

ITEM	DRAWING	MATERIAL	QUANTITY	NOTES	SUPPLY	FABRICATE	COST EACH	TOTAL COST
1	MAST UC 4 - BOLT BASE 9.5M LONG	CEE-TMB-67	MS 350WA	34	No Galvanising			
2	MAST UC 6 - BOLT BASE 9.5M LONG	CEE-TMB-68	MS 350WA	36	No Galvanising			
3	ANGLE MAST	CEE-TMB-92	MS 350WA	2	No Galvanising			
TOTAL								0

FABRICATION OF OHTE MASTS.

TENDER NOTES:

1 All items to be priced supply and fabricate:

Supply refers to supply of raw material.

Fabricate refers to the complete fabrication process including transportation for collection and delivery, cutting and welding including all consumables required for the process.

2 Transnet reserves the right to supply all or portion of the materials required. Fabrication cost will be claimed in such cases.

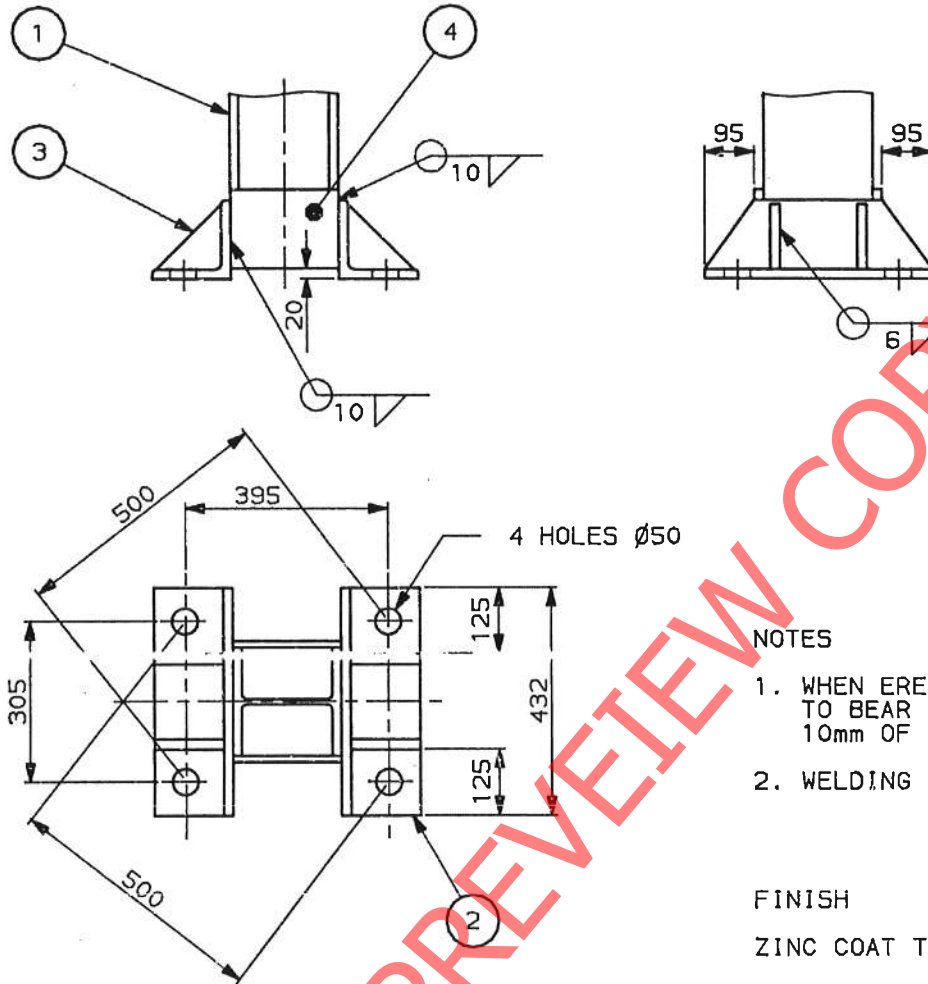
For this tender, Transnet will supply columns in lengths to be cut to size by the Contractor. The foot pieces and gussets will be supplied cut and drilled by Transnet. The flat bar will be supplied in lengths to be cut to size by the Contractor.

3 Artisan qualification with welding codes to be submitted with tender.

4 Quality will be monitored by Transnet on an ongoing basis. Queries to be addressed with Mahomed Sayid 0832790438.

5 Quality control documents to be supplied on delivery.

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
1	STEEL, UNIVERSAL COLUMN, 206 X 204 X 52,1kg/m	1			NO	NAME	DATE
2	STEEL, ANGLE, 150 X 150 X 18 X 432L, SPEC CME-9 SYM 8 (11/2032)	2			1	H v V	92-04-01
3	GUSSET PLATES, OFF-CUTS FROM ITEM 2	4			REDRAWN. FINISH		
4	STEEL, FLAT, 150 X 12 X 204L, SPEC CME-9 SYM 7 (11/13705)	2			ADDED. ITEM 4; STORES ITEM NO WAS 11/2283 DO REF T92/011		



NOTES

1. WHEN ERECTED ON A LEVEL SURFACE, BASE ANGLES TO BEAR FULLY AND TOP OF MAST TO BE WITHIN 10mm OF VERTICAL
2. WELDING TO CONFORM TO BS 5135

FINISH

ZINC COAT TO SABS 763 AFTER WELDING

STORES ITEM NO

DIMENSIONS, mm
SCALE 1:10

A3

DRAWING NO CEE-
TMB-67

SHEET - OF -

DO REF Y76/43 GEN TOL, LIN +0 -2 ANG±
DRN J HIBBERS CKD WRG DATE 78-03-31
ENG de VILLIERS F PIENAAR for CHIEF ENG

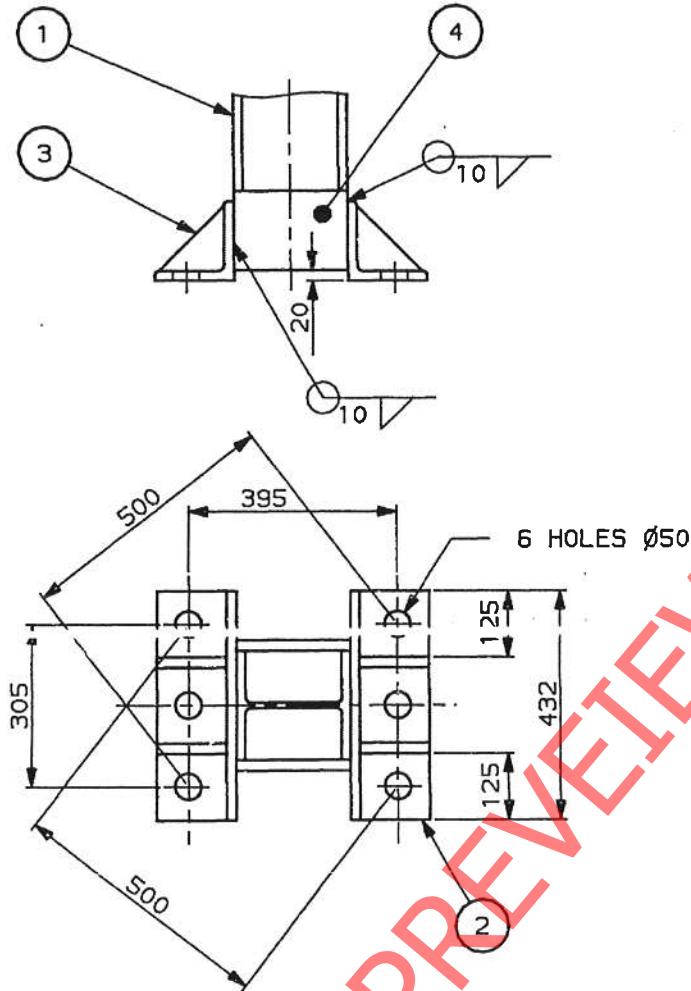
MAST BASE ASSEMBLY
(4 BOLT GROUP)

206 X 204 UNIVERSAL COLUMNS

INFRASTRUCTURE
(ELECTRICAL)



ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
					NO	NAME	DATE
1	STEEL, UNIVERSAL COLUMN, 216 X 206 X 71,5kg/m	1					
2	STEEL, ANGLE, 150 X 150 X 18 X 432L, SPEC CME-9 SYM 8 (11/2032)	2			2	H v V	92-04-01
3	GUSSET PLATES, OFF-CUTS FROM ITEM 2	4					REDRAWN. FINISH
4	STEEL, FLAT, 150 X 20 X 214L, SPEC CME-9 SYM 7 (11/2283)	2					ADDED DO REF T92/011



NOTES

1. WHEN ERECTED ON A LEVEL SURFACE, BASE ANGLES TO BEAR FULLY AND TOP OF MAST TO BE WITHIN 10mm OF VERTICAL
2. WELDING TO CONFORM TO BS 5135

FINISH

ZINC COAT TO SABS 763 AFTER WELDING

STORES ITEM NO

DIMENSIONS: mm
SCALE 1:10

A3

DRAWING NO CEE-
TMB-68

SHEET - OF -

DO REF Y76/43 GEN TOL: LIN +0 -2 ANG±
DRN J HIBBERS CKD WRG DATE 78-03-31
ENG de VILLIERS F PIENAAR for CHIEF ENG

**MAST BASE ASSEMBLY
(6 BOLT GROUP)**

216 X 206 UNIVERSAL COLUMNS

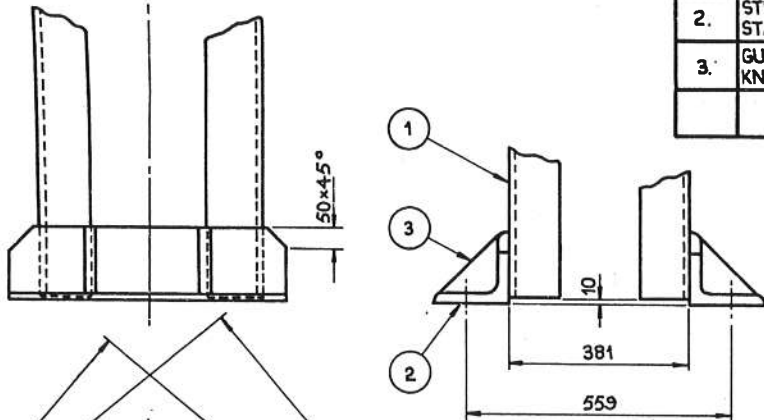
INFRASTRUCTURE
(ELECTRICAL)



ORIGINAL FRAME SIZE
OORSPRONKLIKE RAAMGROOTTE 390 x 267



ITEM	DESCRIPTION / MATERIAL / BESKRYWING MATERIAAL	QTY HVL	STORES ITEM MAGASYNITEM NO.	AMENDMENTS WYSIGINGS	
				NO.	NAME NAAM
1.	STEEL, ANGLE STAAL, HOEK 100 x 100 x 10	LENGTH AS REQUIRED LENTE SOOS BENODIG	4	(M) 11/14533.	
2.	STEEL, ANGLE STAAL, HOEK 150 x 150 x 18	THICK DIK	2	(M) 11/2032.	1. S. Mouton. 25-2-75.
3.	GUSSET PLATE KNOOPPLAAT 130 x 130 x 20	THICK DIK	4	(M) 11/14229.	REDRAWN & METRICATED. DRG. NO. WAS ENW-E1H-66. HOLE SIZE CHANGED. OORGETEKEN EN GEMETRI- SEER. TEK. NO. WAS ENW- E1H-66. GAT GROOTTE VER- ANDER. D.O. REF. Y75/8 TK. VERW.



ASSOCIATED DRAWINGS VERWANTE TEKENINGS	DRG. NO. CEE TEK.		
BOLT GROUP BOUTGROEP 6 x M36	TQ - 36		
MAST BASE INSULATION MASVOETISOLASIE	TU - 30	2	76-09-21
FOUNDATION FONDAMENT	TQ - 35		WELDING NOTE ADDED SWEISWERK OPMERKING BYGEVOEG D.O. REF. Y 76/64 TK. VERW.
TOP BOX BOKAS	ENW-E1S-2		
JIG FOR 6 x M36 BOLT GROUP SETMAAT VIR BOUTGROEP 6 x M36	TW-163	3.	
			MATERIAL STANDARDISED. MATERIAAL GESTANDAAR- DISEER. D.O. REF. Y77/108. TK. VERW.

NOTES/OPMERKINGS

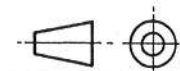
1. ALL WELDED CONSTRUCTION, WELD THUS
SWEISKONSTRUKSIE, SWEIS DUS
2. WHEN ERECTED ON A LEVEL SURFACE, BASE ANGLES TO BEAR FULLY AND TOP OF MAST TO BE WITHIN 10 mm OF VERTICAL.
WANNEER DIT OP 'N GELYK OPPERVLAK OPPERIG WORD, MOET DIE VOETHOEK-
YSTERS OOR DIE HELE OPPERVLAKTE RUS EN DIE MASTOP MOET BINNE 10 mm
VAN VERTIKAAL WEES.
3. REMOVE ALL SHARP EDGES AND BURRS FROM ITEM 2.
VERWYDER ALLE SKERP RANDE EN BAARD VAN ITEM 2 AF.
4. WELDING TO CONFORM TO
SWEISWERK MOET VOLDOEN AAN. B.S. 5135



ITEM 3

6 HOLES 50 DRILL
GATE BOOR

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER



ENW-E1H-65
• -80
• -81
• -94

ASSY. DRG./SAMES-TEK.

DRAWING
TEKENING NO. CEE

TMB-47

DRN. GET.	D.E.M.	GEN. TOLERANCES ALG. TOLERANSIES	LIN. #1 ANG./HOEK ±1°
TRCD. NGT.	D.E.M.	D.O. REF. TK. VERW.	ENG. IR. J. CLAUSE.
CKD. NGS.	C.S.P.	DATE DATUM 8-9-47	G.C. KERR.
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIËSE HOOFINGENIEUR		S A R S A S	JOHANNESBURG

MAST BASE ASSEMBLY
ANGLE SECTION LATTICE BRIDGE
MASVOETSAMESTEL
HOEKPROFELTRALIEBRUG

A3
A4

3

△

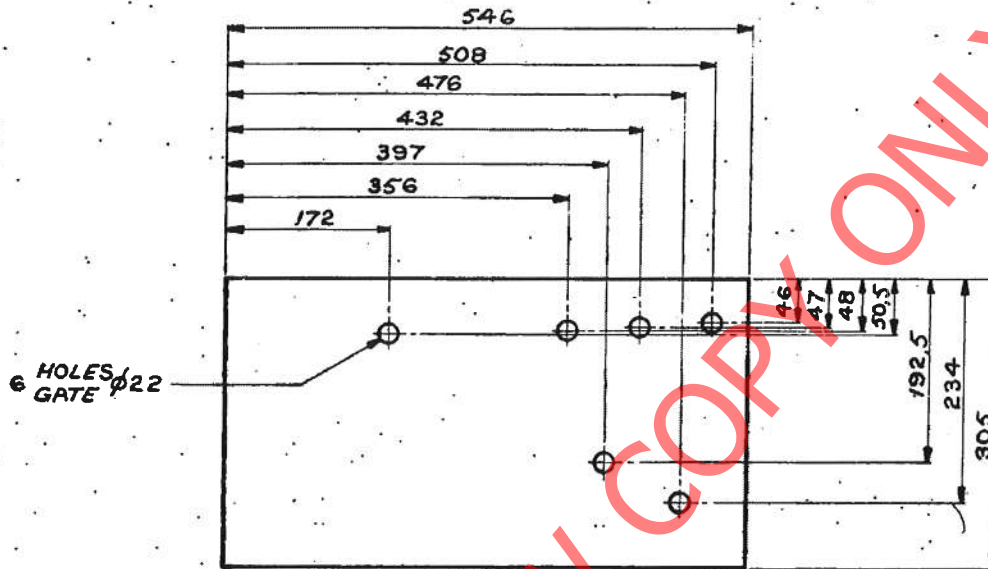
△
4

△
4

△

△
3

ORIGINAL FRAME SIZE
OORSPRONKLIKE RAAMGROOTTE 390 x 267



HOLES
6 GATE $\phi 22$

AMENDMENTS
WYSIGINGS

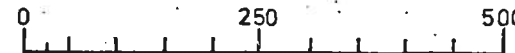
NO.	NAME NAAM	DATE DATUM
1.	T. Human.	82-02-03

REDRAWN AND
METRICATED. TITLE
CHANGED. DRG. NO. WAS
CEE-IE-41 SHT. 4.
OORGETEKEN EN GE-
METRISEER. TITEL
VERANDER. TEK. NO.
WAS. CEE-IE-41 VEL 4
DO. REF.
TK-VERW. 71/81/9

DIMENSIONS: MILLIMETRES.
AFMETINGS: MILLIMETER.

MATERIAL ~ MATERIAAL
STEEL, FLAT 546 x 305 x 8 THK.
STAAL, PLAT DIK.
SPEC. C.M.E. 9 SYM. 7
SPES. SIM.
STORES ITEM NO. (M)11/

SOUTH AFRICAN TRANSPORT SERVICES.
SUID-AFRIKAANSE VERVOERDIENSTE.



CEE-TMD-22
CEE-TMD-24
ASSY. DRG. / SAMEST-TEK.
MODULUS ITEM NO.

DRN.
GET. L.B.

GEN. TOLERANCES: LIN. ± 1 .
ALG. TOLERANSIES: ANG/HOEK

PLATE, BATTEN.

