

BECO, INC.

HOT TOP DESIGN SHEET

STEEL MILL PRODUCTS DIVISION

SIGN NO.

BOARD CONTOUR

REVISION

DATE

DESIGN BY

699-3232-4P

CAMA

T

3-11-77 D.H.

CUSTOMER U.S. STEEL - FAIRLESS WKS.

LOCATION: FAIRLESS HILLS, PA.

LD (SIZE, TYPE, PRINT NO. 32 x 32 x 89 B.E.U.

FLAT-CORE

1202

LD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

STEEL DENSITY @ 0.256

4 CU. IN.

P CROSS SECTION 32 1/4 IN. X 32 1/4

IN. WITH 3 3/8 IN. CORNER RADIUS

P AREA 1002 - 257 LBS/IN.

TOTAL MOLD VOLUME 64712 IN³

T TOP HT. 20 1/8 RING & BOARDS IN.

DISPLACED BY HOT TOP 0 IN³

INSERTED 0 IN. INTO MOLD

INGOT BODY 64712 IN³ 16566 LBS.

URED 16 3/4 IN. INTO HOT TOP

HOT TOP VOLUME 9463 IN³ 2473 LBS.

ED AREA 611 - 61.07%

GROSS INGOT 74175 IN³ 18989 LBS.

GOT BODY HEIGHT 74 IN.

HOT TOP VOL 12.7 %GROSS INGOT 9.5 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP 03-600

DES 23 3/4 - 25 3/8 LONG x 18 3/4 HIGH x 15 THICK x 411 IN.³ 11.6 LBS. EA. 4 REQ'DS LONG x HIGH x THICK x IN.³ LBS. EA. REQ'

CORNER POST DESIGNATION MARK LBS. EA. REQ'

E PIECE x x HIGH x THICK - IN.³MATERIAL/DENSITY EP-6143 B @ .0282 LBS/IN³ 46.4 LBS.@ LBS/IN³ LBS.

-46.4 LBS. TOTAL

MOUNTING EQUIPMENT:

ATTACHED:

1.	NONE	@\$	EA.
2.		@\$	EA.
3.		@\$	EA.
4.		@\$	EA.

PURCHASED SEPARATELY:

1.	699-3232-PR RING	@\$	EA.
2.		@\$	EA.
3.		@\$	EA.
4.		@\$	EA.
5.	FRX-107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1.75 THICK LAYER		

DIVISION DETAILS:

WHAT CHANGED? EP-6143.B WAS EP-5672 P

PRICE

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002869

PLAINTIFF'S
EXHIBIT

FOS-835

ISCO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION

SIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY
 699-3232-4P CAMB S 1-29-75 0.4

STOMER U.S. STEEL - FAIRLESS WKS. LOCATION: FAIRLESS HILLS, PA

LD (SIZE, TYPE, PRINT NO. 32 x 32 x 89 B.E.U. FLDT-CORE 1202

LD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

P CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS
 P AREA 1002 - 257 LBS/IN. TOTAL MOLD VOLUME 64712 IN³
 T TOP HT. 20 1/8 RING & BOREDS IN. DISPLACED BY HOT TOP 0 IN³
 0 IN. INTO MOLD INGOT BODY 64712 IN³ 16566 LBS.
 16 3/4 IN. INTO HOT TOP HOT TOP VOLUME 9463 IN³ 2473 LBS.
 LD AREA 611 - 61.0 % GROSS INGOT 79175 IN³ 18989 LBS.
 GOT BODY HEIGHT 74 IN. HOT TOP VOL 12.7 % GROSS INGOT 9.5 TONS

TERIAL CALCULATIONS:

TYPE OF HOT TOP 03-600

DES 23 3/32 - 25 3/8 LONG x 18 3/4 HIGH x 15/16 THICK x 411 IN.³ 12.1 LBS. EA. 4 REQ

DS LONG x HIGH x THICK x IN.³ LBS. EA. REQ

RNER POST DESIGNATION MARK LBS. EA. REQ

E PIECE x x x HIGH x THICK- IN.

TERIAL/DENSITY EP-5672P @ .0295 LBS/IN³ 48.4 LBS.
 @ LBS/IN³ LBS.
 48.4 LBS. TOT

UNTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.
 5. FRX-107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1.75 THICK LAYER

VISION DETAILS:

WHAT CHANGED? EP-5672P WAS EP-5672

PRICE

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002870

2543

ISECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION

DESIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY

699-3232-4P CAMB. R 11-18-74 D.H.

