMANENT MARKINGS MUST APPEAR ON THIS ARTICLE:
    - a) TRANSNET LOGO.
    - b) MAKERS IDENTIFICATION.
    - c) BATCH NUMBER.
  2. FINISH: ITEM 1 HOT DIP GALVANISED TO SANS 121.

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DIMENSIONS : mm SCALE : 1 : 2  
 TOLERANCE :  $\pm 0.5$  ANG  $\pm 1^\circ$  ITEM NO : 54009333  
 MATERIAL : . . . . .

VERSION INFO : REVISED AND REDRAWN

+ 2018-04-13

APPROVED

+ 2018-04-13

AUTHORISED

ITEM NO	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO
3	LOCKNUT HEX. GALVANISED STEEL M12	2	-	-
2	SCREW HEX. GALVANISED STEEL M12 X 35 LG	2	-	-
1	HOOK CONNECTION BODY, SPHEROIDAL GRAPHITE IRON TO SANS 963 GRADE SG40	1	-	-

HOOK CONNECTION  
FOR Ø42mm REGISTRATION TUBE



CEE-TZ9-0043

VERSION 2