TRCD.
NGT. M. VERMEULEN.

D. REF.
TK-VERW.

ENG.
IR.

LATTICE BRIDGE.
RAIL MAST.

A3

CKD.
NGS. F.W.C.

DATE
DATUM 45-10-19

for/ins
JOHANNESBURG.

PLAAT, STROOK.

TRALIEBRUG.
SPOORMAS.

DRAWING NO. CEE-
TEKENING: TMHF-116

3

3

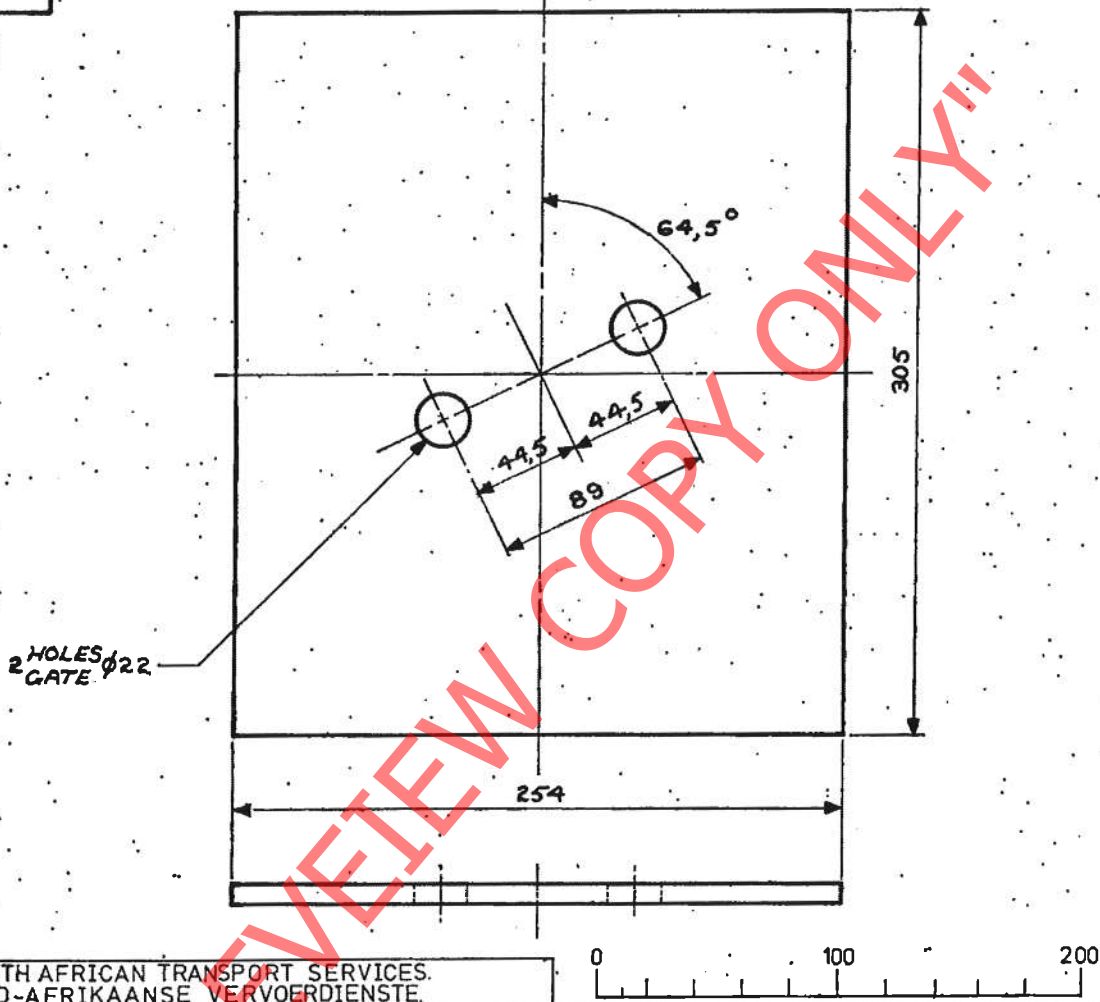
4

4

3

3

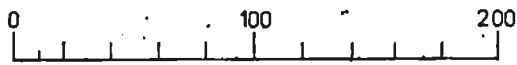
ORIGINAL FRAME SIZE
OORSPRONKLIKE RAAMGROOTTE 390 x 267.



DIMENSIONS: MILLIMETRES.
AFMETINGS: MILLIMETER.

MATERIAL-MATERIAAL
STEEL, FLAT 305 x 254 x 8 THK.
STAAL, PLAT
SPEC. CME 9 SYM. 7
SPES. SIM.
STORES ITEM (M)111
MAGASYNITEM

SOUTH AFRICAN TRANSPORT SERVICES.
SUID-AFRIKAANSE VERVOERDIENSTE.



AMENDMENTS
WYSIGINGS

NO.	NAME NAAM	DATE DATUM
1.	T. Human.	82-02-03.

REDRAWN & METRICATED
TITLE CHANGED. DRG.
NO. WAS CEE-IE-46
OORGETEKEN EN
GEMETRISEER. TITEL
VERANDER. TEK. NO.
WAS CEE-IE-46
DO REF.
TK-VERW. T/18/19

CEE - TMD - 22
CEE - TMD - 23
CEE - TMD - 24
CEE - TMD - 25
ASSY DRG./SAMEST- TEK.

MODULUS ITEM NO.

PREVIOUS ITEM NO.
VORIGE

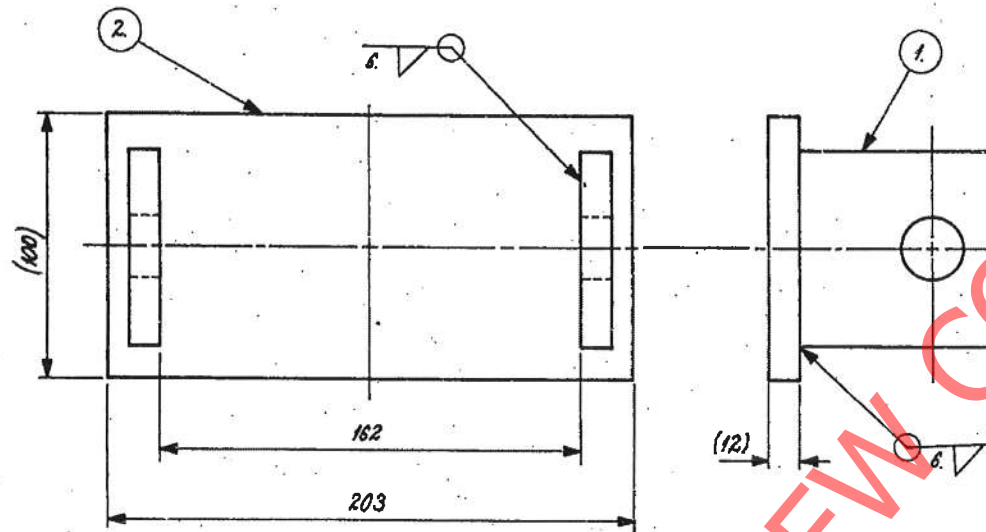
DRAWING NO. CEE
TEKENING NO. CEE
TMHF-112

DRN. GET. L.B.	GEN. TOLERANCES. LIN. ±1 ALG. TOLERANSIES. ANG./HOEK ±0.30	ENG. IR.
TRCD NGT. M. VERMEULEN.	DO. REF. TK. VERW.	DATE DATUM 45-10-20
CKD. NGS. FWC.	CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR	for ns. JOHANNESBURG.

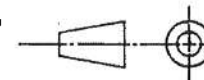
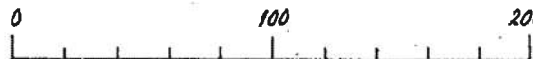
PLATE, BATTEN.
LATTICE BRIDGE.
RAIL MASTS.
PLAAT, STROOK.
TRALIEBRUG.
SPOORMASTE.

A3
A4

ITEM	DESCRIPTION BESKRYWING	QTY H.L.V.A	STORE ITEM MAGASYNITEM NO.	DRAWING TEKENING NO. CEE-	AMENDMENTS. WYSIGINGS.	
					NO. NAME NAAM	DATE DATUM
1.	ATTACHMENT PLATE BEVESTIGINGSPLAAT	2.	---	TMAHF-154		
2.	METAL BAR, STEEL, FLAT, METAAL STAAF, STAAL, PLAT. 100 x 12 x 203 L.	1.	(M) 11/012534	---	3. B. Stewart	82-06-24



DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER



DRN. GET. W.R. GRANT	GEN. TOLERANCES: LIN. ±1 ALG. TOLERANSIES: ANG/HOEK ±1°	
TRCD. NGT. A. BESTER	DO. REF. TK-VERW. _____	ENG. IR. G.S. PARRYMORE
CKD. NGS. G.S. PARRYMORE	DATE DATUM 50-10-03	G. KERR for ns.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR JOHANNESBURG		
SOUTH AFRICAN TRANSPORT SERVICES. SUID-AFRIKAANSE VERVOERDIENSTE.		

ATTACHMENT BRACKET, KNEEBRACE
RAKING LEG FOR ANCHORING.
BEVESTIGINGSSTEUN, KNIESPANSTUK
SKUINSPOOT OM TE ANKER.

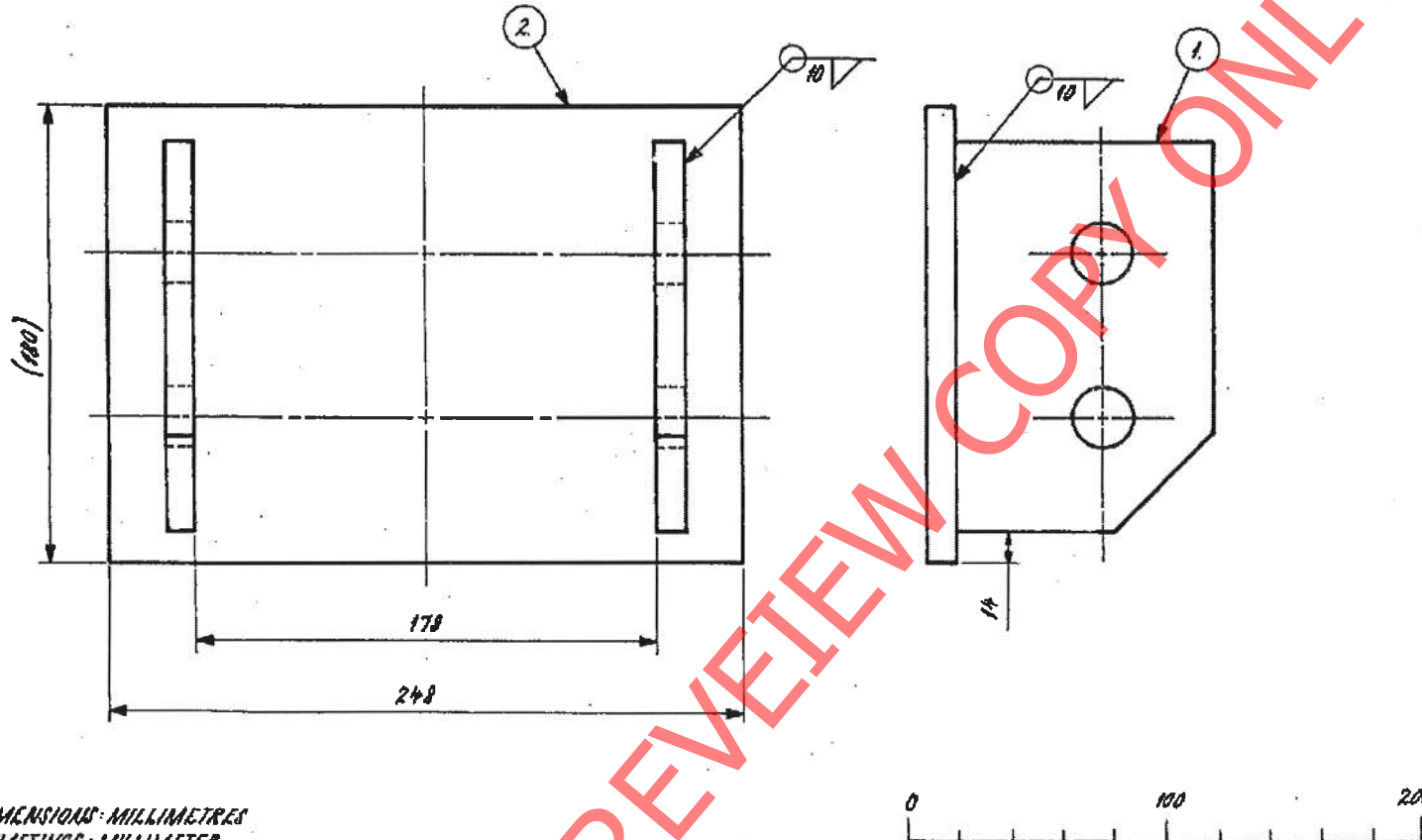
REDRAWN AND METRICATED
DOORGETEKEN EN GEMETRISSEER
ARG. NO. WAS E.N.W.-E.I.H.-141
TEK.
D.O. REF. _____
TK-VERW. **T/1/82/60**

CEE-TMD-29
CEE-TMD-30
CEE-TMD-31
CEE-TMD-32
ASSY. ARG./SAMEST-TEK.

DRAWING NO. CEE-

TMF-452

ITEM	DESCRIPTION BESKRYWING	QTY HYLD	STORE ITEM MAGASYNITEM NO.	DRAWING TEKENING NO. CEE-	AMENDMENTS. WYSIGINGS	
1.	ATTACHMENT PLATE BEVESTIGINGS PLAAT	2.	—	TMHF-155	NO.	NAME NAAM
2.	METAL BAR, STEEL, FLAT. METAL STANG, STAAL, PLAT. 180 x 12 x 248 L.	1.	(M) 14/004496	—	9.	B. Stewart 82-06-24



REDRAWN AND METRICATED.
OORBETEKEN EN GEMETRISEER
ARE NO. WAS E.M.W. - E.H. - 111
TEK.
D.O. REF. T1/82/60
T.K. VERW.

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

DRN. GET. <i>W.R. GRANT</i>	GEN. TOLERANCES: LIN ± 1 ALG. TOLERANSIES: ANG/HOEK $\pm 1^\circ$	
TRCD. NGT. <i>A. BESTER</i>	DO. REF. TK: VERW. —	ENG. IR. <i>G.S. PARRYMORE</i>
CKD. NGS. <i>G.S. PARRYMORE</i>	DATE DATUM <i>50-10-03</i>	<i>G. KERR</i> for NS.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR JOHANNESBURG		
SOUTH AFRICAN TRANSPORT SERVICES. SUID-AFRIKAANSE VERVOERDIENSTE.		

ATTACHMENT BRACKET, RAKING LEG.

BEVESTIGINGSSTUN, SKUINSPOOT.

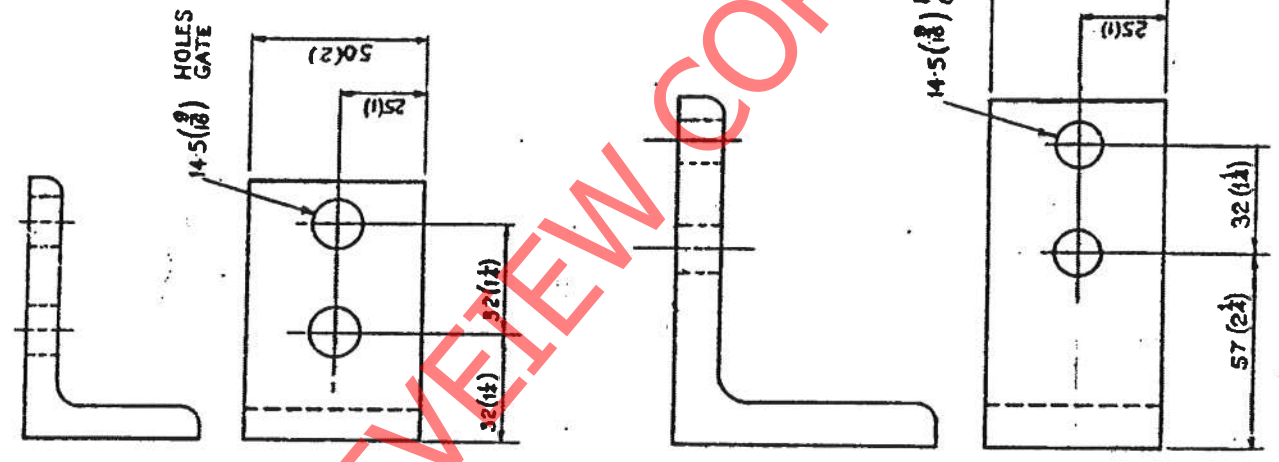
CEE-TMD-29
CEE-TMD-30
CEE-TMD-31
CEE-TMD-32
ASSX. DRG. / SAMEST.-TEK.

DRAWING NO. CEE-

TMF-453

ITEM.	DESCRIPTION — BESKRYWING.	CITY HOEV.	STORES MAGASYN	ITEM No.	DRG No.	AMENDMENTS WYSIGINGS
1	3' x 2' x 1/2" L				CEE-	No NAME DATE 1 G.R.B. 2.8.72
2	4' x 3' x 1/2" L					

DRG. NO. WAS TW568/1/6
TEK.
D.O. REF. R. 72/20
T.K. VERW.