CUSTOMER U.S. STEEL - FAIRLESS WKS. LOCATION: FAIRLESS HILLS, PA.

OLD (SIZE, TYPE, PRINT NO. 32 x 32 x 89 B.E.U. FLAT-CORE 1202

OLD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

TOP CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS

TOP AREA 1002 - 257 LBS/IN. TOTAL MOLD VOLUME 64712 IN³

HOT TOP HT. 20 1/8 RING & BOARDS IN. DISPLACED BY HOT TOP 0 IN³

INSERTED 0 IN. INTO MOLD INGOT BODY 64712 IN³ 16566 LBS.

CURED 16 3/4 IN. INTO HOT TOP HOT TOP VOLUME 9463 IN³ 2473 LBS.

FEED AREA 611 - 61.07% GROSS INGOT 74175 IN³ 18989 LBS.

INGOT BODY HEIGHT 74 IN. HOT TOP VOL 12.7 TONS GROSS INGOT 9.5 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP 03-600

SIZES 23 7/32 - 25 3/8 LONG x 18 3/4 HIGH x 15 THICK x 411 IN.³ 12.1 LBS. EA. 4 RE

ENDS LONG x HIGH x THICK x IN.³ LBS. EA. RE

CORNER POST DESIGNATION MARK LBS. EA. RE

ONE PIECE x x HIGH x THICK- 11

MATERIAL/DENSITY EP-5672 @ .0295 LBS/IN³ - 48.4 LBS.

@ LBS/IN³ - LBS.

48.4 LBS. TO

COUNTING EQUIPMENT:

1. ATTACHED:

1. NONE @\$ EA
2. @\$ EA
3. @\$ EA
4. @\$ EA

2. PURCHASED SEPARATELY:

1. 699-3232-PR RING @\$ EA
2. @\$ EA
3. @\$ EA
4. @\$ EA
5. FRX-107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1.75 THICK LAYER

REVISION DETAILS:

WHAT CHANGED? 23 7/32, 18 3/4, & 3 3/8 WERE 23 3/8, 17 3/8 & 2

PRICE

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002871

2544

OSECO, INC.

HOT TOP DESIGN SHEET

STEEL MILL PRODUCTS DIVISION

DESIGN NO.

BOARD CONTOUR

REVISION

DATE

DESIGN BY

699-3232-4P

CAMB

Q

7-30-74

D.Y.

CUSTOMER U.S. STEEL - FAIRLESS WKS.

LOCATION: FAIRLESS HILLS, PA.

MOLD (SIZE, TYPE, PRINT NO.) 32 x 32 x 89 B.E.U. FLAT-CORR 1202

MOLD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

MOLD TOP CROSS SECTION $32 \frac{1}{4}$ IN. X $32 \frac{1}{4}$ IN. WITH $3 \frac{3}{8}$ IN. CORNER RADIUS
 MOLD TOP AREA 1002 - 257 LBS/IN. TOTAL MOLD VOLUME 64712 IN³
 MOLD TOP HT. RING + BOARDS 18 $\frac{3}{4}$ IN. DISPLACED BY HOT TOP 0 IN³
 INSERTED 0 IN. INTO MOLD INGOT BODY 64712 IN³ 16566 LBS.
 MOLDED 15 $\frac{3}{4}$ IN. INTO HOT TOP HOT TOP VOLUME 8940 IN³ 2289 LBS.
 MOLD AREA 611 - 61.0 % GROSS INGOT 73652 IN³ 18855 LBS.
 INGOT BODY HEIGHT 74 IN. HOT TOP VOL 12.1 ZGROSS INGOT 9.4 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP 03-600

SIZES $23 \frac{3}{8} \times 25 \frac{3}{8}$ LONG x $17 \frac{3}{8}$ HIGH x $15 \frac{1}{16}$ THICK x 389 IN.³ 11.5 LBS. EA. 4 REQ
 SIZES LONG x HIGH x THICK IN.³ LBS. EA. REQ

CORNER POST DESIGNATION MARK LBS. EA. REQ

ONE PIECE x x x HIGH x THICK IN.

