24, July 1996

Champion International Corporation
Project Engineering
601 North 'B' Street
Hamilton, OH 45013

For the attention of: Rick Mrozinski cc. Jeff Martin
Tim Currie

PROPOSAL No. 4015-1

Two Webco Engineering TDS-MW's,
One Machine Winder and One Finishing Winder
both with 138" trim
Complete with Pope Roll Unwinds

and

One Webco Engineering TDS-HD
with 84" trim
Complete with MD 60 Shaftless Floor Pick-up Unwind
and Pope Roll unwind
Plus Spares

Authorized By. _____ Date _____

INDEX:

Section 'A

PRICE SUMMARY:

Mill Winder One (1) Model TDS - MW, with 138" trim. Heavy Duty Two Drum surface mill winder with 60" diameter rewind capacity. Complete with;

- 24" diameter winding drums, plasma coated front drum
- shaftless rewind
- maximum mechanical speed of 5,000 fpm
- rewind adapters suitable for 3", 4", 5" & 6" cores
- twin pitch adjustable and variable vented bowed rolls
- shear slitter section complete with eleven (11) Tidland Class III Top Knife Holders plus three (3) spare sets top and bottom, and the Tidland Series 950 pneumatic Bottom Knife Shaft complete with (12) 6" multiple groove bottom knife anvils.
- overhead web path from unwind to slitters
- driven (40 HP) 12" diameter rider roll
- web threading system
- rewind roll eject

- safety beam across the machine behind the drum section
- winder drum holding brake/clutch
- hydraulically operating roll J- table
- trim intake chutes
- PLC controlled tension system
- driven (7.5 HP) 10" vented infeed idler
- programmability of roll density etc. using Allen Bradley PLC series 5-40 control with an Allen Bradley Panelview operator interface
- completely piped and wired operators console
- complete twin 200 HP motor drive package

One (1) Pope Roll unwind system for use with machine spools for up to 60" diameter rolls. Complete with;

- 135" machine spool operation
- oscillation
- empty spool eject
- open saddle design
- 18,000 lbs roll capacity
- pneumatic spool/jack shaft operation
- 200 HP regenerative braking system with 400/1600 RPM motor plus mechanical disc braking system for power loss
- driven (7.5 HP) skew roll
- heavy steel construction
- no pits required in floor

PRICE F.O.B. WEBCO ENG. INC.:- $1,246,500

Mill Winder spares:

1 - (one) Winding drum grooved * - $13,750

1 - (one) Slitter table roll* - - $17,500

1 - (one) Bowed roll* - - - $34,100

1 - (one) Rider roll* - - - $8,750

1 - (one) 200 HP drive motor* - - $15,500

1 - (one) 200 HP 400/1600 RPM
regenerative drive braking motor - $42,600

Total $132,100

Note: All of the above rolls will be complete with their bearings and bearing housings.

* denotes common spare for both Mill Winder and Finishing Winder - I

Finishing Winder -I One (1) Model TDS - MW, with 138" trim Heavy duty two drum surface mill winder with 60" diameter rewind capacity. Complete with;

- 24" diameter winding drums, plasma coated front drum
- shaftless rewind
- maximum mechanical speed of 5,000 fpm
- rewind adapters suitable for 3",4", 5" & 6" cores
- twin pitch adjustable and variable vented bowed rolls
- shear slitter section complete with eleven (11) Tidland Class III Top Knife Holders plus three (3) spare sets top and bottom, and the Tidland Series 950 pneumatic Bottom Knife Shaft complete with (12) 6" multiple groove bottom knife anvils.
- overhead web path from unwind to slitters
- driven (40 HP) 12" diameter rider roll
- web threading system
- rewind roll eject
- safety beam across the machine behind the drum section
- winder drum holding brake/clutch
- hydraulically operating roll J- table
- trim intake chutes
- PLC controlled tension system
- driven (7.5 HP) 10" vented infeed idler
- programmability of roll density etc. using Allen Bradley

PLC series 5-40 control with an Allen Bradley Panelview operator interface
- completely piped and wired operators console
- complete twin 200 HP motor drive package

One (1) Pope Roll unwind system for use with machine spools for up to 60" diameter rolls. Complete with;
- machine spool operation for 100" and 135" spools
- edge guiding
- empty spool eject
- open saddle design
- 18,000 lbs roll capacity
- pneumatic spool/jack shaft operation
- mechanical Montalvo disc braking system
- driven (7.5 HP) skew roll
- heavy steel construction
- no pits required in floor

PRICE F.O.B. WEBCO ENG. INC.:- $1,191,500

Finishing Winder -II One (1) Model TDS - HD, with 84" trim
Heavy duty two drum surface mill winder with 60" diameter rewind capacity.
Complete with;

- 16" diameter winding drums, plasma coated front drum
- maximum mechanical speed of 4,500 fpm
- shaftless rewind complete with 3" rewind adapters
- power adjustable driven and grooved, twin bowed rolls
- shear slitter section with ten (10) Tidland Class II Top knife holders plus three(3) spares sets top and bottom and Tidland 950 pneumatic bottom shaft with 40 - 1.5" bottom knives
- bottom knife shaft cantilevered
- bottom slitter knife setting scale
- overhead web path from unwind to slitters
- web threading trays
- rewind roll eject
- winder drum "hold back" clutch/brake
- hydraulically operating roll lowering table (J-table)
- trim intake
- web clamp
- safety beam across the machine behind the drum section
- PLC/controlled tension system
- air vented idler rolls with chrome finish
- programmability of roll density etc. using Allen Bradley PLC control with an Eaton 13" Panelmate operator interface
- completely piped and wired operators console
- complete regenerative twin motor drive package
- Twin 100 HP DC Baldor Motors