ITEM 1 TW568/1/6
USE AT TOP OF MAST
GEBRUIK BO OP MAS

ITEM 2 TW568/1/36
USE AT SIDE OF MAST
GEBRUIK TEEN KANT VAN MAS

"PREVIEW COPY ONLY"

DIMENSIONS: MILLIMETRES (INCHES.)
AFMETINGS: MILLIMETERS (DUIME.)

D.O. REF. C.10/69
T.K. VERW. N.C.B.
CHK. F.M.C.
ENGR. MGS
DATE 5/8/69

MATERIAL — MATERIAAL
ITEMS 1+2
STEEL STAAL
BS 15

SCALE 1:2
SKAAL 1:2
CHIEF ELECTRICAL ENGINEER
ELEKTROTEGNIESE HOOFINGENIEUR

CLEATS, EARTH WIRE.
KLEMME, AARDDRAAD.
RAIL MASTS/SPOORMASTE.

ASSEMBLY DRG SAMESTELTEK	AMENDMENT WYSIGING	1
GENERAL TOLERANCES ALGEMENE TOLERANSIES	DRAWING No.	CEE-
LIN ± 0.06	TMHA	7
ANG. HOEKE		

S.A.B. JOHANNESBURG
S.A.S. ELEKTROTEGNIESE HOOFINGENIEUR

ITEM	DRAWING	MATERIAL	QUANTITY	NOTES	SUPPLY	FABRICATE	COST EACH	TOTAL COST
1	Rhino Horns	CEE-PFC-32	3CR12	5				
2	Switch Frame + B/Staps - UC Mast	CEE-TMC-102	3CR12	5				
3	Tie Bar Brackets- S/S	CEE-TMF-206	3CR12	50				
4	Cross Span Climbing Angles	CEE-TMFB-124	3CR12	20				
5	2.75 Climbing Angles	CEE-TMFB-124	3CR12	15				
6	Switch Handle Bracket - UC Mast	CEE-TMFB-143	3CR12	5				
7	Switch Rod Guide - UC Mast	CEE-TMFB-144	3CR12	5				
8	240mm Backstraps	CEE-TMFB-145	3CR12	30				
9	Earth Wire backstraps S/S	CEE-TMFB-168	3CR12	100				
10	Anchor Fittings - UC Mast	CEE-TMFB-50	3CR12	20				
11	Back Angle Anchor -UC Mast	CEE-TMFB-51	3CR12	20	80X80X12			
12	3.2 PPO Climbing angles	CEE-TMFB-67	3CR12	15				
13	2.75 PPO Climbing angles	CEE-TMFB-67	3CR12	15				
14	Stand off Insulator Angle	CEE-TMFC-33	3CR12	10				
15	SWITCH MOUNT PLATE 'Z' 3KV TS	CEE-TMFC-35	3CR12	20				
16	Adapt Plate	CEE-TN-135	3CR12	20				
17	M36 Stay Bolts	CEE-TNE-31 SH 1	MS 350WA	100	HDG SPUN			
18	Link Plates - S/Steel	CEE-TNE-33	3CR12	500	Rounded Ends			
19	100X50 Adaptor plates - S/S	CEE-TNE-35	3CR12	50				
	TOTAL							

TENDER NOTES:

FABRICATION OF STEELWORK.

1 All items to be priced supply and fabricate:

Supply refers to supply of raw material.

Fabricate refers to the complete fabrication process including transportation for collection and delivery, cutting and welding including all consumables required for the process.

2 Transnet reserves the right to supply all or portion of the materials required. Fabrication cost will be claimed in such cases.

3 Artisan qualification with welding codes to be submitted with tender.

4 Quality will be monitored by Transnet on an ongoing basis. Queries to be addressed with Mahomed Sayid 0832790438.

5 Quality control documents to be supplied on delivery.

ORIGINAL FRAME SIZE OORSPRONKLIKE RAAMGROOTTE 390 x 267		ITEM	DESCRIPTION - BESKRYWING	TYPE 1	TYPE 2	TYPE 3	DRG. NO. CEE TEK.	STORES ITEM MAGASYNITEM NO.	AMENDMENTS WYSIGINGS		
NO.	NAME NAAM	DATE DATUM									
1			CROSS ARM FOR PHASE WIRE SUPPORT. DWARSARM VIR FASEDRAAD STEUN.	1	1	-	PFC - 12				
2			" " " " " " " "	-	-	1	PFC - 73		7	S Mouton 6-11-75.	
3			EARTH WIRE CLEAT. AARDDRAADKLAMP	2	2	2	PFC - 74			REDRAWN ITEMS 5-9 ADDED. HERTEKEN, ITEMS 6-9 BYGE- VOEG. D.O. REF. Y75/71.	
4			76,2 x 76,2 x 6,4 ANGLE HOEK 1990 LONG LANK	2	2	2		11/22023			
5			CLAMPING BRACKET. KLAMPSTEL	1	1	-	TMF 62				
6			BOLT & HEX. NUT, STEEL, BLACK, HEX. HEAD BOUT EN SESK. MOER STAAL, RU, SESK. KOP	2	-	-		1/61736			
7			" " " " " " " " M20 x 230	-	2	-		1/61739			
8			" " " " " " " " M20 (SEE NOTE KYK OPM. 1)	-	-	2					
9			WASHER, STEEL, BLACK, ROUND NORMAL WASTER STAAL, RU, ROND, NORMALE M20	4	4	4		1/86187			

TYPE 1: APPLICABLE TO 203 x 152 MAST.
VAN TOEPASSING OP 203 x 152 MAS.

TYPE 2: APPLICABLE TO 229 x 178 MAST.
VAN TOEPASSING OP 229 x 178 MAS.

TYPE 3: APPLICABLE TO RAIL MAST.
VAN TOEPASSING OP SPOORMAS.

NOTES / OPMERKINGS

1. LENGTH TO BE DETERMINED ON SITE.
LENGTE MOET OP TERREIN BEPAAL WORD.

2. FINISH: ZINC COAT TO S.A.S. 1-18-6-3 VOLG. 5A35 T63
AFWERKING: SINKBEDEK

3. FOR SINGLE EARTH WIRE APPLICATION SEE DRG. NO. CEE - PFC - 34
VIR ENKELAARDRAAD TOEPASSING KYK TEK. NO. CEE - PFC - 34.

4. SUPERSEDES ITEM A1 AND DRG. ENW-EIH-253
VERVANG ITEM A1 EN A2 TEK.

3CR12

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

DRN. GET.	F.W.C.	GEN. TOLERANCES: LIN. & ALG. TOLERANSIES: ANG. / HOEK
TRCD. NGT.		D.O. REF. TK. VERW.
CKD. NGS.	G.W.M.	DATE DATUM 5-10-62
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIESE HOOFINGENIEUR		S.A.R. T.C. BROOK S JOHANNESBURG

**CROSS ARM ASSEMBLY FOR SUPPORTING
DOUBLE EARTH WIRE TYPE.
DWARSARMSAMESTEL VIR STEUN
VAN 6,6 kV EN 11kV TRANSMISSIELYNE.
DUBBELAARDRAAD TIPE**

TYPE / TIPE 3
ENW - EIH - 200
TYPE / TIPE 1 & 2
CEE - TMG - 49251
ASSY DRG. / SAME. TEK.

DRAWING
TEKENING NO. CEE
PFC - 32

Δ
2

Δ
3

Δ
4

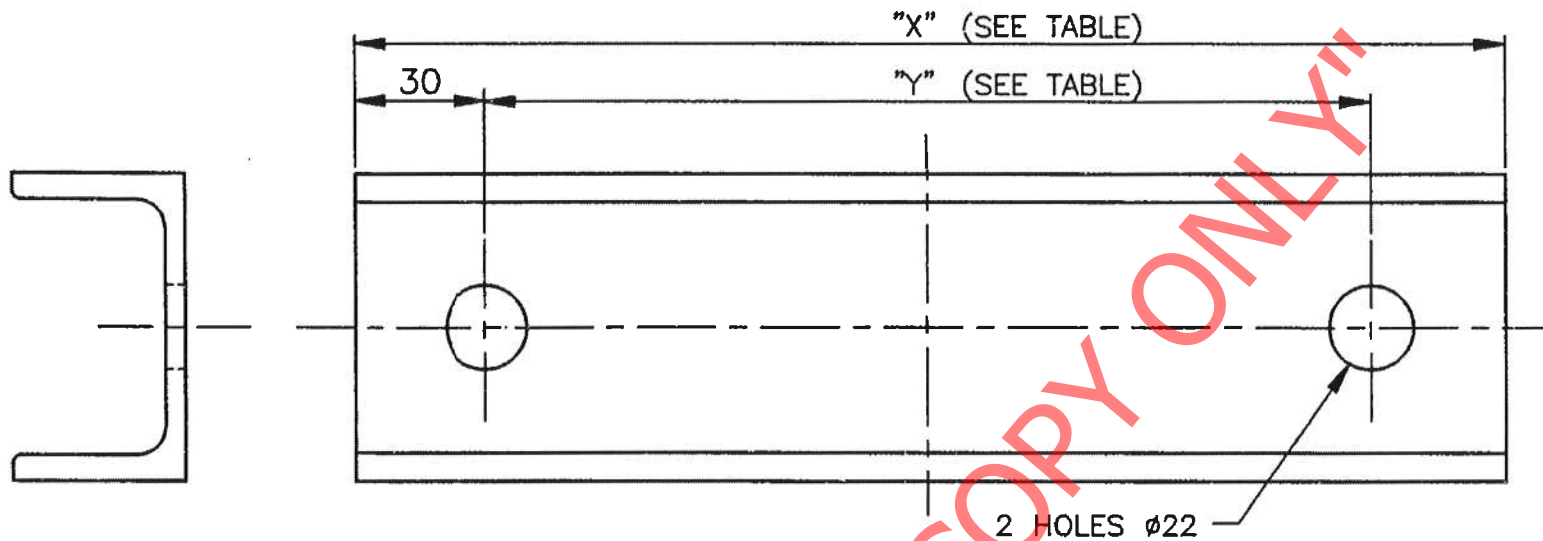
Δ
4

Δ
4

Δ
3

Δ
3

Δ
2



AMENDMENTS		
NO	NAME	DATE
1	W BRIGHT	93/01/28
DRG NO WAS SHEET 3 OF 4. DO REF: P92/034		
2	JVT	94-08-23
MATERIAL SIZE WAS 80x45x8,64 kg/m : T94/053		
3	J DU PLESSIS	96-01-25
TABLE REVISED RE CONCRETE MASTS. DO REF: T95/057		

TABLE	DIMENSIONS	
APPLICATION	"X"	"Y"
CONCRETE MAST (GRINAKE TYPE)	300	240
CONCRETE MAST (ROCLA TYPE)	360	300
UNIVERSAL COLUMN 206 X 204	300	240
UNIVERSAL COLUMN 216 X 206	300	240
UNIVERSAL COLUMN 254 X 254	350	290
UNIVERSAL COLUMN 260 X 256	350	290

STORES ITEM NO _____

DIMENSIONS: mm
SCALE: 1:2

MATERIAL: ITEM NO 11/4144, STEEL, CHANNEL, 76 X 38 X 6,7 kg/m X "X" LG

DO REF: P91/027 GEN TOL: LIN ± 1 ANG ± —

DRN: C MADDISON CKD: JVT DATE: 92-06-16

ENG: L BORCHARD L BORCHARD for CHIEF ENG

ATTACHMENT BRACKET

AERIAL BUNDLED CONDUCTOR, 11/33KV TRANSMISSION
LINE ON OHTE MAST
UNIVERSAL COLUMN AND CONCRETE MASTS



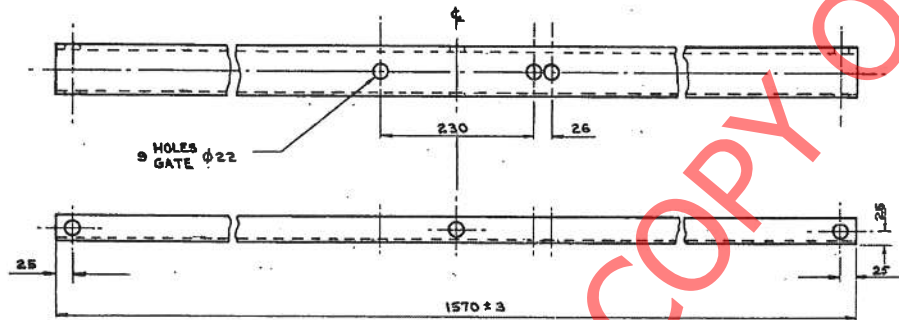
DRG NO CEE-
TMFB-62
SHT 3 OF 5

INFRASTRUCTURE
(ELECTRICAL)



T0000561

ORIGINAL FRAME SIZE 390x267
 OORSPRONKLIKE RAAMGROOTTE 390x267



304-12 RD

DIMENSIONS: MILLIMETRES
 AFMETINGS: MILLIMETER

MATERIAL - MATERIAAL
 STEEL CHANNEL 80x55x8,64 kg/m
 STAAL KANAAL
 SPEC. CME Ø SYM. Ø
 SPES. SIM.
 STORES ITEM (4) / -
 MAGASYNITEM
 OR COMMERCIAL GRADE OF HANDELSGRAAD

SEE ALSO DRG. CEE-TA-117 SHT. 1
 KYR OOK TEK. VEL 1



DRN. F.W.C. GET.	GEN. TOLERANCES LIN. ±1 ALG. TOLERANSIES LANG/HOEK	ENG. IR.
TRCD. A. VORSTER NGT.	D.O. REF. TK. VERW.	IR.
CKD. G.W.M. NGS.	DATE 15-10-62 DATUM	T.C. BROOK SAR JOHANNESBURG

TRANSMISSION LINES ON TRACK STRUCTURES
 CROSS ARM FOR PHASE WIRE SUPPORT ON I-MASTS
 TRANSMISSIELYNE OP BOBAANSTRUKTURE
 DWARSARM VIR FASEDRAADSTEUN OP I-MASTE

AMENDMENTS
 WYSIGINGS

NO.	NAME NAAM	DATE DATUM
5	RELS.	B. B. 75.

REDRAWN INFORMATION FROM DRG. NO. CEE PFC 13 ADDED STUDS REMOVED. DORGETEKEN INFORMATIE VAN TEK. NO. CEE PFC 13 BYGEVOEG. KNOPPE VERWYDER.
 D.O. REF. Y 75/106
 TK. VERW.

6.	WKS.	78-06-28
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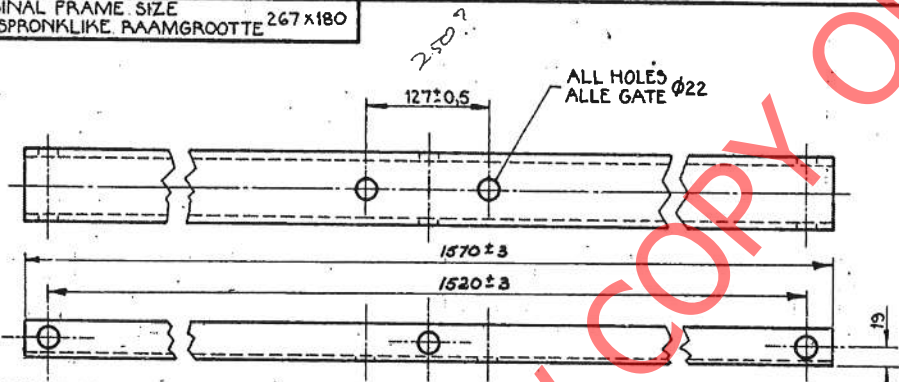
MATERIAL & DIMENSIONS STANDARDISED.
 MATERIAAL & AFMETINGS GESTANDARDEER.
 D.O. REF. Y71/08
 TK. VERW.

CEE PFC 32, 34
 ASSY. DRG. / SAME S. TEK.
 DRAWING / TEKENING NO. CEE

PFC - 12



ORIGINAL FRAME SIZE
OORSPRONKLIKE RAAMGROOTTE 267x180



DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL - MATERIAAL
 1) STEEL CHANNEL 76x38x6,9 kg/m
 STAAL, KANAAL 76x38x6,9 kg/m
 STORES ITEM NO. 11/22164
 MAGASINITEM NO. 11/22164
 ALTERNATIVE/ALTERNATIEF
 2) STEEL CHANNEL 80x45x8,64 kg/m
 STAAL, KANAAL 80x45x8,64 kg/m
 STORES ITEM NO. _____
 MAGASINITEM NO. _____
 SPEC. CASE 2 SYM. B.
 SPES. SIN. B.
 OR COMMERCIAL GRADE
 OF HANDELSGRAAD

3CR12

m

AMENDMENTS WYSIGINGS		
NO.	NAME NAAM	DATE DATUM
5	S. Mouton	5-9-75
DRG./TEK. NO. WAS CEE TMHC-6 D.O. REF. Y75/130 TK. VERW.		
6	WRG.	78-06-30
ADDITIONAL MATERIAL ADDED. ADDITIONELE MATERIAAL BYGEVOEG. D.O. REF. Y.76/03 T.K. VERW.		
CEE-PFC-32 CEE-PFC-34 ASSEMBLY DRG. SAMESTELTEK.		
DRAWING TEKENING		NO. CEE
		PFC-73

DRN. GET.	D.H.	GEN. TOLERANCES: LIN: ±1 ALG. TOLERANSIES: ANG/HOEK	
TRCD. NGT.	B. BOTHA	DO. REF. TK. VERW.	ENG. L.N.N.
CKD. NGS.	W.E.W.	DATE DATUM 9-1-56	W.W. LEHMAN
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIËSE HOOFINGENIEUR SAS		SAR JOHANNESBURG	

CROSS ARM: PHASE WIRE SUPPORT,
RAIL MASTS
H.V. TRANSMISSION LINES ON TRACK STRUCTURES.
 DWARSARM: FASEDRAAD-STEUN,
SPOORMASTE
H.S. TRANSMISSIELYNE OP BOBAANSTRUKTURE.