MATERIAL/DENSITY EP-5672 @ 0.0295 LBS/IN³ - 46.0 LBS.
 @ LBS/IN³ LBS. TOTAL

COUNTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.
 5. FRX. 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG $1 \frac{3}{4}$ " THICK LAYER

REVISION DETAILS:

WHAT CHANGED? EP-5672 WAS EP-5465A

RICE

BY DATE

ADDITIONAL REMARKS:

FDS-00-0000002872

2545

FOSECO, INC.

HOT TOP DESIGN SHEET

STEEL MILL PRODUCTS DIVIS

DESIGN NO.

BOARD CONTOUR

REVISION

DATE

DESIGN BY

699-3232-4P

CAMB.

P

1-8-79

D.Y.

CUSTOMER U.S. STEEL - FAIRLESS WKS.

LOCATION: FAIRLESS HILLS, PA

MOLD (SIZE, TYPE, PRINT NO.) 32 x 32 x 89 B.E.U. FLAT-CORE

1202

MOLD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

TOP CROSS SECTION 32 1/4

IN. x 32 1/4

STEEL DENSITY @ 0.256

CU.

IN. WITH 3 3/8

IN. CORNER RAD

TOP AREA 1002 - 257 LBS/IN.

TOTAL MOLD VOLUME 64712 IN³

HOT TOP HT. RING + BOARDS 18 3/4 IN.

DISPLACED BY HOT TOP 0 IN³

INSERTED 0 IN. INTO MOLD

INGOT BODY 64712 IN³ 16566 LB

POURED 15 3/4 IN. INTO HOT TOP

HOT TOP VOLUME 8940 IN³ 2289 LB

FEED AREA 611 - 61.0%

GROSS INGOT 73652 IN³ 18855 LB

INGOT BODY HEIGHT 74 IN.

HOT TOP VOL 12.1 LGROSS INGOT 9.4 LB

MATERIAL CALCULATIONS:

TYPE OF HOT TOP

03-600

SIDES 23 3/8 - 25 3/8 LONG x 17 3/8

HIGH x 15/16

THICK x 389 IN. 12.4 LBS. EA. 4

ENDS LONG x

HIGH x 1

THICK x IN. 3 LBS. EA.

CORNER POST DESIGNATION

MARK

LBS. EA.

ONE PIECE

x

x

x HIGH x

THICK-

MATERIAL/DENSITY

EP-5465A

@

0.032

LBS/IN³

49.6

LBS.

@

LBS/IN³

49.6

LBS.

LBS.

MOUNTING EQUIPMENT:

A. ATTACHED:

1. NONE

@ \$

2.

@ \$

3.

@ \$

4.

@ \$

B. PURCHASED SEPARATELY:

1. 699-3232-PR RING

@ \$

2.

@ \$

3.

@ \$

4.

@ \$

5. FRX. 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 3/4" TH

LAY

REVISION DETAILS:

WHAT CHANGED?

EP-5465A WAS EP-5465

PRICE

BY

DATE

ADDITIONAL REMARKS:

FOS-00-0000002873

2546

ECO, INC.

HOT TOP DESIGN SHEET

STEEL MILL PRODUCTS DIVISION

IGN NO.

BOARD CONTOUR

REVISION

DATE

DESIGN BY

699-3232-4P

C.A.M.B.

N

11.8.73.

GF

CUSTOMER U.S. STEEL - FAIRLESS WKS.

LOCATION: FAIRLESS HILLS, PA.

D (SIZE, TYPE, PRINT NO. 32x32x89 B.E.U. - FLAT-CORR. 1202

D, HOT TOP- WEIGHT & VOL. CALCULATIONS:

STEEL DENSITY @ 0.256 # CU. IN.

CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS

AREA 1002 - 257 LBS/IN.

TOTAL MOLD VOLUME 64712 IN³

TOP HT. 18 3/4 RING + CORNERS IN.

DISPLACED BY HOT TOP 0 IN³

VERTED 0 IN. INTO MOLD

INGOT BODY 64712 IN³ 16566 LBS.

RED 15 3/4 IN. INTO HOT TOP

HOT TOP VOLUME 8940 IN³ 2289 LBS.

D AREA 611 - 61.0%

GROSS INGOT 73652 IN³ 18855 LBS.

HOT BODY HEIGHT 74 IN.