One (1) Model MD-60 Shaftless "floor pick up" unwind system for up to 60" diameter rolls.
Complete with;

- 3" Double 'E' chucks
- 6,000 lbs roll capacity
- hydraulic loading
- motorized ball screw chucking
- dual Montalvo Disc brakes
- Fife auto edge guiding
- simple chuck removal/changing facility
- skew roll and lead out idler
- shock roll mounted in overhead structure
- operators pendant station
- heavy steel construction
- no pits required in floor

One (1) Pope Roll Unwind system for use with machine spools for up to 60" diameter rolls.
Complete with;

- 100" machine spool operation
- oscillation
- empty spool eject
- open saddle design
- 12,000 lbs roll capacity
- pneumatic spool/jack shaft operation
- mechanical Montalvo disc braking system
- skew roll
- heavy steel construction
- no pits required in floor

PRICE F.O.B. Webco; Westboro, MA. $704,200.

Finishing Winder - II spares:

1 - (one) Winding drum grooved -	$7,500
1 - (one) Variable Bowed roll - -	$14,500
1 - (one) Rider roll - - -	$4,100
Total	$26,100

Note: All of the above rolls will be complete with their bearings and bearing housings.

TOTAL PRICING SUMMARY:

Mill Winder (138" trim):	-	$1,246,500
Spares: - - - - -		$132,100
Finishing Winder - I (138" trim):	-	$1,191,000
Spares: - - - - -		$N/A
Finishing Winder - II (84" trim):	-	$704,200
Spares: - - - - -		$26,100
Total:		$3,300,400

Price F.O.B. Webco Engineering Inc.
for all three machines, less options
as listed on page - 9 , plus spares as
listed if ordered at the same time: - $3,200,000

ADDITIONAL COST ITEMS;

Mill Winder:

Motor size increase from 200HP to 250HP on the regenerative unwind due to roll weight increase from 12,000 to 18,000lbs	-	$8,000
Spare individual motor increase	-	$5,200

ADDITIONAL COST OPTIONS;

Mill and Finishing Winder-I:

Bolt-on journals for the winding drums	-	$12,000 per M/C
	Total -	$24,000
Shock roll system incorporating the low inertia carbon fiber roll.	-	$39,250 per M/C
	Total -	$78,500
Web clamp located at the unwind	-	$5,850 per M/C
	Total -	$11,300
Individual drive cabinets	-	$5,400 per M/C
	Total -	$19,800

Finishing Winder-II:

Web clamp located at the unwind	-	$4,100
Convert the existing Eurotherm drive system to Reliance	-	$35,000

All winders:

Sole Plates	-	To be determined

Section 'B'

COMMERCIAL CONDITIONS;

INCLUSIVE OF THE PROPOSED MAJOR PURCHASE AGREEMENT IN ADDITION TO INTEGRATING AND COMBINING APPLICABLE SECTIONS THE No. 2 MILL WINDER REPLACEMENT PROJECT DOCUMENTATION:

This is the proposed agreement between WEBCO ENGINEERING INC. ("WEBCO") and CHAMPION INTERNATIONAL CORPORATION ("CHAMPION").

W I T N E S S E T H :

In consideration of the mutual promises and agreements and subject to the terms and conditions hereinafter set forth, WEBCO agrees to design, engineer, manufacture and deliver to CHAMPION, and CHAMPION agrees to accept and pay for the equipment, together with the components, features and accessories as more fully described below and in the documents referred to herein (the "Equipment").

ARTICLE I - DEFINITIONS

1.1 "Delivery Date" means 9 months after receipt of order for FINISHING WINDER - I (138" trim) and the MILL WINDER (138" trim). FINISHING WINDER - II (84" trim) is 4.5 months inclusive of testing at WEBCO

1.2 "Engineer" shall mean Jeff Martin.

1.3 "Operational" shall mean the date that the equipment satisfies all of the conditions and specifications of the contract documents and passes the acceptance tests.

1.4 "Job Site" means CHAMPION'S mill located at 601 North "B" Street., Hamilton, OH 45013.

1.5 "Purchase Price" means $3,200,000. plus options, subject to any adjustments hereinafter provided.

1.6 "Contract" or "Contract Documents" means this document and the following exhibits and schedules which are incorporated herein by reference: Section 'A' - Price Summary, Section 'B' - Commercial Conditions and Section 'C' -Technical Data

ARTICLE II - PURCHASE PRICE AND TERMS OF PAYMENT

2.1 The purchase price is firm and is not subject to escalation

except
as may be permitted in ARTICLE III.

2.2 The purchase price includes all charges for packing, boxing and crating, deemed necessary by WEBCO. Shipping charges will be prepaid by WEBCO and added to the final invoice payment to CHAMPION. The purchase price does not include Federal and/or any State or local taxes that may be applicable at the equipment's eventual delivered and installed location.

2.3 The purchase price does not include erection and installation of the equipment.

2.4 CHAMPION agrees to pay the purchase price to WEBCO in installments as follows:

80% Down payment with order

10% Upon acceptance, prior to shipping

10% 30 days after start-up or 90 days after delivery whichever occurs first

2.5 As a precondition for receiving its final payment, WEBCO shall deliver to CHAMPION a certificate showing the balance of all amounts due or alleged to be due and unpaid and all documentary evidence of title to the equipment, together with manuals, instructions, warranties, warnings, safety procedures, and such additional documents and drawings as are specified herein.