A4
A4

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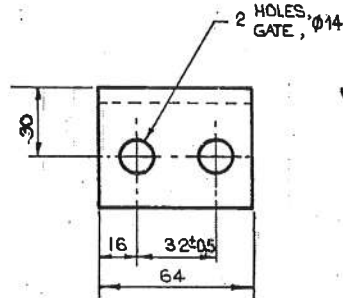
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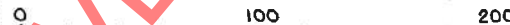
ORIGINAL FRAME SIZE 267 x 180
 OORSPRONKLIKE RAAMGROOTTE 267 x 180



DIMENSIONS : MILLIMETRES.
 AFMETINGS : MILLIMETER.

MATERIAL-MATERIAAL
 STEEL ANGLE 50X50X6
 STAAL, HOEK 50X50X6
 SPEC. CME 9 SYM. B
 SPES. CME 9 SIM. B
 STORES ITEM NO. (M)11/14481

SUPERSEDES ITEM 4 DRG. ENW-EIH-253.
 VERVANG V. TEK.



GENERAL TOLERANCES ALGEMENE TOLERANSIES		LIN ±1	ANG. HOEK.
DRN. GET. F.W.G.	CKD. NGS. G.W.M.	ENG. IR.	
D.O. REF. T.K. VERW.	DATE DATUM 15-10-67	T.C. BROOK.	
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIËSE HOOFINGENIEUR		S.A.R. JOHANNESBURG S.A.S.	

H.V. TRANSMISSION LINES ON TRACK STRUCTURES
EARTH WIRE CLEAT
 I BEAMMASTS OR UNIVERSAL COLUMNS

H.S. TRANSMISSIELYNE OP BOBAANSTRUKTURE
AARDDRAAD-KLAMP
 I BALKMASTE OF UNIVERSELE KOLOMME

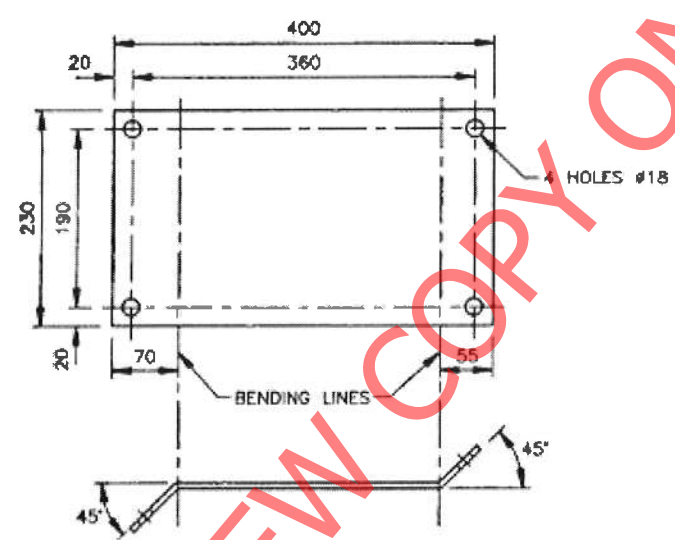
AMENDMENTS WYSIGINGS		
NR	NAME NAAM	DATE DATUM
2	J.H. Jackson	12-1-72
REDRAWN AND METRICATED. HERTEKEN EN GEMETRISEER. D.O. REF. JT1/224. TK. VERW.		
3	J. Jackson	14-6-72
NO WAS T.M.E. 51. D.O. REF. TK. VERW C10/72.		
4	S. Mouton	6-11-74
NOTE "DRILL" REMOVED OPM. BOOR VERWYDER D.O. REF Y74/116 TK. VERW		
5	S. Mouton	5-9-75
DRG./TEK. NO. WAS CEE- TMHA-30. D.O. REF. Y75/180 TK. VERW.		
6	J. Jackson	79-12-70
30mm DIMENSION/ AFMETING WAS 29mm TITLE ALTERED OPSKRIF VERAN- DER. D.O. REF. Y76/43 TK. VERW.		
CEE - PFC - 32. ASSY. DRG./SAMEST. TEK.		
DRAWING TEKENING N° CEE- PFC-74.		

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NOTE: 3CR12/NO
 ZINC COAT MILD STEEL TO SPEC SABS 703 FOR CONDITIONS IN SITU

AMENDMENTS		
NO	NAME	DATE
1	L O DORRHO	95-05-11

REDRAWN, DRG NO. WAS TMHF-75.
 3CR12 ADDED.
 DO REF T95/003

DIMENSIONS: mm
 SCALE: 1:5

MATERIAL: ITEM NO 11/ — STEEL, FLAT, 6 THK OR STEEL, FLAT 3CR12
 DO REF: Y77/18 GEN TOL: LINES ± 1 ANG ± 1°
 DRN: B GORDON CKD: J JACKSON DATE: 79-06-06
 ENG: — G A WILLIAMS for CHIEF ENG

BRACKET, SWITCH MOUNTING
 TRACK SWITCH STRUCTURES




DRG NO CEE-
 TMFC-35
 SHT — OF —

T0600773

INFRASTRUCTURE (ELECTRICAL)  **SPOORNET**

3

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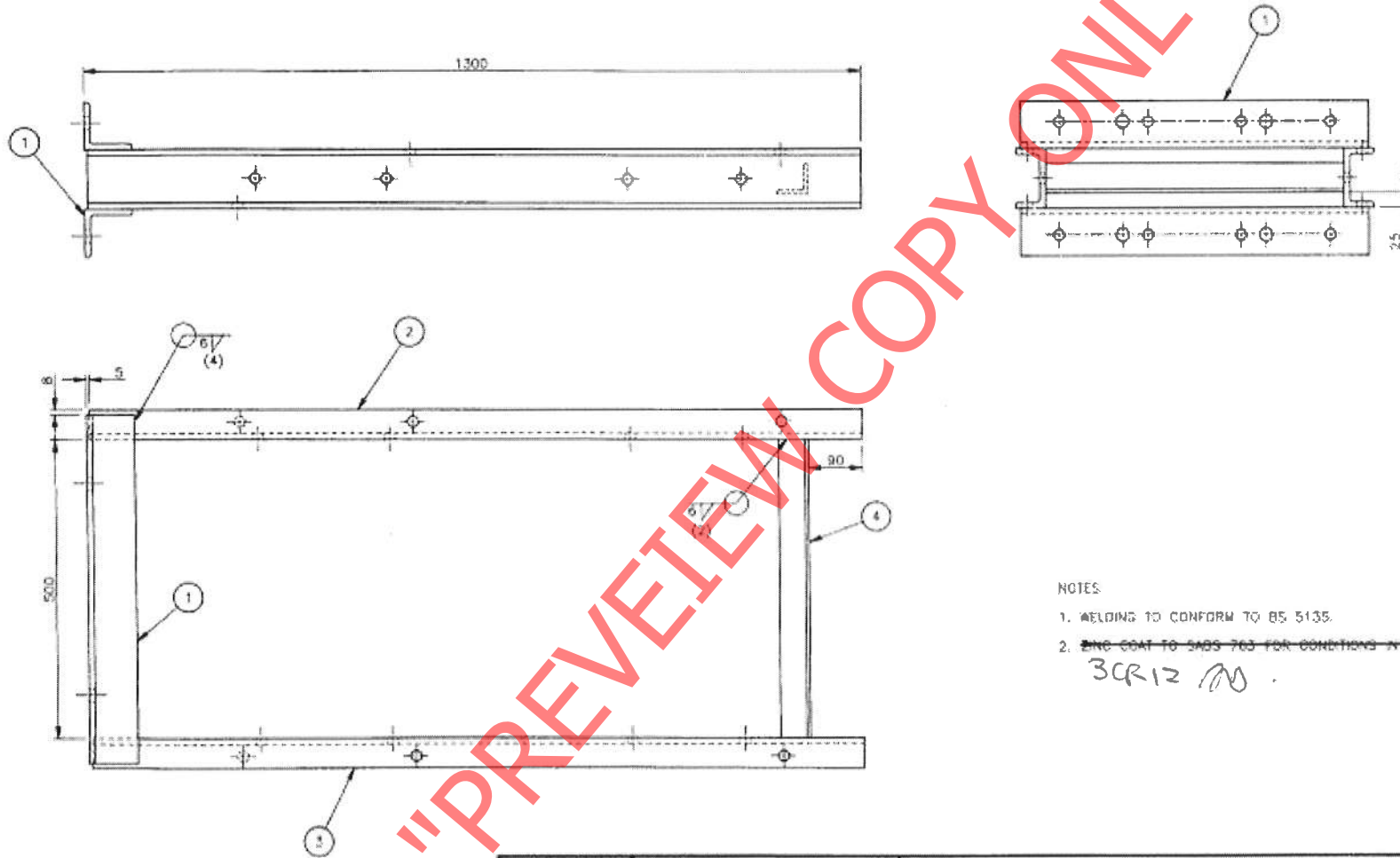
4

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3

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-
1	CLAMPING BRACKET, SWITCH MOUNTING PLATFORM	2	-----	TMC-103 ITEM 1
2	CHANNEL FOR SWITCH MOUNTING PLATFORM	1	-----	TMC-104 ITEM 1
3	CHANNEL FOR SWITCH MOUNTING PLATFORM	1	-----	TMC-104 ITEM 2
4	STEEL, ANGLE, 50 x 50 x 6 THK x 500 LG	1	11/14481	-----

AMENDMENTS		
NO	NAME	DATE
1	E. WOOD	86-08-03
REDRAWN. DRG NO WAS CEE-TMF-300. DO REF. TB6/009		



NOTES

1. WELDING TO CONFORM TO BS 5135.
2. ZINC COAT TO SABS 763 FOR CONDITIONS IN SITE.

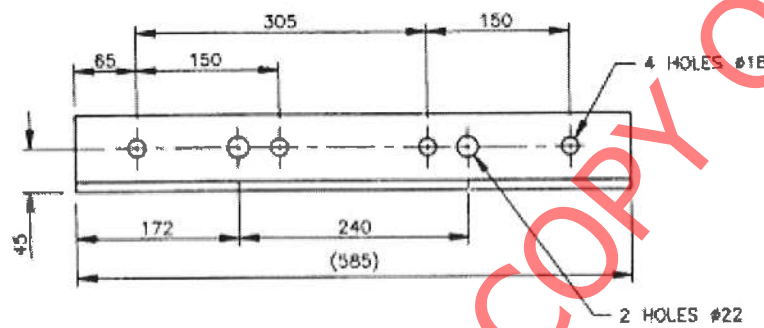
3CR12 100

DO REF: Y77/16	GEN TOL: LIN# 1	ANG#
DRN: B GORDON	CKD: J JACKSON	DATE: 79-08-05
ENG: -----	GA WILLIAMS	for CHIEF ENG
INFRASTRUCTURE (ELECTRICAL)	SPOORNET	

SWITCH MOUNTING PLATFORM
OHTE SWITCH STRUCTURES

STORES ITEM NO	-----
DIMENSIONS: mm	-----
SCALE:	1:5
	A2
DRAWING NO	CEE-
	TMC-102
SHEET	OF

10001019



ITEM 1: ~~NOT ZINC COATED.~~ *SCR 12*
 ITEM 2: ~~ZINC COAT TO SABS 763 FOR CONDITIONS IN SITU.~~

AMENDMENTS		
NO.	NAME	DATE
1	L E WOOD	96-08-01
REDRAWN. DRG NO WAS CEE-TMHA-138. DO REF: T96/009		

STORES ITEM NO.
 DIMENSIONS: mm
 SCALE: 1:5

MATERIAL: ITEM NO 11/14521, STEEL, ANGLE, 80 x 80 x 10 THK x 585 LG

DD REF: Y77/18 GEN TOL: LIN± 1 ANG± —
 DRN: B GORDON CKD: J JACKSON DATE: 79-05-06
 ENG: GA WILLIAMS for CHIEF ENG

CLAMPING BRACKET
 SWITCH MOUNTING PLATFORM
 OHTE SWITCH STRUCTURES

INFRASTRUCTURE (ELECTRICAL) **SPOORNET**

A4
 DRG NO CEE-TMC-103
 SHT — OF —

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3

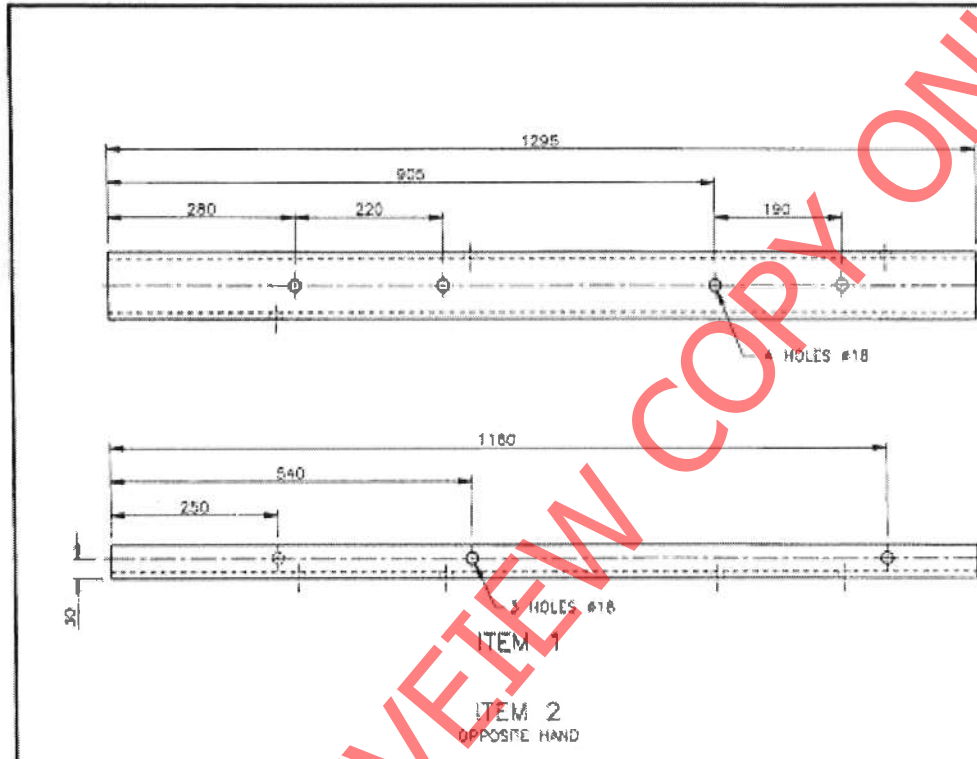
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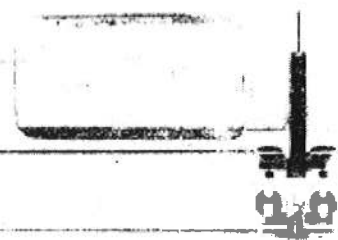
AMENDMENTS		
NO	NAME	DATE
1	L E WOOD	98-08-03

REDRAWN, DRG NO WAS CEE-TMVC-45.
CO. REF: T96/009

STORES ITEM NO
DIMENSIONS: mm
SCALE: 1:5
A3
DRAWING NO CEE-TMC-104
SHEET — OF —

MATERIAL: ITEM NO 11/146B3, STEEL CHANNEL, 100 x 50 x 4.8kg/m. 3CR12A			
DO REF: 977/18	GEN TOL: LN±	1	ANG±
DRN: B GORDON	CKD: J JACKSON	DATE: 78-06-08	
ENG:	GA WILLIAMS	1st CHIEF ENG	
INFRASTRUCTURE (ELECTRICAL)	SPOORNET		
CHANNEL FOR SWITCH MOUNTING PLATFORM DHT SWITCH STRUCTURES			

Δ 2 Δ 3 Δ 4 Δ 4 Δ 3 Δ 3 Δ 2



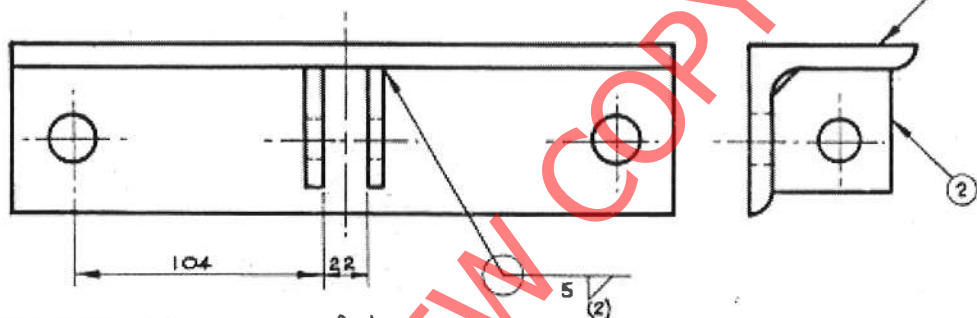
ORIGINAL FRAME SIZE 267 X 180
OORSPRONKLIKE RAAMGROOTTE



ITEM	DESCRIPTION BESKRYWING	QTY. HWLD.	STORES ITEM WAGSTYTEM	DRG. TEK.	NO. CEE	AMENDMENTS WYSIGINGS		
						NO.	NAME NAAM	DATE DATUM
1.	CLAMPING BRACKET KLAMPSTEUN	1		TMFB-138				
2.	CLEVISPLATE VURKPLAAT	2		TMHF-21		1.	Jacobs	78-05-23

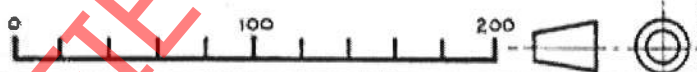
NOTE/OPMERKING.
WELDING TO CONFORM TO
1. SWEISWERK MOET VOLDOEN AAN S. S. 5135

NOTE 2 ADDED.
OPM. 2. BYGEVOEG
D.G. REF. yib/so
TK-VERW.