HOT TOP VOL 12.1 ZGROSS INGOT 9.4 TONS

SERIAL CALCULATIONS:

TYPE OF HOT TOP 03-600

DES 23 3/4 - 25 3/4 LONGx 17 3/8 HIGHx 15 1/8 THICKx 389 IN.³ 12.4 LBS.EA. 4 REQDS LONGx HIGHx THICKx IN.³ LBS.EA. REQ

CORNER POST DESIGNATION MARK LBS. EA. REQ

E PIECE x x HIGH x THICK- IN.³MATERIAL/DENSITY EP.5465 @ 0.032 LBS/IN³ 49.6 LBS.@ LBS/IN³ LBS.

49.6 LBS. TOTAL

MOUNTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.
5. FRX.107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 3/4" THICK LAYER

VISION DETAILS:

HAT CHANGED? REVISED NUMBER, SHAPE & LOCATION OF STRIPPING GROOVES.

ICE

BY

DATE

ADDITIONAL REMARKS:

FOS-00-0000002874

2547

ECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION
SIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY
699-3232-4P C.A.M.B. M 10-23-73 D.M.

CUSTOMER U.S. STEEL - FAIRLESS WORKS LOCATION: FAIRLESS HILLS, PA.
D (SIZE, TYPE, PRINT NO. 32 X 32 X 89 B.E.U. FLAT CORR 1202

D, HOT TOP- WEIGHT & VOL. CALCULATIONS: STEEL DENSITY @ 0.256 # CU. IN.
CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS
AREA 1002 - 257 LBS/IN. TOTAL MOLD VOLUME 64712 IN³
TOP HT. 18 3/4 RING & BOARD IN. DISPLACED BY HOT TOP 0 IN³
VERTED 0 IN. INTO MOLD INGOT BODY 64712 IN³ 16566 LBS.
RED 15 3/4 IN. INTO HOT TOP HOT TOP VOLUME 8940 IN³ 2289 LBS.
ID AREA 611 = 61.0 % GROSS INGOT 73652 IN³ 18855 LBS.
HOT BODY HEIGHT 74 IN. HOT TOP VOL 12.1 ZGROSS INGOT 9.4 TONS

FERIAL CALCULATIONS: TYPE OF HOT TOP 03-600
DES 23 3/8 - 25 3/8 LONG x 17 3/8 HIGH x 15/16 THICK x 389 IN.³ 12.1 LBS. EA. 4 REQ
DS LONG x HIGH x THICK x IN.³ LBS. EA. REQ
UNDER POST DESIGNATION MARK LBS. EA. REQ
E PIECE x x x HIGH x THICK - IN.
TERIAL/DENSITY EP-5465 @ .031 LBS/IN³ - 48.4 LBS.
@ LBS/IN³ - LBS.
48.4 LBS. TOTAL

INTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.
5. FRX 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 3/4 THICK LAYER

VISION DETAILS:

AT CHANGED? EP-5465 WAS EP-5453A

ICE

BY DATE

DITIONAL REMARKS:

F05-00-0000002875

2548

ECO, INC.

HOT TOP DESIGN SHEET

STEEL MILL PRODUCTS DIVISION

SIGN NO.

BOARD CONTOUR

REVISION

DATE

DESIGN BY

699-3232-4P

C.A.M.B.

L

8-30-73

D.H.

CUSTOMER U.S. STEEL - FAIRLESS WORKS

LOCATION: FAIRLESS HILLS, PA.

D (SIZE, TYPE, PRINT NO. 32 x 32 x 89 B.E.U. FLAT. CORR.

1202

HOT TOP - WEIGHT & VOL. CALCULATIONS:

STEEL DENSITY @ 0.256 # CU. IN.

CROSS SECTION 32 1/4 IN. x 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS

AREA 1002 - 257 LBS/IN.

TOTAL MOLD VOLUME 64712 IN³

TOP HT. 18 3/4 RING & BOARD IN.

DISPLACED BY HOT TOP 0 IN³

INSERTED 0 IN. INTO MOLD

INGOT BODY 64712 IN³ 16566 LBS.

JRED 15 3/4 IN. INTO HOT TOP

HOT TOP VOLUME 8940 IN³ 2259 LBS.

ED AREA 611 = 61.0 %

GROSS INGOT 73652 IN³ 18855 LBS.