ARTICLE III - CHANGES AND MODIFICATIONS

3.1 By written instructions to WEBCO, CHAMPION may from time to time require changes in any of the specifications for the equipment, and seller's failure to notify CHAMPION in writing within seven (7) days after receipt of CHAMPION change order shall constitute WEBCO'S agreement to conform to such change without an increase in the purchase price or an extension of the delivery date.

3.2 The equipment and each component thereof shall comply with all applicable federal, state and local laws, rules, regulations and codes in existence on the date hereof or which may become effective after the date hereof if such law, rule, regulations and code was duly adopted, enacted or approved on the date hereof. WEBCO shall also comply with all the modifications to

such laws, rules, regulation and codes as well as such new applicable laws, rules, regulations and codes that may be adopted, enacted or approved after the date hereof but before the delivery date, provided, however, that the cost of such compliance shall be added to the purchase price.

3.3 CHAMPION shall have the right, at any time before the delivery date,
to make changes in quantities, drawings and specifications in schedules and in the methods of shipment and packing. If such changes cause an increase or decrease in seller's cost or in the time required for performance, WEBCO shall promptly notify CHAMPION thereof in writing and an equitable adjustment shall be made, pending which WEBCO shall not be obligated to perform the changes requested. No such adjustment in the purchase price or the delivery date shall be binding upon CHAMPION unless it is evidenced by a change order issued and signed by CHAMPION.

ARTICLE IV - INSPECTION, DELIVERY, TESTING AND TITLE

4.1 CHAMPION, or its agent, shall have the right to visit the premises of
WEBCO, the manufacturer of the equipment and any subcontractors or suppliers under contract with seller for the components of the equipment and to inspect, at CHAMPION'S option, all raw materials, work in process, or finished goods to be incorporated into the equipment with regard to material, design, quality of workmanship and progress of the work. WEBCO shall supply such inspectors with all assistance practicable, including drawings and other documents, as well as a guide who is familiar with the work in progress. Such right to inspect is subject only to CHAMPION'S giving twenty-four (24) hours prior telephone notice to WEBCO.

4.2 WEBCO agrees to deliver the equipment and all components thereof to
the job site by the delivery date. Time is of the essence of this contract, and if delivery is not complete by such date, CHAMPION is likely to sustain damages and losses.

4.3 CHAMPION shall have the right to refuse the equipment or any components thereof which are delivered more than fifteen (15) days in advance of the delivery date.

4.4 CHAMPION shall cause the equipment to be promptly erected and
installed and shall perform testing of the equipment. If requested by CHAMPION and at WEBCO'S published rates, WEBCO shall supervise the erection and installation and notify CHAMPION

immediately of any failure to comply with WEBCO'S instructions.

4.5 Title to the equipment shall remain with WEBCO until delivery. Delivery shall be complete upon receipt by CHAMPION of the equipment at the job site. Risk of loss shall pass to CHAMPION when delivery is complete.

WEBCO shall not mortgage, encumber or grant any security interest in or to the equipment or any component thereof without the prior written authorization of CHAMPION.

ARTICLE V - DRAWINGS

5.1 WEBCO shall complete and deliver to the engineer each of the following categories of drawings by the dates specified below:

1) Preliminary drawings 12 weeks from date of order.

2) Certified drawings 26 weeks from the date of order

5.2 WEBCO shall furnish (2) two prints and (1) one transparencies of all equipment drawings and data sheets which requires approval and (6) six prints and (1) one transparencies of all final certified drawings.

5.3 WEBCO shall provide (6) six copies of instruction manuals giving the necessary data to design the installation of the equipment and to install the equipment. Additional copies $250.00 each

5.4 WEBCO shall provide (6) six copies of operating and maintenance manuals, ncluding parts lists and bearing data sheets. Additional copies $250.00 each. Preliminary operating manuals will be issued 8 weeks from the date of order.

5.5 WEBCO shall provide (6) six copies of the recommended spare parts list, which shall have items individually priced and shall contain the original manufacturer's identifying nomenclature and WEBCO'S identifying nomenclature.

5.6 Engineering and/or construction revision expense incurred by CHAMPION resulting from changes made by seller in the final

drawings after CHAMPION'S approval thereof shall be reimbursed by WEBCO unless such changes are made at the request of CHAMPION or its representative.

5.7 Any discrepancies, omissions or lack of clarity in drawings or specifications must be referred to CHAMPION for written interpretation before WEBCO begins work under the contract documents.

5.8 In the event seller determines that the data furnished by CHAMPION or the engineer and the specifications referred to herein are incomplete or insufficient for WEBCO to design and manufacture the equipment in accordance with the performance specifications, seller shall immediately notify CHAMPION and specify what additional data and information it requires.