2. ZINC COAT TO SABS 763-3CR12 AW.
2. SINKREDER VOLG.

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER.



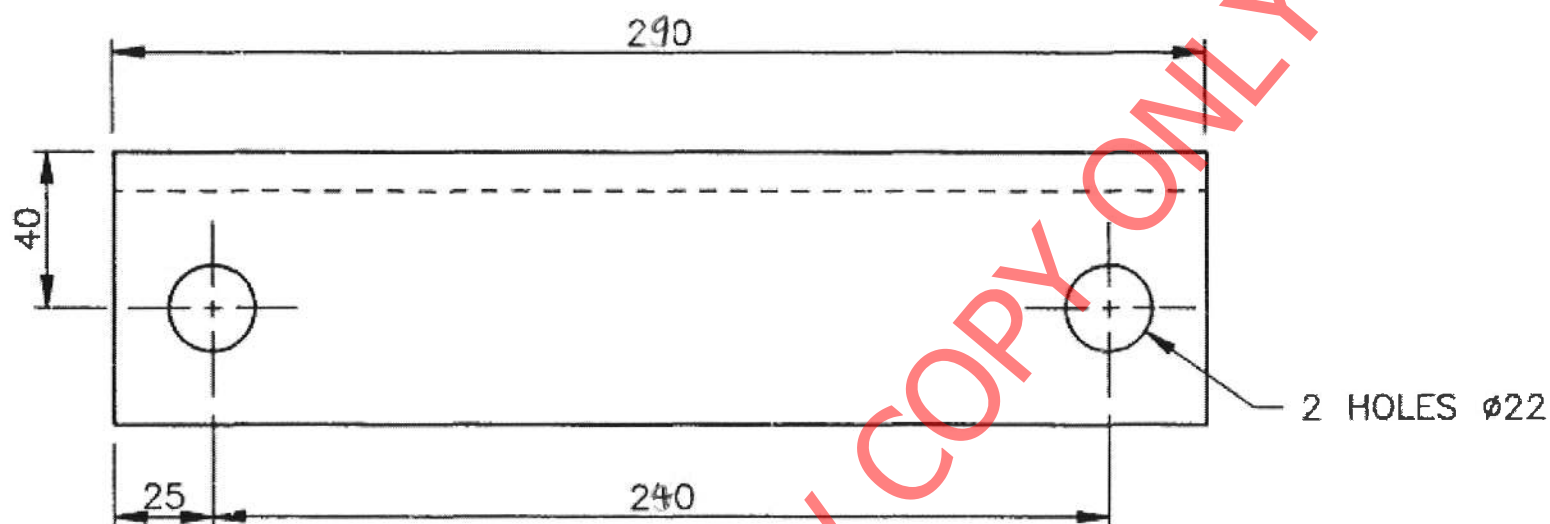
DRN. GET. S. V. RENSBURG	GEN. TOLERANCES: LIN. ±1 ALG. TOLERANSIES: LIG./HOEK	ENG. IR. <i>[Signature]</i>
TRCD. NGT. S. V. RENSBURG	D.O. REF. Y76/43 TK. VERW.	DATE DATUM 78-05-8
CKD. NGS. <i>[Signature]</i>	DATE DATUM 78-05-8	CHIEF ELECTRICAL ENGINEER. S. R. JOHANNESBURG ELEKTROTEGNIESE HOOFINGENIEUR S. S.

BRACKET-TIE BAR CLEVIS.
TUBULAR CANTILEVER ON
203X203 UNIVERSAL COLUMNS
STEUNSTUK-VIRBINDINGSTANGVURK
BUISVORMIGE VRYDRAERARM OP
203X203 UNIVERSELE KOLOMME

CEE - TMG - 80,61.
ASSY DRG./SAMES - TEK.
DRAWING NO. CEE
TEKENING.
TMF-206

A4
A4

3 4 4 4 3



FINISH : 3CR12 (M)
~~ZINC COAT TO SABS 763 FOR CONDITIONS IN SITU~~
~~WHEN NOT PART OF WELDING COMPONENT.~~

AMENDMENTS		
NO	NAME	DATE
1	JVT	95-09-12

DRG REVISED.
 PREVIOUS NO. WAS
 CEE-TMHA.-84.
 DO REF: T95/055

DIMENSIONS: mm
 SCALE: 1:2

MATERIAL: ITEM NO 11/14508, STEEL, ANGLE, 70 x 70 x 10 x 280 LG

DO REF: Y76/43	GEN TOL: LIN± ±1,5 ANG± -
DRN: B v RENSBURG	CKD: W.R.G. DATE: 78-03-31
ENG: J DE V.	P. PIENAAR for CHIEF ENG

CLAMPING BRACKET

UNIVERSAL COLUMNS AND CONCRETE MAST



DRG NO CEE-
 TMFB-138
 SHT - OF -

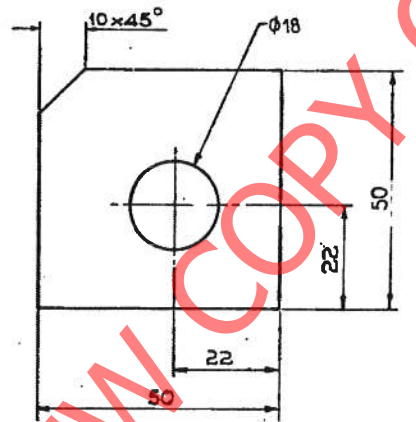
INFRASTRUCTURE
 (ELECTRICAL)



10000973

ORIGINAL FRAME SIZE
DOORSPRONKLIE RAAMGROOTTE 267x180.

TW N°



DIMENSIONS: MILLIMETRES.
AFMETINGS: MILLIMETERS.

MATERIAL - MATERIAAL
50x6 FLAT BAR. 3CR12
PLATSTAAL.
SPEC. CNE 3 SIM. 7
SPEK. CNE 3 SIM. 7
STORES ITEM NO. (M) 11/12273
MAGASYNITEM

GENERAL TOLERANCES ALGEMENE TOLERANSIES		LINE 1	ANG. HOEK.	—
DRN. GET.	F.W.C.	CKD. NGS.	G.W. M.	ENG. IR.
D.O. REF.	—	DATE	15-10-62	T.C. BROOK.
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIESE HOOFINGENIEUR		SAR JOHANNESBURG. SAS		

CLEVIS PIECE FOR TIE BAR BRACKET
TUBULAR CANTILEVERS ON I MASTS.
& UNIVERSAL COLUMNS.
WURKSTUK VIR BINDSTANGSTEUN
BUISVORMIGE VRYDRAERARMS OP I MASTE
EN UNIVERSELE KOLONNIE.

AMENDMENTS WYSIGINGS		
Nb	NAME NAAM	DATE DATUM
2	J. JACKSON	12-1-72
REDRAWN AND METRICATED HERTEKEN EN GEMETRISER. D.O. REF. J71/219. TK. VERW. J71/219.		
3	J. JACKSON	14-6-72
NR WAS TMF 71 DOORETKVERW. C70/72		
4	S. MOUTON	6-11-74
NOTE "DRILL" REMOVED OPM. „BOOR" VERWYDER D.O. REF. Y74/116 TK. VERW.		
5	W.R.G.	28-3-78
TITLE REVISED, ASSY. NO'S FOR UNIVERSAL COLUMNS ADDED. TITEL HERSEN. SAMES. NO'S VIR UNIVERSELE KOLONNIE BYGEVOEG D.O. REF. Y76/43 TK. VERW.		
6	W.R.G.	78-06-30
ASSY DRG. NO. CEE TMF-86 REMOVED. SAMES-TEK. NO. CEE TMF- 86. VERWYDER. D.O. REF. Y77/108 TK. VERW.		
CEE - TMF - 85,206 ASSY DRG / SAMES. TEK		
DRAWING No. CEE- TEKENING TMHF-21		

A4
A4

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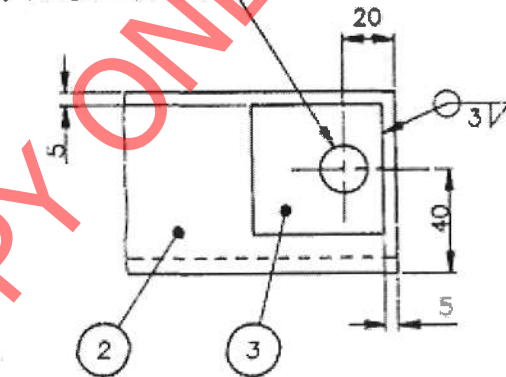
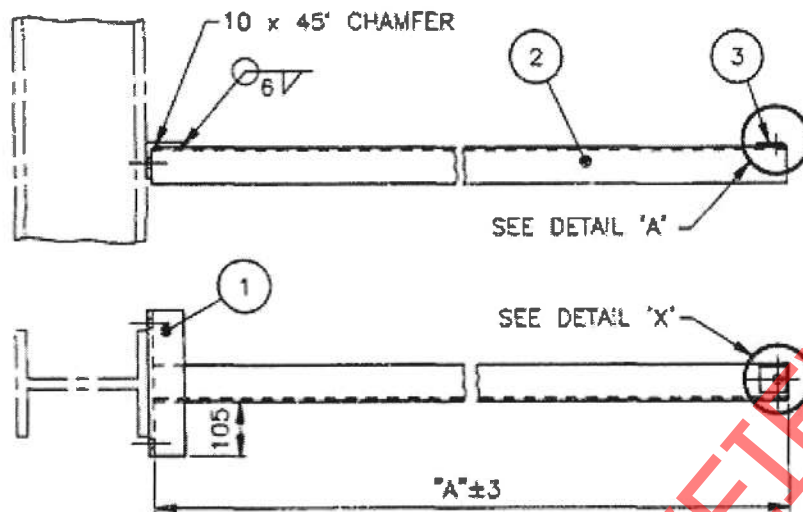
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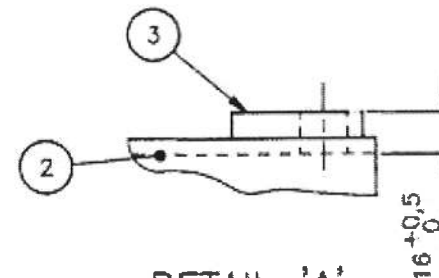
ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
1	CLAMPING BRACKET	1		TMFB-138	NO	NAME	DATE
2	STEEL, ANGLE, 70 x 70 x 6 x "A" LG	1			1	J DU PLESSIS	94-08-17
3	STEEL, FLAT, 50 x 10 x 50 LG	1	(11/12381)				

DEAILS OF USE	DIMENSION "A"
2,75m MAST \odot - TRACK \odot	1000
3,2m MAST \odot - TRACK \odot	1450
3,7m MAST \odot - TRACK \odot	1950
WITH HOCKEY STICK	600

DRILL HOLE $\varnothing 18$ AFTER WELDING



DETAIL 'X'
SCALE 1:2



DETAIL 'A'
SCALE 1:2

FINISH : 3CR12
ZINC COAT TO SPEC SABS 763
FOR CONDITIONS IN SITU.

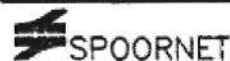
NOTES

1. WELDING TO CONFORM TO SPEC BS 5153.
2. FOR STEADY ARM ATTACHMENT EXTENSION BRACKET FOR NON-STANDARD MAST-TO-TRACK CENTRES SEE DRG NO CEE-TMFB-123.

DRG REVISED.
DRG NO WAS CEE-
TMF-208.
NOTE 2 ADDED.
DO REF: T94/040.

DO REF: Y76/43	GEN TOL: LIN ± 1	ANG $\pm 2'$
ORN: J HIBBERS	CKD: WRG	DATE: 78-03-31
ENG: I DE VILLIERS	F PIENAAR	for CHIEF ENG

INFRASTRUCTURE
(ELECTRICAL)

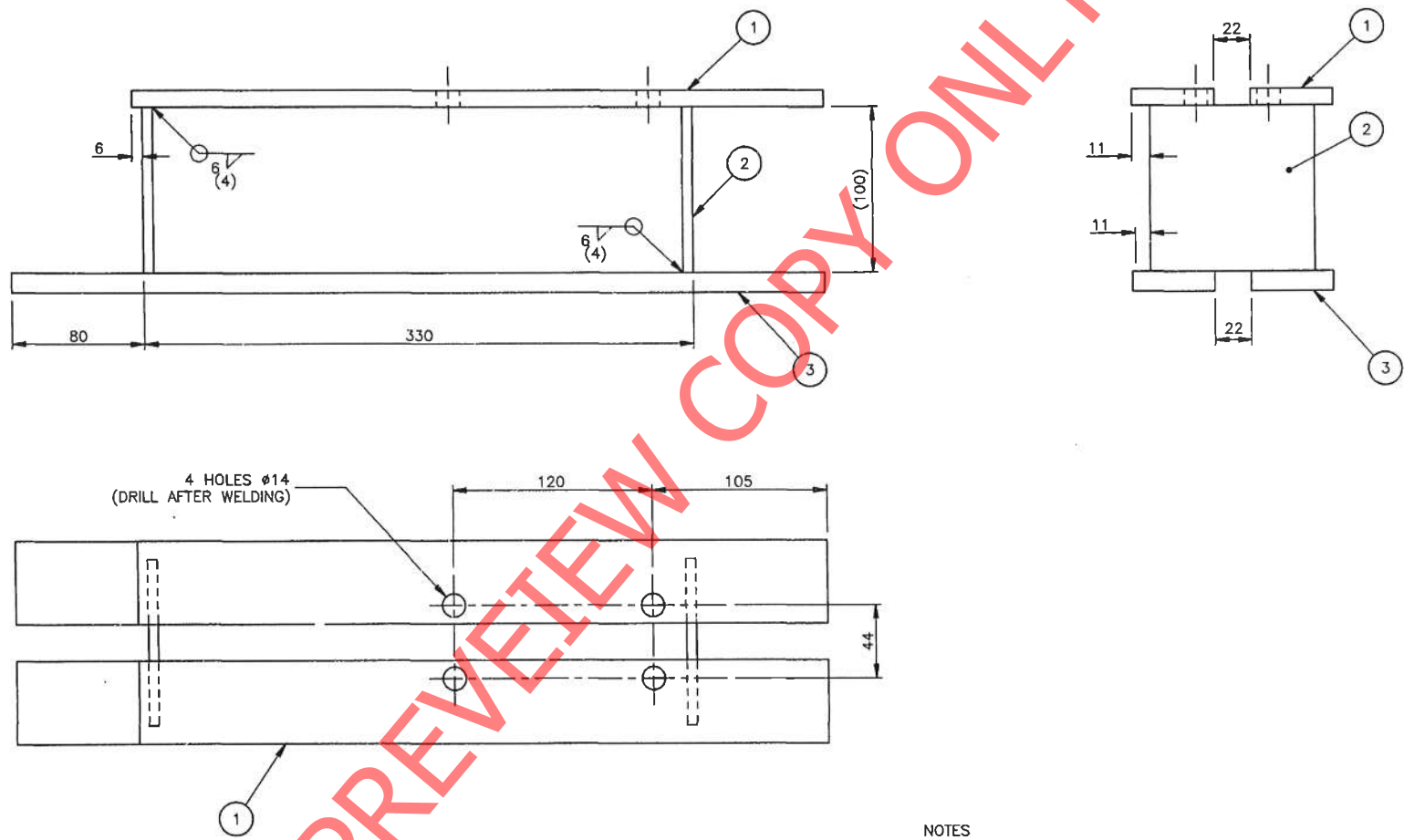


STEADY ARM AND HOCKEY STICK ATTACHMENT
203 x 203 UNIVERSAL COLUMNS.