GOT BODY HEIGHT 74 IN.

HOT TOP VOL 12.1 ZGROSS INGOT 9.4 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP S 03-600

DES 23 3/8 - 25 3/8 LONG x 17 3/8 HIGH x 15 THICK x 389 IN.³ 11.7 LBS. EA. 4 RECDS LONG x HIGH x THICK x IN.³ LBS. EA. REC

CORNER POST DESIGNATION MARK LBS. EA. REC

E PIECE x x HIGH x THICK IN.

MATERIAL/DENSITY EP-5453A @ .030 LBS/IN³ 46.8 LBS.@ LBS/IN³ LBS.

46.8 LBS. TOT.

MOUNTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
 2. @ \$ EA.
 3. @ \$ EA.
 4. @ \$ EA.
 5. FRX 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 3/4 THICK LAYER

DIVISION DETAILS:

MATERIAL CHANGED? EP-5453A WAS EP-5297

PRICE

BY

DATE

ADDITIONAL REMARKS:

FOS-00-0000002876

2549

ECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION
SIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY

699-3232-4P CAMB. K 7-19-73 GF

CUSTOMER U.S. STEEL - FAIRLESS WORKS LOCATION: FAIRLESS HILLS, PA.

D (SIZE, TYPE, PRINT NO. 32 x 32 x 89 B.E.U. FLAT CORR 1202

D, HOT TOP- WEIGHT & VOL. CALCULATIONS: STEEL DENSITY @ 0.256 # CU. IN.
P CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS
P AREA 1002 - 257 LBS/IN. TOTAL MOLD VOLUME 64712 IN³
I TOP HT. 18 3/4 RING & BOARD IN. DISPLACED BY HOT TOP 0 IN³
SERTED 0 IN. INTO MOLD INGOT BODY 64712 IN³ 16566 LBS.
JRED 15 3/4 IN. INTO HOT TOP HOT TOP VOLUME 8940 IN³ 2289 LBS.
ED AREA 611 = 61.0 % GROSS INGOT 73652 IN³ 18855 LBS.
GOT BODY HEIGHT 74 IN. HOT TOP VOL 12.1 % GROSS INGOT 9.4 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP S 03-600

DES 23 3/8 - 25 3/8 LONG x 17 3/8 HIGH x 15/16 THICK x 389 IN.³ 12.4 LBS. EA. 4 REQ

DS LONG x HIGH x THICK x IN.³ LBS. EA. REQ

CORNER POST DESIGNATION MARK LBS. EA. REQ

E PIECE x x HIGH x THICK- IN.³

MATERIAL/DENSITY EP-5297 @ 0.0320 LBS/IN³ 49.6 LBS.
@ LBS/IN³ LBS.
49.6 LBS. TOTAL

UNITING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.
5. FRX 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 3/4 THICK LAYER

DIVISION DETAILS:

HAT CHANGED? EP-5297 WAS EP-5290

RICE

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002677

2550

OSCO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION
DESIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY

699-3232-4P CAMB J. 5.17.73 GF

CUSTOMER U.S. STEEL - FAIRLESS WORKS LOCATION: FAIRLESS HILLS, PA.

OLD (SIZE, TYPE, PRINT NO.) 32 X 32 X 89 B.E.U. FLAT CORE 120Z

OLD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

OP CROSS SECTION 32 1/4 IN. X 32 1/4 IN. WITH 3 3/8 IN. CORNER RADIUS
OP AREA 1002 - 357 LBS/IN. TOTAL MOLD VOLUME 64712 IN³
HOT TOP HT. 15 3/4 LONG BOARD IN. DISPLACED BY HOT TOP 0 IN³
INSERTED 0 IN. INTO MOLD INGOT BODY 14712 IN³ 16566 LBS.
POURED 15 3/4 IN. INTO HOT TOP HOT TOP VOLUME 8940 IN³ 3389 LBS.
POURED AREA 611 = 61.0% GROSS INGOT 73652 IN³ 18855 LBS.
INGOT BODY HEIGHT 74 IN. HOT TOP VOL 12.1 %GROSS INGOT 9.4 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP 5 03-600

SIDES 2 3/4 - 15 3/8 LONG X 17 7/8 HIGH X 15/16 THICK X 389 IN.³ 9.8 LBS. EA. 4 REQ

ENDS LONG X HIGH X THICK X IN.³ LBS. EA. REQ

CORNER POST DESIGNATION MARK LBS. EA. REQ

ONE PIECE X X X HIGH X THICK X IN.