ARTICLE VI - WARRANTIES AND INDEMNITIES

6.1 WEBCO expressly warrants that the equipment, including the design, materials, workmanship and components incorporated therein, individually and collectively, and the process produced thereby, shall not infringe any patent, trademark or copyrights or constitute a misappropriation of trade secrets. In the event CHAMPION notifies WEBCO of any claim of infringement, WEBCO shall, at its sole cost and

expense, procure for CHAMPION the right to use, possess and operate the equipment are originally intended and described herein. In the event WEBCO is unable to procure such right for CHAMPION, WEBCO shall at its sole cost and expense modify the equipment to make it non-infringing unless such modifications may, in CHAMPION'S opinion, result in a loss of utility, higher operating costs or a reduction in the quality or quantity of the end product: and further provided that WEBCO shall, in any case, indemnify, defend and hold CHAMPION wholly harmless from all claims, actions, judgments, costs and expenses resulting from such alleged infringement.

6.2 WEBCO expressly warrants that the equipment, including the design, materials, workmanship and components incorporated therein, shall be free from defects in material and workmanship and shall be of the highest quality. WEBCO shall, at its sole cost and expense, repair or replace any defective design, material, workmanship, or components of the equipment which are discovered by CHAMPION within one year after the equipment becomes operational, or fifteen months from delivery. Repairs and replacements made pursuant to the foregoing warranty shall be repaired or replaced

at WEBCO'S expense if they are found to be defective in material or workmanship within the duration of said warranty or within one year after such repair or replacement is made, whichever period is longer.

6.3 WEBCO expressly warrants that the equipment, including drives, shall
be designed, supplied and manufactured so that its performance will satisfy all representations, specifications, conditions and guarantees relating to performance described in the contract documents when the equipment is erected and installed by CHAMPION or erected and installed by others substantially in accordance with WEBCO'S instructions. In the event the equipment fails to perform as described in then foregoing warranty, WEBCO shall, at its sole cost and expense, do everything necessary and possible to correct its performance in the shortest possible time. WEBCO shall be allowed satisfactory access to the Equipment for such time as it requires to carry out any adjustment or rectification. In the event WEBCO fails or refuses to cause the equipment to perform as required promptly after CHAMPION first notifies WEBCO of a performance problem, or if WEBCO fails or refuses to cause the equipment to perform as required on a continuous basis, then CHAMPION may, at its option, repair any such defects, modify the equipment, change the design, or replace the equipment or components with equipment capable of performing as required. Costs incurred by Champion to effect to repair, replacement or modification will be borne by WEBCO. WEBCO'S liability in respect of any defect in or failure of the equipment shall be limited to making good by repair, modification and/or exchange. Webco is not liable for damages other than for that which is stated within this warranty regardless from what legal grounds such claims may be derived. This applies particularly, but not exclusively, to damages for loss of profit or loss of production.

6.4 WEBCO guarantees that the equipment provided represents no potential
for personal injury to operating or maintenance personnel when WEBCO provided instructions are strictly adhered to and followed for operating and maintaining the equipment. WEBCO agrees to provide all such operation and maintenance instructions required to satisfy the highest priority in training conducted. WEBCO also agrees to resolve any Buyer related safety concern(s) as soon as they are identified on the equipment being provided. WEBCO guarantees that every effort will be made to ensure the new supplied equipment will not cause the noise exposure level to personnel operating the winder to exceed an eight (8) hour time weighted average of 85 DB (A) when WEBCO provided instructions as followed in regards to winder operation. WEBCO is not

responsible for any acoustic potential of the building or area around the installation site that may have a negative effect on the noise levels.
This safety guarantee is to remain in effect for a period of 12 months after equipment startup.
WEBCO shall indemnify, defend and hold CHAMPION and its officers, agents and employees wholly harmless from all claims, demands, suits, judgments, actions and liability arising out of personal or bodily injury to or death of any person (including employees of WEBCO) or damage to or destruction of property sustained by any person or corporation as a result of or in any way connected with the manufacture, testing, use or operation of the equipment except when such injury, death, damage or loss is directly caused by the sole negligence of CHAMPION, its officers, agents or employees. In connection with any claim for indemnity made by CHAMPION against Webco under this ARTICLE.

6.5 The provisions of this ARTICLE shall survive the delivery and acceptance of the equipment.

ARTICLE VII - DEFAULT AND REMEDIES

7.1 In the event WEBCO shall fail to comply with the schedule or if WEBCO
fails or refuses to perform any of its other obligations contained within the contract documents, CHAMPION may, at its option, suspend its own performance until such time as WEBCO provides satisfactory evidence that it is able and intends to comply with all provisions of the contract documents, or if WEBCO has not corrected any such failure within ten (10) days after Notice of Default from CHAMPION. CHAMPION at its option: (a) may rescind this contract, surrender any equipment, parts or components thereof that have been delivered and recover all amounts paid to SELLER, or (b) may exercise any other remedies available to it at law or in equity.

7.2 In the event WEBCO fails to complete delivery by the delivery date,
WEBCO agrees to pay to CHAMPION as a penalty the amount of $5,000 for each full week of late delivery after the scheduled delivery date excepting any items covered by this agreement that are delivered at a later date, for whatever reason, by mutual agreement with CHAMPION during the fulfillment of this contract. Delivery to be defined as "on site, on the truck" not unloaded.

ARTICLE VIII - TERMINATION

8.1 Should CHAMPION wish to terminate this agreement at any time by
giving written notice to WEBCO and WEBCO is not in default,

CHAMPION shall pay WEBCO termination charges based upon costs incurred to date, plus profit. If a satisfactory agreement cannot be reached between WEBCO and CHAMPION within 30 days of notification that CHAMPION requests termination of this agreement then an independent arbitrator shall be appointed and its findings legally binding.