STORES ITEM NO
DIMENSIONS: mm SCALE: 1:10
A3
DRAWING NO CEE- TMFB-124
SHEET — OF —

10000653

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS
1	STEEL, FLAT, 50 x 10 THK x 415 LG	2	11/12381		NO NAME DATE
2	STEEL, FLAT, 100 x 6 THK x 100 LG	2	11/12319		1 L E WOOD 96-08-01
3	STEEL, FLAT, 50 x 12 THK x 490 LG	2	11/12509		REDRAWN. DRG NO WAS CEE-TMF-298. DO REF T96/009



NOTES

1. WELDING TO CONFORM TO BS 5135.
2. ZINC COAT TO SABS 763 FOR CONDITIONS IN SITU.

3CR12 MD

DO REF: Y77/16	GEN TOL: LIN± 1	ANG± —
DRN: B GORDON	CKD: J JACKSON	DATE: 79-06-06
ENG: —	GA WILLIAMS for CHIEF ENG	
INFRASTRUCTURE (ELECTRICAL)	SPOORNET	

OPERATING HANDLE MOUNTING ASSEMBLY
 SWITCH STRUCTURES
 UNIVERSAL COLUMNS

DIMENSIONS: mm	A2
SCALE: 1:2	
DRAWING NO CEE-	TMFB-143
SHEET — OF —	

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
1	STEEL PLATE, 500 x 50 x 12 THK	1	11/12508		NO	NAME	DATE
2	STEEL, ROUND, $\phi 20 \times 435$ LG	1	11/2776		1	E WOOD	95-08-01
3	STEEL, ROUND, $\phi 12 \times 170$ LG	1	11/2740		REDRAWN, DRG NO WAS CEE-TMF-299, NOTE 3 ADDED, NOTE 2 REVISED. DD REF: T96/009		
4	NUT, STEEL, GALV, HEX, M20	2	1/3288				

SCALE 1:5

ITEM 1

ITEM 2

2. ROD S/S 304
3. NUT S/S 316

ITEM 3

NOTES

- WELDING TO CONFORM TO BS. 5135.
- ZINC COAT ITEM 1 TO SABS 753 FOR CONDITIONS IN SITU. 3CR12
- ZINC COAT ITEMS 2 & 3 TO SABS 753, AFTER WELDING, FOR CONDITIONS IN SITU.

DD REF: Y77/18	GEN TO: LIN# 1	ANG# 15	SWITCH ROD GUIDE ASSEMBLY OHTE SWITCH STRUCTURE UNIVERSAL COLUMNS 204 x 206 & 206 x 215
DRN: B GORDON	CKD: J JACKSON	DATE: 78-06-06	
ENG: _____	CA WILLIAMS	FOR CHIEF ENG	

INFRASTRUCTURE (ELECTRICAL) **SPOORNET**

DIMENSIONS: mm
SCALE: 1:2

A3

DRAWING NO CEE-TMFB-144

SHEET — OF —

2

3

4

4

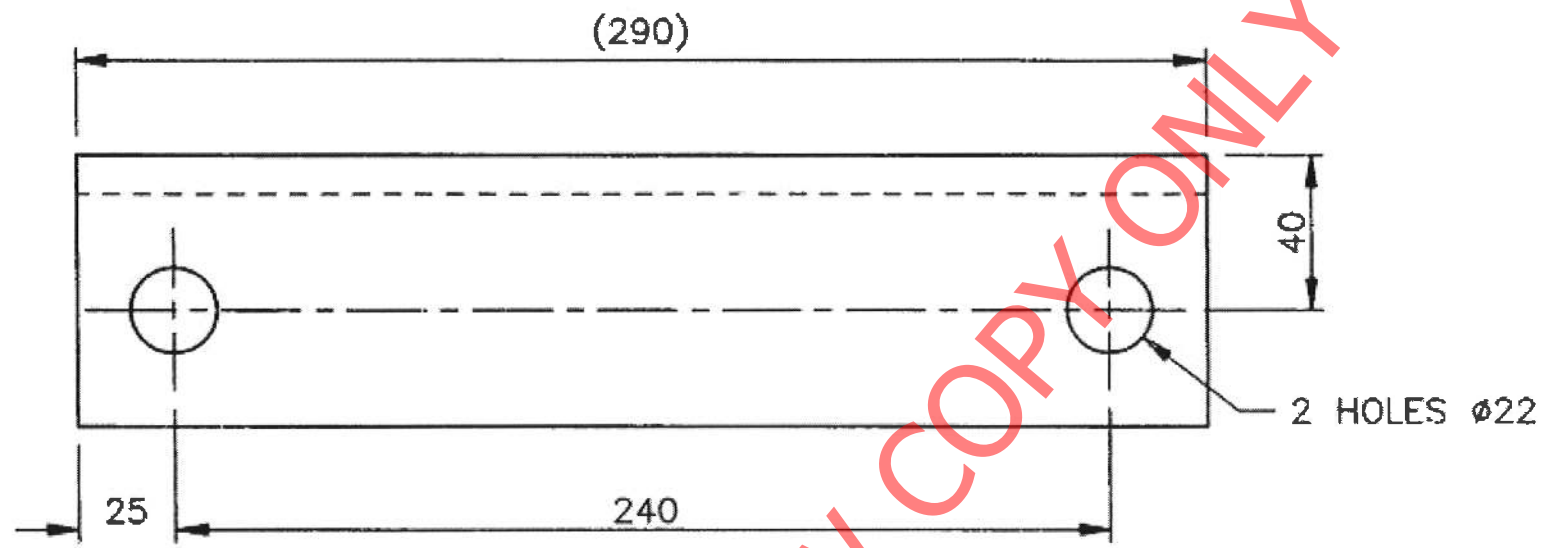
3

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20

AMENDMENTS		
NO	NAME	DATE
1	JVT	97-09-05
REVISED, DRAWING NO WAS TMHA-90. DO REF: T96/021		





FINISH : 3CR12 *ny*
 ITEM 1: ~~ZINC COAT TO SABS 763 FOR CONDITIONS IN SITU.~~
 ITEM 2: ~~NOT ZINC COATED.~~

DIMENSIONS: mm
 SCALE: 1:2

MATERIAL: STORES ITEM NO: 11/14508, STEEL, ANGLE, 70 x 70 x 10 x 290 LG.

DO REF: Y76/43 GEN TOL: LIN± 1.5 ANG± -
 DRN: B v RENSBURG CKD: W.R.G. DATE: 78-03-31
 for ENG: I DE V F PIENAAR for CHIEF ENG

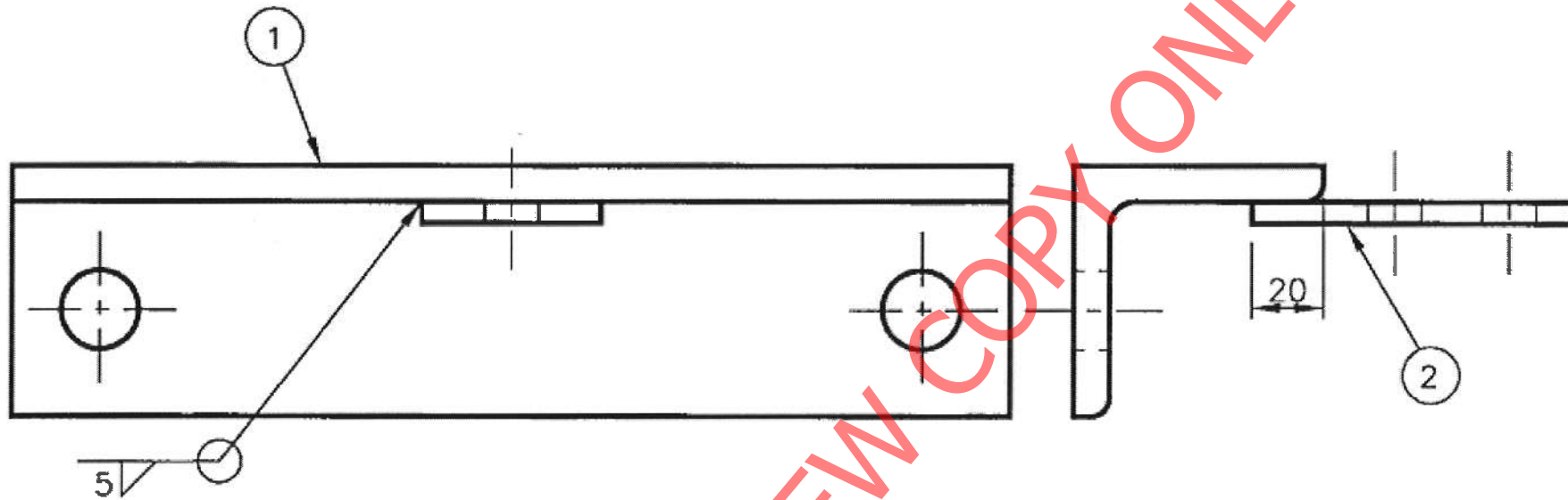
CLAMPING BRACKET
 203 x 203 UNIVERSAL COLUMNS



A4
 DRG NO **CEE-**
TMFB-145
 SHT — OF —

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-
1	CLAMPING BRACKET	1	—————	TMFB-138
2	EARTH WIRE CLEAT	1	—————	TMHF-20

AMENDMENTS		
NO	NAME	DATE
1	J v DYK	2000-10-30

REDRAWN. DRG NO WAS CEE-TMF-202. DO REF T95/067



NOTE
WELDING TO CONFORM TO SPEC. B.S. 5135.
FINISH : 3CR12 *BS*
ZINC COAT TO SPEC. SABS 763 FOR CONDITIONS IN SITU.

DIMENSIONS: mm
SCALE: 1:2

DO REF: Y76/43	GEN TOL: LIN± 1	ANG± -
DRN: B v RENSBERG	CKD: W R G	DATE: 78-03-31
ENG: J de VILLIERS	F PIENAAR	for CHIEF ENG

CLAMPING BRACKET
EARTH WIRE CLEAT
CANTILEVER & BOOM STRUCTURES
203 x 203 UNIVERSAL COLUMNS.

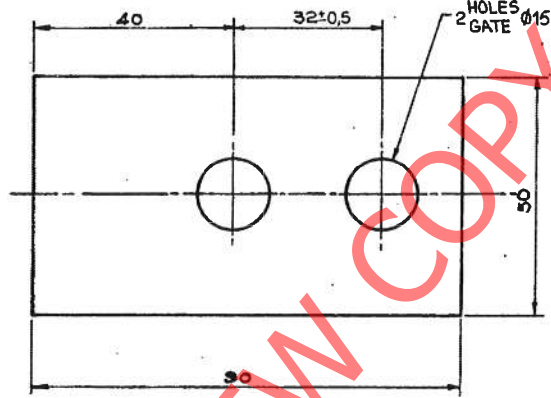


DRG NO **CEE-**
TMFB-168
SHT — OF —

INFRASTRUCTURE
(ELECTRICAL)



ORIGINAL FRAME SIZE
OORSPRONKLIE RAAMGROOTTE 267 x 180



AMENDMENTS WYSIGINGS		
Nb	NAME NAAM	DATE DATUM
7	W.R. I.	18-06-61

REDRAWN. NO DIM. -
CHANGES. TITLE REVISED.
ASSY. NO'S FOR UNIVERSAL
COLUMNS ADDED.
OORGETEKEN. GEEN VER-
ANDERING AAN AFMET.
SAMES. NO'S VIR
UNIVERSELE KOLONNIE
BYGEVOEG.
D.O. REF.
TK-VERW. Y.76/43.

DIMENSIONS: MILLIMETRES.
AFMETINGS: MILLIMEETER

MATERIAL - MATERIAAL
METAL BAR 3CR12A
METALSTAAF
STEEL, FLAT 30x6
STAAL, PLAT
SPEC. CHE 9 SYM. 7.
SPEK.
STORES ITEM NO (M)/12279
MAGASYNITEM

SUPERSEDES
VERVANG ITEM 2 DRG. ENW-E1J-189
TEK.

GENERAL TOLERANCES ALGEMENE TOLERANSIES LIN. ±1		ANG. HOEK.
DRN. GET. F.W.C.	CKD. NGS. G.W.M.	ENG. IR.
D.O. REF. TK. VERW.	DATE DATUM 15-10-62	T.C. BROOK for
CHIEF ELECTRICAL ENGINEER ELEKTROTEGNIËSE HOOFINGENIEUR		SAR. JOHANNESBURG GAS.

CLEAT FOR EARTH WIRE.
CANTILEVERS AND BOOMS.
I-MASTS & UNIVERSAL COLUMNS.
KLEM VIR AARDDRAAD.
VRYDRAERS EN BALKE.
I MASTE EN UNIVERSELE KOLONNIE.

CEE-TMF-202
CEE-TMF-126
ASSY. DRG./SAMES. TEK.
DRAWING. No CEE
TEKENING. No CEE
TMHF 20

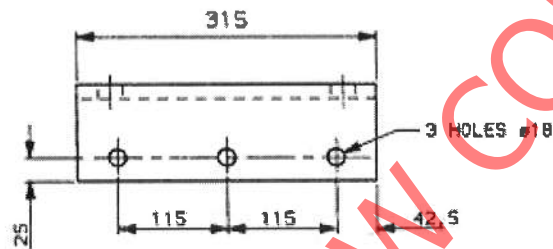
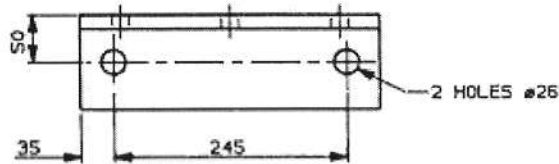
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FINISH: 3CR 12
ZINC COAT TO SPEC SABS 789

AMENDMENTS		
NO	NAME	DATE

STORES ITEM NO

DIMENSIONS: mm
SCALE 1:5

MATERIAL: ITEM NO 11/14570 STEEL ANGLE 100x100x15THK x31SL SPEC CME 9 SYM 8

DO REF T92/002 GEN TOL: LIN 1 ANG 2 -

DRN J VON ABO CKDH v VUUREN DATE 92-03-03

ENG MA SLIER A VERSTEEB for CHIEF ENG

INFRASTRUCTURE (ELECTRICAL) **SPOORNET**

ANCHOR FITTING, CONTACT & CATENARY

UNIVERSAL COLUMNS
STAY WIRE CONSTRUCTION



A4

DRG NO CEE-

TMFB-50

SHT - OF -

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3

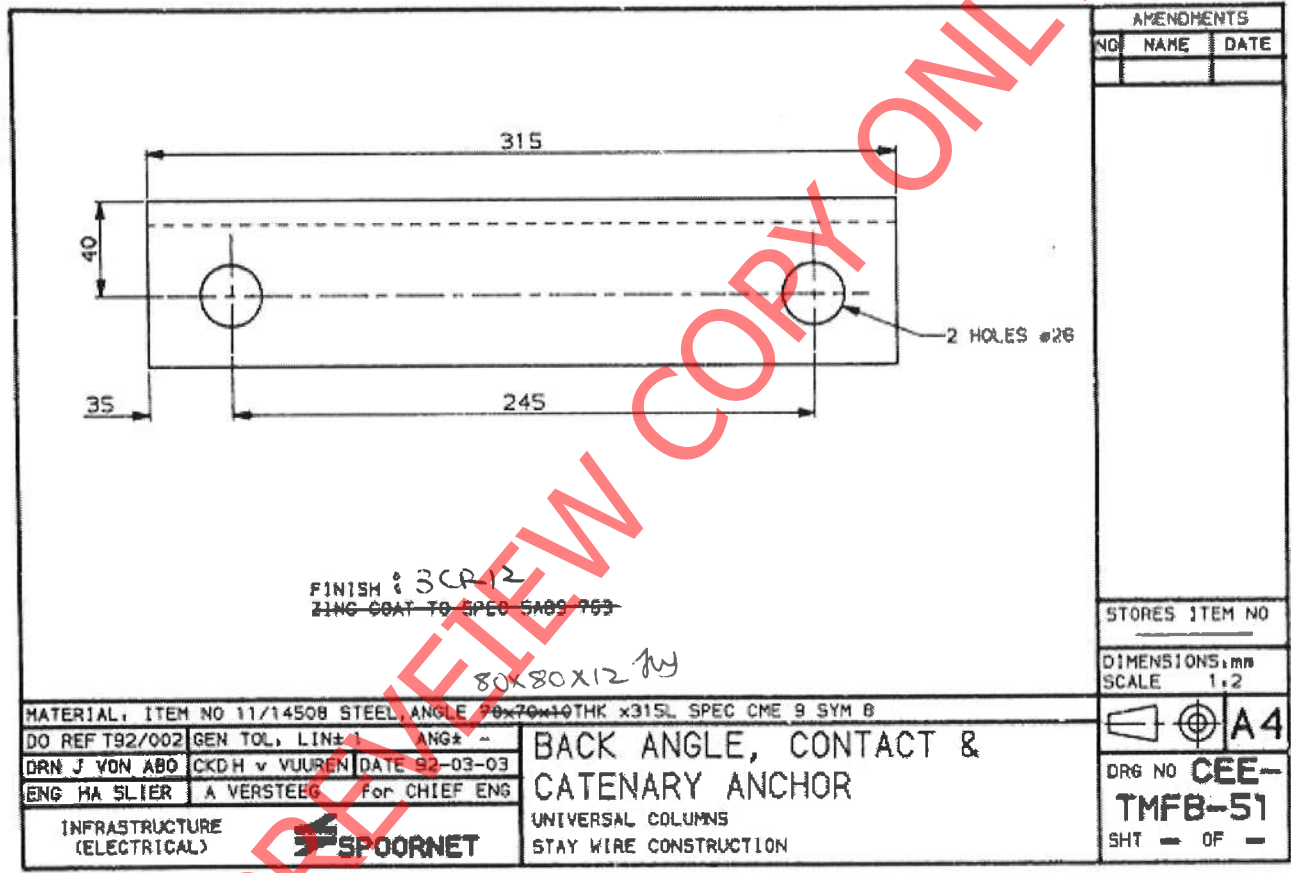
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MASTØ - TRACKØ	DIM"A"	ITEM	DESCRIPTION	QTY		STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
				TB	UC			NO	NAME	DATE
2750	1000	1	CLAMPING BRACKET	-	1		TMFB-38	1	A V	92-08-04
3200	1450	2	CLAMPING BRACKET	1	-		TMHA-39 ITEM 1			
3700	1950	3	STEEL, ANGLE 70x70x6x"A" L SPEC CME 9 SYM B (11/—)	1	1					
		4	GUSSET	1	1		TMFB-66 ITEM 1			
		5	WIRE, STEEL, ROUND Ø8x60L (11/2727)	1	1					