MATERIAL/DENSITY EP 5290 @ 0.025 LBS/IN³ 39.2 LBS.
@ LBS/IN³ LBS.
39.2 LBS. TOT

COUNTING EQUIPMENT:

ATTACHED:

1. NONE @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.

PURCHASED SEPARATELY:

1. 699-3232-PR RING @ \$ EA.
2. @ \$ EA.
3. @ \$ EA.
4. @ \$ EA.
5. FRK 107 TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 3/4 THICK LAYER

REVISION DETAILS:

WHAT CHANGED? EP 5290 WAS EP 5273

PRICE

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002878

2551

ROSECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION

DESIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY

699-3232-4P CAMB. 14 3.6.73 GP

CUSTOMER U.S. STEEL - FAIRLESS WKS. LOCATION: Fairless Hills, PA.

MOLD (SIZE, TYPE, PRINT NO. 32x22x89 B.E.U. FLAT-CORR. 120Z

(4.9.70).

MOLD, HOT TOP- WEIGHT & VOL. CALCULATIONS:

STEEL DENSITY @ 0.256 # CU. I

TOP CROSS SECTION 32 1/2 IN. X 32 1/4 IN. WITH 3 3/4 IN. CORNER RADIUS

TOP AREA 1002 - 257 LBS/IN.

TOTAL MOLD VOLUME 64712 IN³

HOT TOP HT. 18 3/4 RING-BOARD IN.

DISPLACED BY HOT TOP 0 IN³

INSERTED 0 IN. INTO MOLD

INGOT BODY 64712 IN³ 16566 LBS

POURED 15 1/4 IN. INTO HOT TOP

HOT TOP VOLUME 8940 IN³ 2289 LBS

FEED AREA 611 = 61.0%

GROSS INGOT 73652 IN³ 18855 LBS

INGOT BODY HEIGHT 74 IN.

HOT TOP VOL 12.1 %GROSS INGOT 9.4 TONS

MATERIAL CALCULATIONS:

TYPE OF HOT TOP S 03-600

SIDES 23 3/8-25 3/8 LONGx 17 3/8 HIGHx 15 1/4 THICKx 389 IN.³ 12.0 LBS.EA. 4 REENDS LONGx HIGHx THICKx IN.³ LBS.EA. RE

CORNER POST DESIGNATION MARK LBS. EA. RE

ONE PIECE x x x HIGH x THICK- IN

MATERIAL/DENSITY EP.5273 @ 0.0308 LBS/IN³- 48.0 LBS.@ LBS/IN³- LBS.

48.0 LBS. TOT

MOUNTING EQUIPMENT:

A. ATTACHED:

1.	NONE	@\$	EA.
2.		@\$	EA.
3.		@\$	EA.
4.		@\$	EA.

B. PURCHASED SEPARATELY:

1.	699-3232-PR	RING	@\$	EA.
2.			@\$	EA.
3.			@\$	EA.
4.			@\$	EA.
5.	FRX.107	TOPPING COMPOUND 25 LBS. REQ'D IN 25 LB. BAG 1 1/4 THICK LAYER		

REVISION DETAILS:

WHAT CHANGED? EP.5273 WAS PROBAB 31

PRICE \$7.23 per lb.
GP 4.10.73.

BY DATE

ADDITIONAL REMARKS:

FOS-00-0000002879

2552

OSECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION

DESIGN NO. 699-3232-PR BOARD CONTOUR RING REVISION R DATE 4-25-80. DESIGN BY GF.

CUSTOMER U.S. STEEL - FAIRLESS WORKS LOCATION: FAIRLESS HILLS PA.