8.2 Any such termination shall not constitute a waiver of any other right
or remedy CHAMPION may have against WEBCO or WEBCO against CHAMPION for breach of this agreement.

ARTICLE IX - FORCE MAJEURE

9.1 WEBCO shall notify CHAMPION promptly of any event that may delay
delivery. WEBCO shall use its best efforts to eliminate and minimize the cause of any such delay and promptly notify CHAMPION when the cause of such delay has been eliminated and state the net amount of time lost as a result thereof.

9.2 If WEBCO is delayed and as a result is unable to comply with the
schedule, delivery date, or the time required for making the equipment operational, and if such delay is caused by acts of God, acts of civil or military authority, war, riot, strikes, compliance with laws, rules, regulations and codes adopted after the date of this contract, floods, epidemics, or other causes beyond WEBCO reasonable control ("Excusable Delays"), the schedule, the delivery date by which the equipment must become operational shall be extended for a period of time equal to the net amount of time lost by reason of such excusable delays.

ARTICLE X - MISCELLANEOUS

10.1 WEBCO agrees that this contract shall constitute security agreement
under which CHAMPION shall obtain a security interest in all designs, drawings, specifications , raw materials, parts and work in process in the possession of WEBCO that can be identified as being related to the equipment. WEBCO further agrees to execute such documents as CHAMPION may request in order to perfect its security interest.

10.2 WEBCO shall release no news, photographs, films, advertising, public
announcements, denials or confirmations of the subject matter of the contract documents without the prior written approval of CHAMPION.

10.3 WEBCO agrees to hold in confidence any and all proprietary information disclosed by CHAMPION or engineer including, but not limited to, technical information in or on tracings, drawings, photographs, field notes, calculations, specifications and engineering data for a period of three (3) years following the date on which the equipment becomes operational. The foregoing provision shall not

apply to information which, at the time of disclosure, was in the public domain; information which, after disclosure, becomes part of the public domain through no fault of WEBCO, or technical information which WEBCO can prove was in its possession at the time of disclosure. WEBCO may disclose proprietary information only to those of its employees, sub-contractors, agents and consultants who have a need to know and have agreed to maintain the confidentiality thereof. WEBCO shall not use such proprietary information for the benefit of nor disclose it to any competitor of CHAMPION without first obtaining the written approval of CHAMPION.

10.4 The contract documents shall be binding upon the heirs, executors, administrators, successors and assigns of the parties, including without limitation, those arising from merger, consolidation, sale of assets or otherwise; provided, however, that WEBCO shall not assign its rights or obligations under this contract without the prior written consent of CHAMPION and any such attempted assignment shall be void.

10.5 Any rule or interpretation or construction that requires that ambiguities be construed against the party drafting the agreement or any similar rule or doctrine shall have no application to interpretation of the contract documents.

10.6 The contract documents constitute the entire agreement between the parties hereto with respect to the subject matter hereof and supersede all prior and contemporaneous agreements and understandings, oral or written, with respect to such transactions. The contract documents may not be changed except pursuant to a written amendment signed by both parties.

10.7 Captions and reference only, and the words contained therein shall in no way be held or deemed to define, limit, describe, explain or modify the construction or meaning of any provision of the contract documents.

10.8 The failure of either party to insist upon strict performance of any

provision of the contract documents or to take advantage of any of its rights, or to enforce any of the conditions herein shall not operate as a continuing waiver of such provision, rights or conditions and shall not prevent the other party from insisting upon such provisions, taking advantage of such rights, and enforcing such conditions in the future.

10.9 All notices, requests, demands and other communications required
by the contract documents shall be in writing and shall be deemed to have been given when deposited in the mail, certified with return receipt requested, postage prepaid, addressed to the appropriate party at its respective mailing address as set forth immediately below:

CHAMPION INTERNATIONAL CORPORATION
601 NORTH "B" STREET
HAMILTON, OHIO 45013

In addition, a copy of any notice of default given by WEBCO shall be sent to The Office of the General Counsel,
CHAMPION INTERNATIONAL CORPORATION,
ONE CHAMPION PLAZA, STAMFORD, CONNECTICUT 06921, USA.

10.10
The contract documents shall be construed according to state of
Connecticut applicable to contracts made and performed in Connecticut notwithstanding the location of seller's manufacturing facilities, the job site or the location of the parties hereto.

No. 2 MILL WINDER PERFORMANCE GUARANTEES

WEBCO guarantees the performance of the winder to produce continuously high quality salable paper rolls per the requirements, conditions and design criteria described in The Project Scope Document for the "No. 2 Mill Winder Replacement Project" dated July 1, 1996, section 2.0 and 3.0. This is for both coated and uncoated grades of paper. In particular, this is for but not limited to the following setup conditions.

1. One (1) roll out with a 125" wide roll making up the set.

2. Two (2) rolls out with one (1) 80-1/2" wide roll and one (1) 54-1/2" wide roll making up the set.

3. Three (3) rolls out with two (2) 46-3/4" wide rolls and one (1)23-3/4" wide roll making up the set.

4. Four (4) rolls out with three (3) 35-3/4" wide rolls and one (1) 23-3/4" wide roll making up the set.

5. Five (5) rolls out with four (4) 20-5/8" wide rolls and one (1)
46-3/4" wide roll making up the set.

6. Ten (10) rolls out with ten (10) 13-1/2" wide rolls making up the set.

Production:

WEBCO guarantees that the paper roll production on the winder will be sufficient to prevent speed reduction on both No. 2 and No. 3 Paper Machines up to 725 fpm on each machine. This assumes unwind rolls are available for processing in the winder and that roll sets ejected form the winder can be carried away prior to the next roll set being ejected.