NOTE
WELDING TO CONFORM TO BS 5135

FINISH: *3CR12M*
ZINC COAT TO SPEC SABS P88

DO REF T80/50	GEN TOL, LIN±1	ANG± 2°	ELECTRIFICATION TYPE, 3kV DC FIXED CANTILEVER. STEADY ARM ATTACHMENT WITH LOCKING BRACKET PUSH-PULL-OFF ARRANGEMENTS. 203 x 203 UNIVERSAL COLUMNS AND 1-MASTS.
DRN J. KRÜGER	CKD J. SWIEGERS	DATE 80-06-11	
ENG _____	F. PIENAAR	For CHIEF ENG	

INFRASTRUCTURE (ELECTRICAL)	SPOORNET	
		DRAWING NO CEE- TMFB-67
		SHEET 1 OF 2

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ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
					NO	NAME	DATE
1	CLAMPING BRACKET	1		TMHA-189	1	A V	92-08-04
2	GUSSET	1		TMFB-66 ITEM 1	DRG NO WAS CEE-TMF-364 SHT 2.		
3	WIRE, STEEL, ROUND Ø8x60L (11/2727)	1			ITEM 2 DRG NO WAS CEE-TMHA-182. DO REF T91/037		

NOTE
WELDING TO CONFORM TO BS 5135

FINISH: 3CR12
ZINC COAT TO SPEC SABS 763

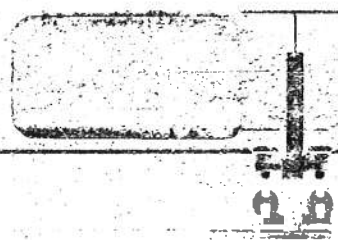
DO REF T2/80/8	GEN TOL: LIN# 1	ANG ± 2°	ELECTRIFICATION TYPE ; 3KV DC FIXED CANTILEVER. STEADY ARM ATTACHMENT WITH LOCKING BRACKET PUSH-PULL-OFF ARRANGEMENTS. RAIL MASTS.
DRN R.KIECK	CKD B.STEWART	DATE 80-09-17	
ENG	F.PIENAAR	for CHIEF ENG	

INFRASTRUCTURE (ELECTRICAL) **SPOORNET**

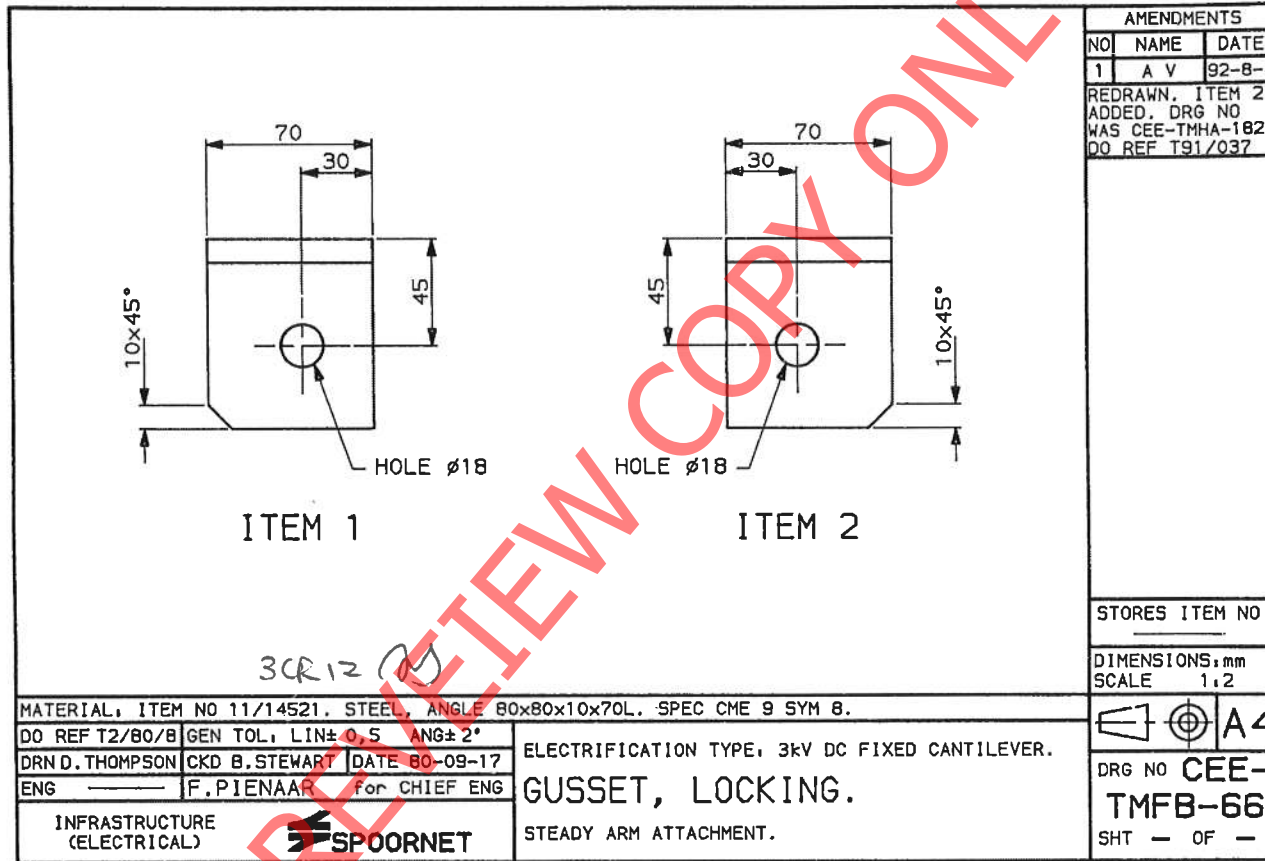
DIMENSIONS: mm
SCALE 1:10, 1:5

A3

DRAWING NO CEE-
TMFB-67
SHEET 2 OF 2



Δ 2 Δ 3 Δ 4 Δ 4 Δ 3 Δ 2



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ITEM	DESCRIPTION	QTY	STORES	ITEM NO.	ORG	NO	CEE-	AMENDMENTS		
1	STEEL ANGLE 80 x 80 x 8 THK x 950 LG (11/14609) OR STEEL ANGLE 3CR12	1						NO	NAME	DATE
2	STEEL PLATE 100 x 80 x 8 THK (11/14609) OR STEEL PLATE 3CR12	1						1	D APPROVED	23-05-17

ITEM 1

ASSEMBLY

NOTE
WELDING TO CONFORM TO BS 5135 OR BE
COMPATIBLE WITH 3CR12.

FINISH: 3CR12 MS
ZINC COAT MILD STEEL TO SPEC. SUBS 763
FOR CONDITIONS IN SPEC.

DD REF: Y77/16	GEN TOL: LWS 1	ANS ± ---
DRN: B GORDON	CKD: J JACKSON	DATE: 23-05-08
ENG: ---	G A WILLIAMS	TO CHIEF ENG

INFRASTRUCTURE (ELECTRICAL)

SPOORNET

STAND-OFF INSULATOR MOUNTING BRACKET

OHTE SWITCH STRUCTURES

DIMENSION: mm	A3
SCALE: 1:2	
DRAWING NO: CEE-	
TMFC-33	
SHEET: - CF -	

Δ 2

Δ 3

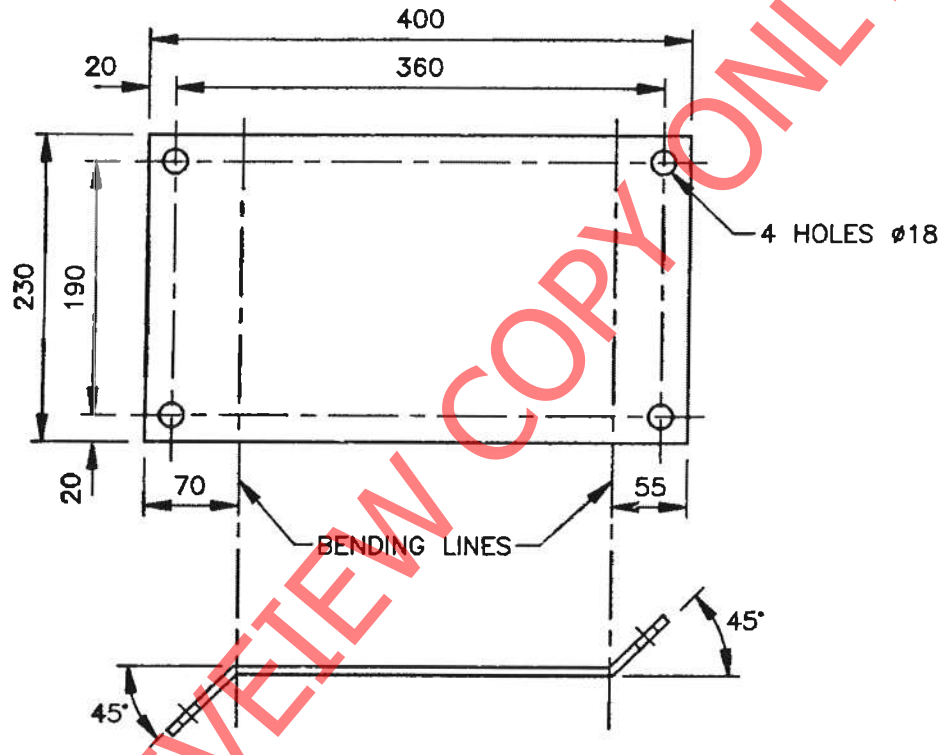
Δ 4

Δ 4

Δ 3

Δ 3

Δ 2



AMENDMENTS		
NO	NAME	DATE
1	L O BORCHARD	95-05-11

REDRAWN, DRG NO. WAS TMHF-75.
3CR12 ADDED.
DO REF T95/003

NOTE
ZINC COAT MILD STEEL TO SPEC SABS 763 FOR CONDITIONS IN SITU

DIMENSIONS: mm
SCALE: 1:5

MATERIAL: ITEM NO 11/ — STEEL, FLAT, 6 THK OR STEEL, FLAT 3CR12

DO REF: Y77/16	GEN TOL: LIN ± 1	ANG ± 1°
DRN: B GORDON	CKD: J JACKSON	DATE: 79-06-06
ENG: —	G A WILLIAMS for CHIEF ENG	

BRACKET, SWITCH MOUNTING

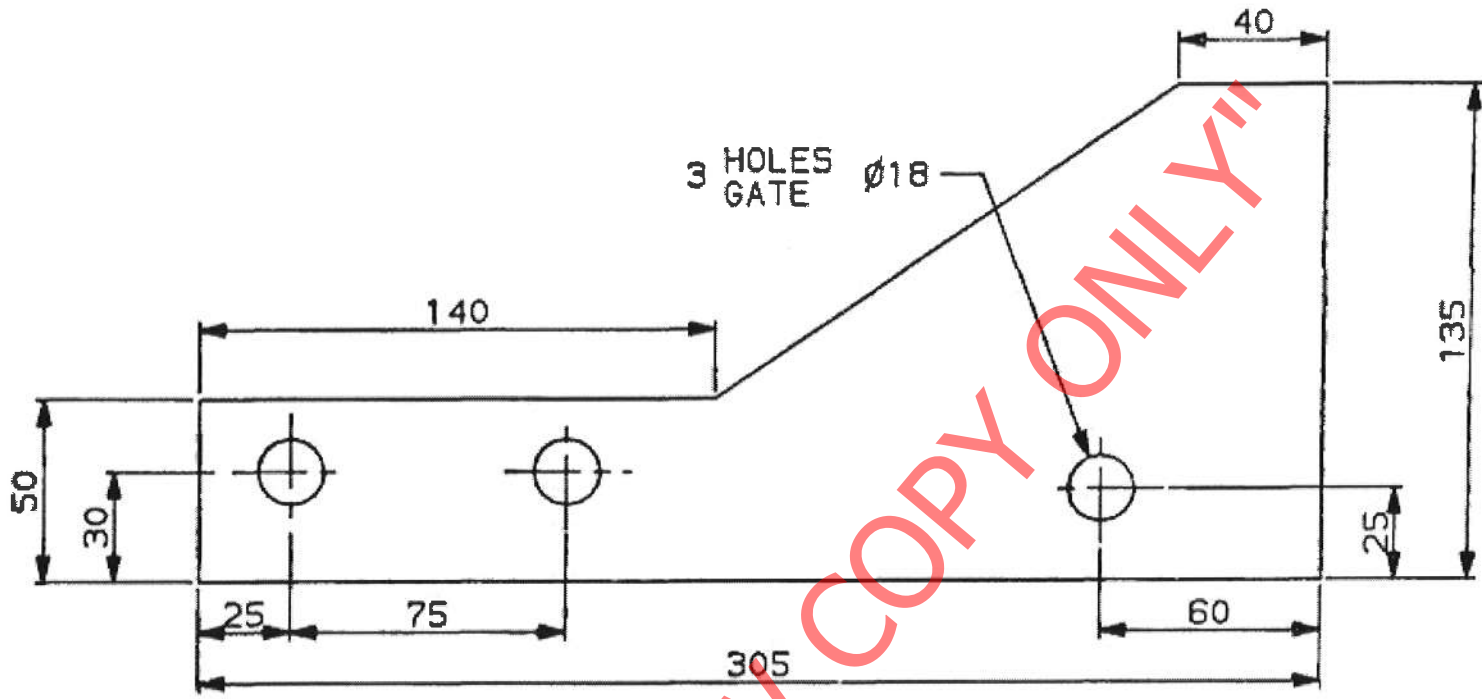
TRACK SWITCH STRUCTURES

INFRASTRUCTURE
(ELECTRICAL)



DRG NO CEE-
TMFC-35
SHT — OF —

T0000773

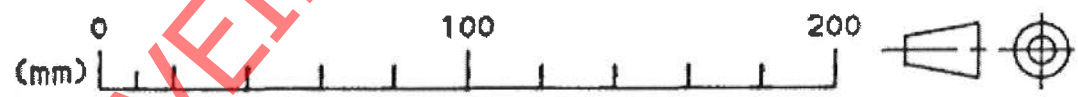


3 HOLES GATE

Ø18

MATERIAL / MATERIAAL
 STEEL FLAT 12 THK
 STAAL, PLAT 12 DIK
 STORES ITEM NO 11 / —
 MAGASYNITEM
 SPEC CME 9 SYM 8
 SPES

FINISH / AFWERKING: SCRIZ. M
~~ZINC COAT TO SPEC SABS 763.~~
~~SINKBEDEK VOLG SPES~~



AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM
1	A. J. V	90-6-16

FRAME REVISED
 RAAM HERSIEN.
 DO REF TK-VERW T90/23

DO REF TK-VERW Y77/S3	GEN TOL: LIN±1 ALG TOL: ANG/HOEK±	DATE DATUM 80-3-28
DRN GET AJ VORSTER	ENG IR	

PUSH-PULL-OFF ADAPTOR
 PLATE FOR HOCKEY STICK.
 TREK-STOOTARMPASSTUK
 VIR KROMSLINGERINGSARM.