OLD (SIZE, TYPE, PRINT NO.) 32x32x89 B.E.U. FLAT-CORR. 120.2

OLD, HOT TOP- WEIGHT & VOL. CALCULATIONS: STEEL DENSITY @ 48 CU. IN.
 OP CROSS SECTION IN. X IN. WITH IN. CORNER RADIUS
 OP AREA LBS/IN. TOTAL MOLD VOLUME IN³
 OT TOP HT. IN. DISPLACED BY HOT TOP IN³
 NSERTED N/A. IN. INTO MOLD INGOT BODY IN³ LBS.
 OURED IN. INTO HOT TOP HOT TOP VOLUME IN³ LBS.
 EED AREA GROSS INGOT IN³ LBS.
 NGOT BODY HEIGHT IN. HOT TOP VOL. GROSS INGOT TONS

ATERIAL CALCULATIONS: TYPE OF HOT TOP 03-601

IDES LONGx HIGHx THICKx IN. LBS. EA. REQ

NDS LONGx HIGHx THICKx IN. LBS. EA. REQ

ORNER POST DESIGNATION MARK LBS. EA. REQ

RING:-
 NE-PIECE 37 3/4 x 37 3/4 x HIGH x 1 3/8 THICK- 1063 IN.

ATERIAL/DENSITY PLX. 113 @ 0.0199 LBS/IN³ 21.2 LBS.
 @ LBS/IN³ LBS.
 21.2 LBS. TOTAL

COUNTING EQUIPMENT:

ATTACHED:

1. NONE @\$ EA.
2. @\$ EA.
3. @\$ EA.
4. @\$ EA.

PURCHASED SEPARATELY:

1. FB. 1127 CLIP @\$ EA.
2. @\$ EA.
3. @\$ EA.
4. @\$ EA.
5. TOPPING COMPOUND LBS. REQ'D IN LB. BAG THICK LAYER

REVISION DETAILS:

HAT CHANGED? PLX. 113 WAS PLX. 114.

RICE

BY DATE

ODDITIONAL REMARKS:

FOS-00-0000002680

2553

SECO, INC. HOT TOP DESIGN SHEET STEEL MILL PRODUCTS DIVISION

SIGN NO. BOARD CONTOUR REVISION DATE DESIGN BY

G99-3232-PR RING P 1-29-80 DZ

CUSTOMER U.S. STEEL - FAIRLESS WORKS LOCATION: FAIRLESS HILLS PA

MOLD (SIZE, TYPE, PRINT NO.) 32x32x89 BEU FLAT-CORR. 1202

MOLD, HOT TOP- WEIGHT & VOL. CALCULATIONS: STEEL DENSITY @ _____ 0 CU. IN.
 TOP CROSS SECTION IN. X _____ IN. WITH _____ IN. CORNER RADIUS
 TOP AREA N/A LBS/IN. TOTAL MOLD VOLUME _____ IN³
 HOT TOP HT. _____ IN. DISPLACED BY HOT TOP _____ IN³
 INSERTED _____ IN. INTO MOLD INGOT BODY _____ IN³ LBS.
 MURED _____ IN. INTO HOT TOP HOT TOP VOLUME _____ IN³ LBS.
 SED AREA _____ GROSS INGOT _____ IN³ LBS.
 INGOT BODY HEIGHT _____ IN. HOT TOP VOL _____ %GROSS INGOT _____ TONS

MATERIAL CALCULATIONS: TYPE OF HOT TOP 03-601

SIDES _____ LONGx _____ HIGHx _____ THICKx _____ IN.³ LBS.EA. _____ REQ'

VDS _____ LONGx _____ HIGHx _____ THICKx _____ IN.³ LBS.EA. _____ REQ'

CORNER POST DESIGNATION _____ MARK _____ LBS. EA. _____ REQ'

Ring 37 3/4 x 37 3/4 x HIGH x 1 3/8 THICK- 1063 IN.³

MATERIAL/DENSITY PLX 114 @ 0.0235 LBS/IN³ 25.0 LBS.
 @ _____ LBS/IN³ _____ LBS.
 25.0 LBS. TOTAL

COUNTING EQUIPMENT:

ATTACHED:

1. NONE @\$ EA.
 2. @\$ EA.
 3. @\$ EA.
 4. @\$ EA.

PURCHASED SEPARATELY:

1. FB 1127 061P @\$ EA.
 2. @\$ EA.
 3. @\$ EA.
 4. @\$ EA.
 5. TOPPING COMPOUND LBS. REQ'D IN _____ LB. BAG THICK LAYER

REVISION DETAILS:

WHAT CHANGED? PLX 114 WAS EP 7060

RICE

BY _____ DATE _____

ADDITIONAL REMARKS:

FOS-00-0000002881

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