Design Basis - No's 2 and 3 Paper Machines:

Grade	Coated and Uncoated
Basic weight	40# - 210# (3,300sf)
Maximum Speed per PM	725 FPM
Minimum Speed per PM	200 FPM
PM Trim Width	117" minimum/138" maximum
Moisture Content	1.5 - 6%
Roll Weight Maximum with spool	18,000 #

Operation:

WEBCO guarantees that the equipment will not cause the sheet to break during winder operation from stall tension to maximum operating speed due to:

- Tension Control System
- Rider Roll Loadings
- Wrinkles in the Web run directly created by the winder
- Slitters
- Vibration

- Trim Removal System and Chutes (that portion supplied by WEBCO).

Roll Quality:

WEBCO guarantees that:

- Paper rolls will be of commercial quality.
- There will not be interweaving of adjacent rolls (i.e., stuck rolls).
- Rolls will not have burst, crepe wrinkles, or marks of any kind created by the winder.
- There will not be any wrinkles in the paper roll created by the winder.
- That dishing on the ends of paper rolls will not exceed 4mm.
- Control systems and seller supplied hardware function within physical limits of the winder to produce.
- Roll hardness consistent form start to finish.
- Cores will not be loose as a result of poorly controlled starts.
- Splices can be accomplished with no slack areas, wrinkles in the sheet or pronounced offsets on the roll edge when a tension spice is performed.
- Rolls widths will always fall within +/-0.030 inches of operator set slitter position.
- Roll edges will be smooth and free of abnormal dust.

PERFORMANCE TEST

The Buyer may at his option request one test run of 12 hours to test the performance of the winder. The buyer may also at his option request the paper grade and roll set combination that is produced on the winder provided that grade and combination is within the conditions and design criteria described on Page 10 of this Document. The test run is to take place no earlier than two (2) months after startup of winder and no later than 12 months after startup. WEBCO will be given notice of when the test is to take place. WEBCO may be present to witness the test. WEBCO may observe the winder operation prior to the test and may recommendations to change operational procedure. WEBCO will be responsible for their cost of personnel, travel and living expenses to witness performance test.
Winder performance will be documented for the test run. Both WEBCO and the Buyer must be in agreement that the winder has met the performance guarantees during the test. If the winder does not meet the performance guarantees, further tests may be requested at the option of the Buyer.

FULFILLMENT OF GUARANTEES

Guarantees are to be considered fulfilled when CHAMPION and WEBCO

agree that the guaranteed performance valves have been met on all test runs.
If after 12 months from winder startup, but no later than 15 months from delivery, CHAMPION elects not to have a performance test run on a particular paper grade, then the performance guarantee is considered fulfilled.

VALIDITY OF GUARANTEES

The guarantees are valid under the following circumstances:

- The operating personnel of the winder are to be well-trained and accustomed to running the winder on the specified paper grade.

- The basis weight and moisture profiles of the paper and reel buildups including edges, are to be generally approved good standard. The maximum speed can be met if the profiles of the paper are in such level that all the wind-up paper rolls will be in contact to the rider roll during the whole running period.

- Core cutting is to be performed by equipment currently in use at the buyer's facility. Quality of core cuts is per that being currently produced.

- Basis weight profile variation of paper is to be within the following limits: 5% Peak to Peak.
"Peak to Peak" is defined as the variation in commercially
salable paper measurement from the low to the high value being measured in the cross machine direction.
Moisture profile variation of paper is to be within the following limits:

  * +/-0.5% at 1.5 O.D. for coated paper

  * +/-1.0% at 5.5 O.D. for uncoated paper

- Caliper profile variation of the paper is to be within the following limits.

  * 8% peak to speak for uncoated cover grades (100# - 210#)

  * 5% peak to peak for uncoated text grades (40# - 80#)

  * 5% peak to peak for coated grades

"Peak to Peak" is defined as the variation in commercially salable paper measurement from the low to the high valve being measured in the cross machine direction.

- Basis weight, moisture and caliper variations are to be verified with the on machine ABB gauging system.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed by their duly authorized representatives as of the day and year first above written.

CHAMPION INTERNATIONAL CORPORATION

By: _____

its: _____

WEBCO ENGINEERING INC.

By: _____

its: _____

Section 'C'

TECHNICAL DATA:

Mill Winder

TDS - MW WINDER

Maximum machine speed	5,000fpm
Face width	142"
Bed roll diameter	24"
Rider roll diameter	12"
Idler roll diameters:	10"
Maximum Trim Width Out @ Wind-up	138"
Minimum Trim Width Out @ Wind-up	113"
Maximum Trim Each Side	2"/each side
Maximum Rewind Diameter	60"
Minimum Rewind Diameter	30"
Weight Capacity	12,000 LBS
Rewind core Type	Fiber

Core Diameter	3",4",5",6",8"
Maximum set of Rolls Out	10
Minimum set of Rolls Out	1
Normal Roll Width Out @ Wind-up	23"
Minimum Roll Width Out @ Wind-up	10"
Minimum Plug Roll Width Out @ Wind-up	3"
Tension Control	Yes
Maximum Tension	10 pli
Rewind	Shaftless
Machine balance speed	6,000fpm
Designed maximum controlled accel/decel rate	75fpm per second
Power Supply	460V, 3pH, 60 and 2300 V, 3 pH, 60
Control Circuit	110 V, 1 pH, 60
Programmable Control	Allen-Bradley PLC 5/40