STORES ITEM MAGASYNITEM- NO
DRG TEK NO CEE- TN-135
SHEET ___ OF ___ VEL VAN

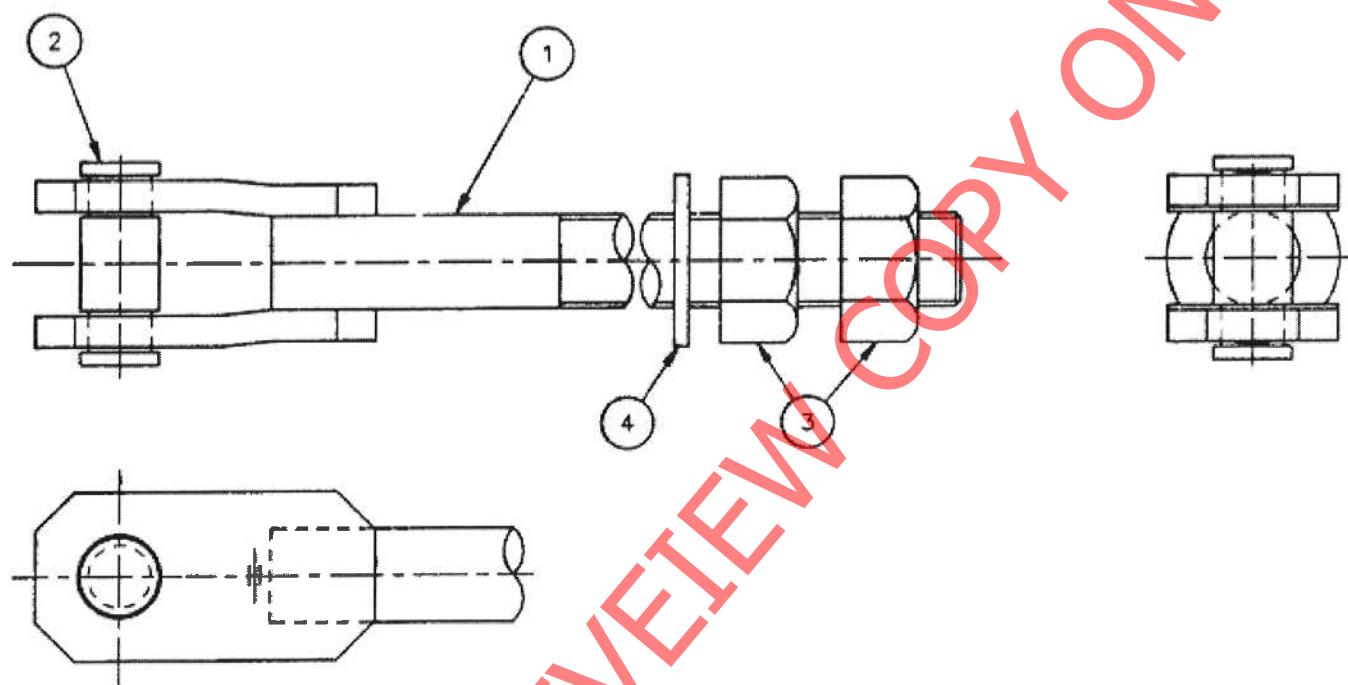
for n.
 CHIEF ENGINEER (POWER SUPPLIES) INFRASTRUCTURE
 HOOFINGENIEUR (KRAGVOORSIENING) INFRASTRUKTUUR






ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE--
1	STAY BOLT	1	_____	TNE-31 SHT 2
2	PIN	1	_____	TNE-31 SHT 3
3	NUT, STEEL, GALV, HEX, M36	2	1/32921	_____
4	WASHER, FLAT, STEEL, GALV, ROUND, M36	1	1/33700	_____

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

REVISED, DRG NO WAS CEE-TMF-332.
DO REF T95/050



STORES ITEM NO	_____
DIMENSION: mm	
SCALE: 1:2	
 	A3
DRAWING NO CEE--	
TNE-31	
SHEET 1 OF 3	

DO REF: T79/20	GEN TOL: LIN± - ANG± -
DRN: B v d WESTH	CKD: J SWIEGERS DATE: 90-07-28
ENG: -	GA WILLIAMS for CHIEF ENG
INFRASTRUCTURE (ELECTRICAL)	 SPOORNET

STAY BOLT ASSEMBLY

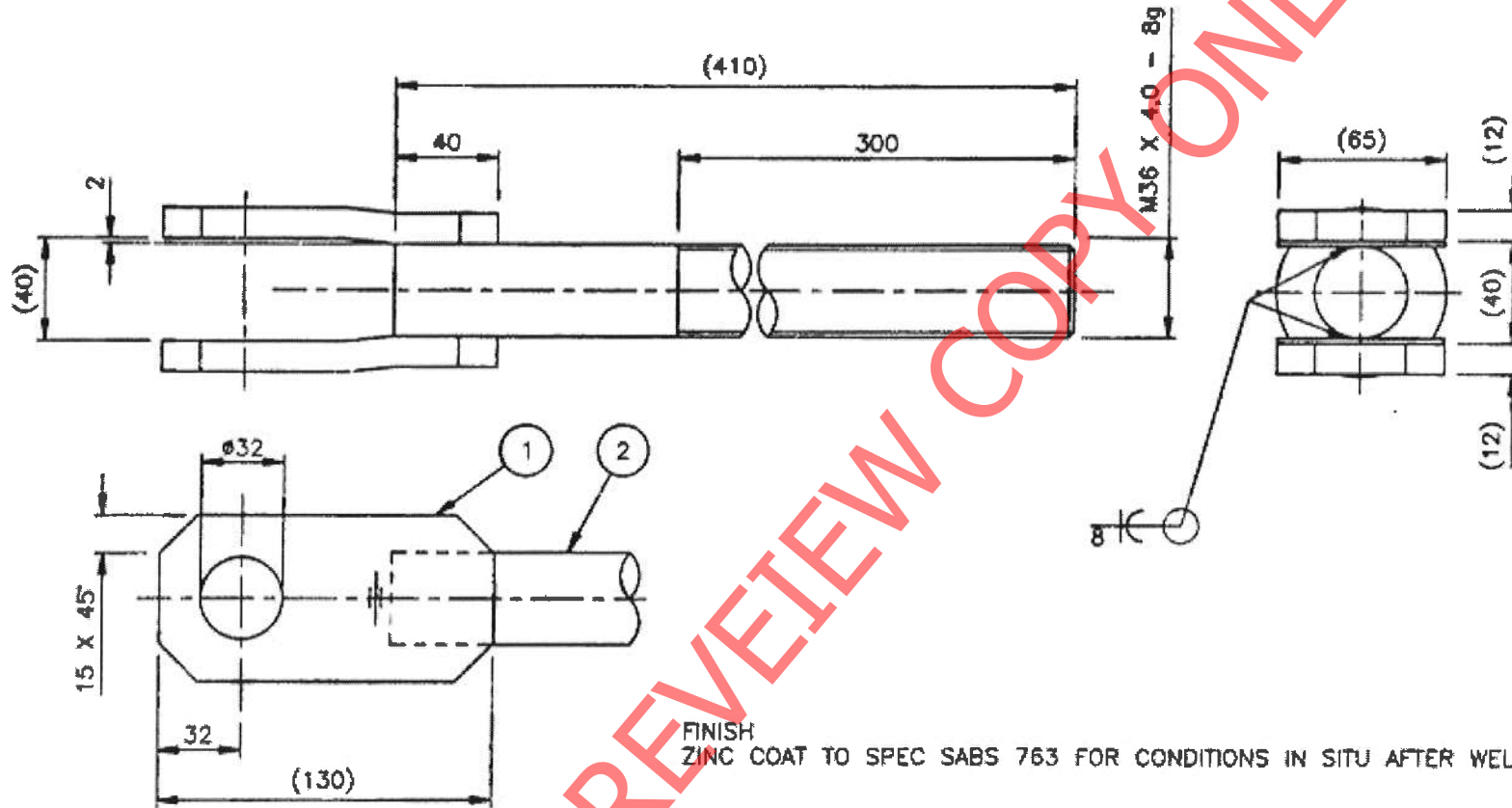
STAY WIRE

T0000935

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-
1	STEEL, FLAT, 65 X 12 THK X 130 LG (11/1961)	2	_____	_____
2	STEEL, ROUND, Ø36 X 410 LG	1	_____	_____

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

REVISED, WAS PART OF
DRG NO CEE-TMF-332.
DO REF T95/050



"PREVIEW COPY ONLY"

DO REF: T79/20	GEN TOL: LIN± 1 ANG± -
DRN: B v d WESTH	CKD: J SWIGERS DATE: 80-07-28
ENG: -	GA WILLIAMS for CHIEF ENG

STAY BOLT
STAY WIRE

INFRASTRUCTURE
(ELECTRICAL)

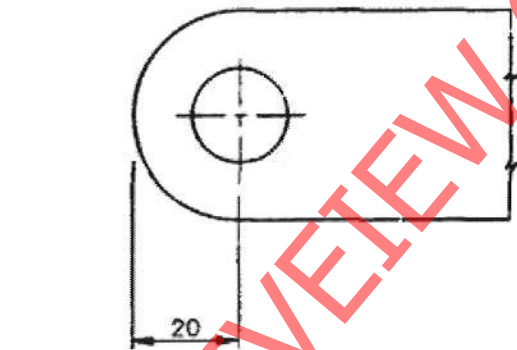
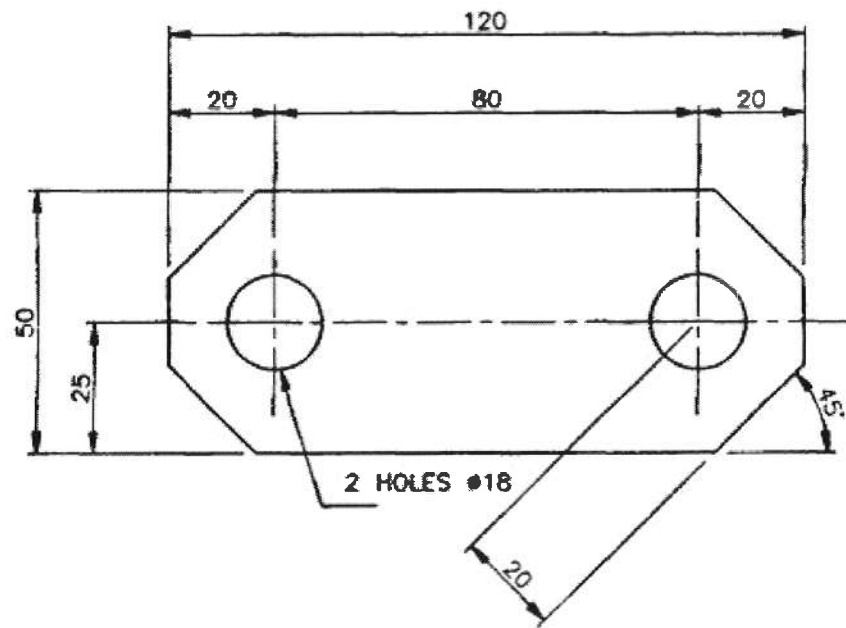


DIMENSION: mm
SCALE: 1:2



DRAWING NO CEE-
TNE-31
SHEET 2 OF 3

T0000936



ALTERNATIVE SHAPE OF ENDS

NOTE: 3CR12
FINISH: ZINC COAT TO SPEC. SABS 763.

AMENDMENTS		
NO	NAME	DATE
1	JVT	95-09-13

REVISED, DRG NO. WAS CEE-TN-369.
DO REF: T95/052

MATERIAL: ITEM NO 11/012279, STEEL, FLAT 6 THK		
DO REF: ---	GFN TOL: LIN± 0.5	ANG± --
DRN: M ELLIS	CKD: H.N.	DATE: 18/3/88
ENG: DH MCCARTHY	W PHILLIPS	for CHIEF ENG
INFRASTRUCTURE (ELECTRICAL)		

ADAPTOR PLATE

STORES ITEM NO. 54/002171
DIMENSIONS: mm SCALE: 1:1
A3
DRAWING NO CEE- TNE-33
SHEET - OF -

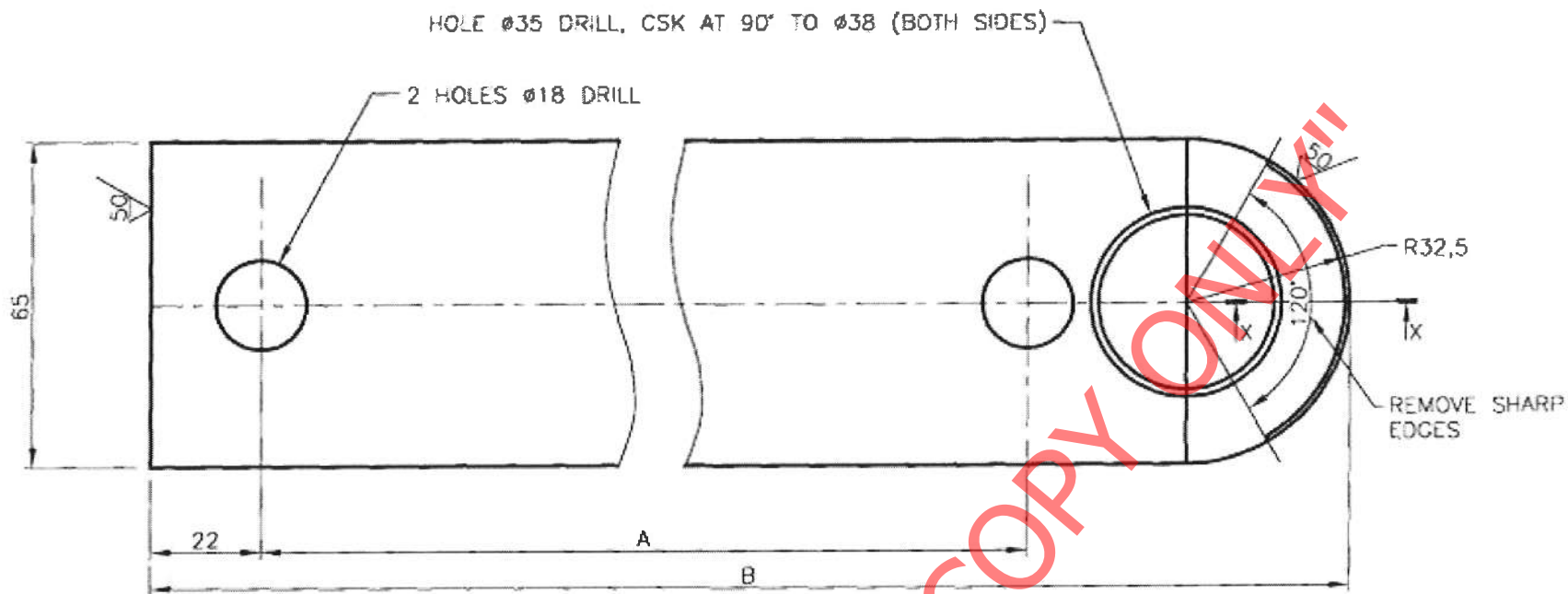
PREVIEW COPY ONLY

T000952

AMENDMENTS

NO	NAME	DATE
1	J v DYK	2000-10-30

REDRAWN. DRG NO WAS
CEE-TMHF-46
DO REF T95/067



BOOM SIZE	DIMENSION A	DIMENSION B	STORES ITEM NO
100 x 50	120	206	54/1609
127 x 64	145	231	54/1610
140 x 60	158	244	_____
152 x 76	170	256	54/1622
180 x 70	198	284	_____



SECTION X-X

FINISH 3CR12
ZINC COAT TO SPEC. SABS 763 FOR CONDITIONS IN SITU

DIMENSIONS: mm
SCALE: 1:1

MATERIAL: ITEM NO 11/12393 STEEL, FLAT 65 x 10 THK

DO REF: J17/68 GEN TOL: LIN ± 0,5 ANG ± 1°
DRN: L NAUDE CKD: E F JURGENSEN DATE: 68-03-13
ENG: D V McCARTHY W PHILLIPS for CHIEF ENG

INFRASTRUCTURE
(ELECTRICAL)



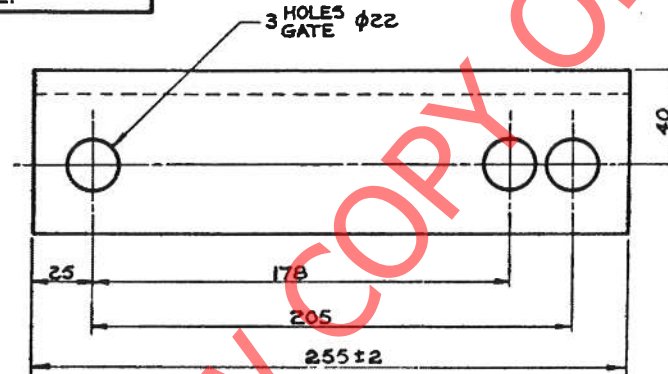
ADAPTER PLATE FOR BOOMS CATENARY SUSPENSION

A3

DRAWING NO CEE-
TNE-35

SHEET — OF —

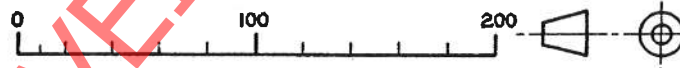
ORIGINAL FRAME SIZE.
OORSPRONKLIKE RAAMGROOTTE. 267 x 180.



DIMENSIONS: MILLIMETRES.
AFMETINGS: MILLIMETER.

MATERIAL - MATERIAAL:
STEEL, ANGLE 70 x 70 x 10.
STAAL, HOEK
SPEC. CME 9 SYM. 8.
SPES. CME 9 SIM. 8.
STORES ITEM NO. (M) 11/14508.
MAGASYNITEM

FINISH : ITEM 1: NOT ZINC COATED. 3CR12/8Y
AFWERKING: NIE SINKBEDEK NIE.
ITEM 2: ZINC COAT TO SPEC. SABS 783.
SINKBEDEK VOLG. SPES.



AMENDMENTS.
WYSIGINGS.

NO.	NAME. NAAM.	DATE. DATUM.
10	WRG.	78-12-05

TITLE CHANGED.
ASSY. DRG. No. CEE -
TMG-47 REMOVED.
TITEL VERANDER
SAMESTELTEK. No. CEE -
TMG-47 VERWYDER.
D.O. REF. Y78/113
T.K. VERW.

11	WRG.	79-06-13
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FINISH REVISED AND
ASSY. DRG. NO. ADDED.
AFWERKING HERSIEN
EN SAMESTEK. NO. BY -
GEVOEG.
D.O. REF. T79/21.
TK. VERW.

CEE-TMF-126, 152, 330.
CEE-TMF-85, 113, 122, 124
CEE-TMG-49, 51
CEE-TMG-39, 40
ASSY. DRG./SAMEST-TEK

DRAWING NO. CEE
TEKENING

TMHA-39.

DRN. F.W.C. GEN. TOLERANCES: LIN. ±1.
OET. F.W.C. ALG. TOLERANSIES: ANG./HOEK —

TRCD. P. Hutchison D.O. REF. ENG. J.P.
NGT. TK. VERW. IR.

CKD. J.F.S. DATE. 63 06 03 T.C. Brook.
NGS. DATUM

CHIEF ELECTRICAL ENGINEER, 5th FLOOR, 5th FLOOR, JOHANNESBURG
ELEKTRIESE HOOFINGENIEUR, 5th FLOOR, JOHANNESBURG

CLAMPING BRACKET: DOUBLE BOOM
& CANTILEVERS.

I MASTS 203 X 152 & 229 X 178 I MASTE.

KLAMPSTEUN: DUBBELBALK
EN VRYDRAERS.

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A4.

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