POPE ROLL UNWIND

Maximum Trim Width In @ Unwind	138"
Minimum Trim Width In @ Unwind	117"
Maximum diameter	60"
Normal Unwind Diameter	60"
Maximum weight	18,000 LBS
Reel Spool Diameter	13"
Oscillation	+/- 4"

SLITTING SYSTEM

Slitting knives are located for easy access at the rear of machine and at a convenient operator height. The knife system will accept multiple slitters and is designed for tangential slitting. The web is supported on the entry and exit with multi-segmented low inertia table rolls.
The top slitters, Tidland Class III Knife holders, are mounted on a cross beam with convenient manual adjustment of knife depth and side loading.
The bottom slitter knives are mounted on a Tidland Series 950 pneumatic driven knife shaft (external bladder design). The knife shaft is driven by a 25 HP DC drive. For ease of removing and replacement of slitter knives the bottom slitter shaft is designed for this operation to performed without the need to remove the shaft from the machine.
To assist in positioning the knives a metal scale is located above the bottom knives.

BOWED ROLLS

Two bowed rolls are incorporated into the TDS-MW. From the slitting system the web travels through dual bowed rolls for

optimum slit separation providing further flexibility for a wide range of materials and slit widths. Bowed roll spacing and width is designed to maximize strip separation while minimizing outer strip tension loss. The width of the bowed rolls extend beyond the maximum trim width of the machine. This feature eliminates the less effective "dead area" at the ends of the rolls. The bowed rolls are variable bow, vented with pitch adjustment.

WINDER DRUM SECTION

Large (24") diameter winding drums, the rear drum (paper coming) grooved for the maximum evacuation of air while at the same time keeping the maximum contact with the drums. The front drum (paper coming) is coated with a tungsten carbide traction coating with a surface finish to be determined. (Racine Flame spray or equivalent).

The winding drums are driven by individual drive motors, i.e.. "twin motor drive." The PLC controlled adjustable torque between the winding drums (see Drive) is programmed via the operator through the operator interface, using the key pad entry and screen display and helps to provide consistent control of finished roll density.

A safety beam is mounted between the slitting section and the winding drums to assist in containing the rewinding rolls in the event of an unscheduled ejection.

SHAFTLESS REWIND SYSTEM

This system consists of cantilevered chuck carriage assemblies which are mounted on machine tool quality linear ways. The core chuck carriages are raised and lowered for core loading and finished set ejection by a pneumatic/hydraulic control system. Carriages are motorized for insertion and retraction of the core chucks and all width adjustments from 138" - 96". Additional extensions can be used for narrower widths. Shaftless assemblies will also accept pneumatic rewind shafts.

TOP RIDER ROLL SYSTEM

The top driven rider roll is controlled by motorized ball screw for safe, rapid resetting of rider roll during roll change. The ball screws being powered by an inter-linked 5 HP DC drive where as the rider roll itself is powered by a 40 HP DC drive. The assembly travels on machine tool quality linear ways for smooth, vibration free operation. The complete absence of counterweights and synchronizing chains allow precise low inertia control of rider roll. Rider roll pressure against the winding roll is sensed and controlled by a closed loop load cell system. The combination of the ball screw and load cell control gives total

flexibility in rider roll loading and/or relieving. System allows a range of light contact to 2000 Lbs. of roll pressure.
Rider roll drive can be regulated from the operator's console.
Programmable control of the rider roll to obtain better control of roll density can be achieved with the operators interface.

TENSION CONTROL

Programmable web tension is provided through the operators programmable controls with key pad data entry and visual display. ASEA PFTA 101 load cells sense web tension. Etension screen on the Panelview 1400 will display front and back side tension, tension difference and calculated adjustable

WEB THREADING SYSTEM

A tape system located over the driven (10 HP) infeed idler roll is pneumatically loaded to that idler to provide the nip and drive to assist in web threading. When the threading tapes are engaged the machine will not exceed 50 FPM. From the slitting section on the web is assisted through the bowed rolls and up between the drums by directional threading trays and directed forced air.

EJECTOR ROLL

A hydraulically operated ejector roll, which rotates around the rear drum, ejects the finished roll set into the hydraulically operated roll lowering J- table.

J-TABLE

Hydraulically operated table lowers the finished roll set to floor level. In the running mode, the table in its raised position guards the in running nip. Steel side guards prevent access from the sides of the machine and contain the slit rolls during transfer. The table can be raised from any position when carrying a full finished roll set if required.

TRIM INTAKE

Trim intake chutes, mounted on linear bearings for ease of side to side positioning, are locked in the desired location with the use of a simple hand knob. The chutes are designed to be linked into a customer supplied trim take away system.

DRIVE

Machine is powered by a Reliance DC twin motor drive system complete with individual isolation transformers, pre-wired drive cabinet and operators control console The individual drums are each driven by a 200 HP motor. The rear drum functions as the master speed section and the front drum is torque regulated by varying the load share percentage as a function of roll diameter between the two drives. The drive system includes inertia compensation, programmable ramp rates and programmable stop by diameter or footage. Anti back-up clutch prevents web back up during stops.

PROGRAMMABLE OPERATOR CONTROLS

Programmable control of winding drum variable differential torque, web tension, rider roll loading and relieving (roll density) diameter and or footage stopping etc. is accomplished with the use of an Allen Bradley Series 5-40 PLC control and an Panel View 1400 interface.
The interface mounts directly within the operators console and is complete with a key pad data entry and 13" color screen data display.
The system allows for both the drum, rider roll and tension control and other aspects of the machine to be programmed and operated together or independently.
All manual operating controls such as push buttons selector switches indicating lamps etc. will be Cutler Hammer10250T series.

"
Typical" screens include the following:-

Job File: Index of up to 100 pre-programmed jobs. Job parameters are fully loaded by entering file number.

Input Screen: Parameter entry screen used for manual entry of load share, rider roll and tension set points, slow down and stop set points diameter or footage.

Run Screen: Machine status during run, displays run speed, footage, diameter, drive amps, footage presets, load share and rider roll pressure.

Diagnostic Screen: Displays current status for "no go" condition. Includes machine interlocks (i.e. E-Stops, Guard out of position) and PLC faults.

CONTROLS

Main operator console includes the following controls:

- drive, start, stop, E-stop and speed control
- operator interface
- manual top rider roll position and pressure
- rider roll drive control
- regenerative unwind brake controls
- unwind tension setting, manual/automatic
- roll eject/return
- J table raise/lower
- web threading drive controls
- slitter drive on/off
- rewind chucks, in/out, raise and lower
- slitter knives engage/disengage

Displays include:

- Panel View screens

Remote controls include:

Main machine:

- slitting knives engage disengage
- slitter drive engage disengage
- thread assist on/off
- jog
- bowed roll bow & pitch adjustment
- three (3) remote E stop push buttons
- E-stop cable

Main Drive cabinet:

- main isolator switch

Unwind:

- spool coupling engage/disengage
- spool eject
- unwind oscillation on/off
- regenerative braking on/off/reset
- pay-out/take-up
- web tension on/off
- "back-up" mechanical brake controls
- one Emergency stop push button

NOTE: Webco winders are run prior to shipment for testing and acceptance purposes. All interconnections at Webco are temporary and only for this purpose. All interconnection materials and equipment necessary for installation at the customers site are totally the responsibility of the customer.

POPE ROLL UNWIND SYSTEM

The Pope Roll unwind is designed to accept material wound on the existing machine spools. A load cell roll arrangement senses and provides the feed back to the unwind for the control of web tension. The unwind system is complete with oscillation giving a total of +/- 4" of lateral movement.
A 200 HP regenerative SSD drive, with a 400/1600 RPM motor providing "pay-out", "take-up", and braking system mechanically coupled to the unwind spools with pneumatically operated jack shaft coupling provides unwind web tension and braking. A mechanical disc braking system is incorporated to bring the unwind to a stop in the event of electrical power loss.
The unwind spool supports are the open saddle design for ease of loading and unloading via the customer supplied overhead hoist. The pneumatically operated spool to brake jack shaft coupling is disengaged for loading and unloading of the Pope Rolls and empty spools. When disengaged the empty spool is ejected to a retrieval station to allow for the loading of the next Pope Roll.

SERVICE REQUIREMENTS

- 480 volts, 3 PH, 60 HZ 1,100 Full load amps
- 80 PSI 5 CFM compressed air

GENERAL DESIGN

Machine and unwind construction is of robust precision ground, stress relieved, steel slab frame and/or heavy gauge steel fabrication. Extensive use of ball screws and THK machine tool ways ensure precision and smoothness of linear movement.
The machines are assembled using the latest techniques in optical alignment equipment.
All equipment is fully assembled and tested in plant prior to acceptance trials and/or shipment. The design allows for safe operation with all round accessibility for machine observation and adjustment.

LUBRICATION

All points requiring lubrication are provided with suitable fittings. Frequently lubricated inaccessible locations, inside

guards, will have the fittings piped to an accessible location.

SAFETY FEATURES

Emergency pull cords will manual resetting switches and safety gates are interlocked with the drive emergency stop circuit. Numerous warning and danger signs are fastened to the equipment and guards are fitted at hazardous locations.
As company policy Webco Engineering Inc. continuously strives to ensure the equipment meets the highest standards of safety.

PAINT FINISH

Standard Webco Dove Gray Finish.

TECHNICAL DATA:

Finishing Winder - I

TDS - HD WINDER

Maximum machine speed - - - 5,000fpm
Face width - - - - - - 142"
Bed roll diameter - - - - - 24"
Rider roll diameter - - - - 12"
Idler roll diameters: - - - - 10"
Maximum Trim Width Out @ Wind-up - 138"
Minimum Trim Width Out @ Wind-up - 113"
Maximum Trim Each Side - - - 2"/each side
Maximum Rewind Diameter - - - 60"
Minimum Rewind Diameter - - - 30"
Weight Capacity - - - - - 12,000 LBS
Rewind core Type - - - - Fiber
Core Diameter - - - - - 3",4",5",6"
Maximum slit width - - - - 8"
Minimum set of Rolls Out - - - 1
Normal Roll Width Out @ Wind-up - - 23"
Minimum Roll Width Out @ Wind-up - 10"
Minimum Plug Roll Width Out @ Wind-up - 3"
Tension Control - - - - - Yes
Maximum Tension - - - - 10 pli
Rewind - - - - - - Shaftless
Machine balance speed - - - - 6,000fpm
Designed maximum controlled accel/decel rate 75fpm per second
Power Supply - - - - - 460V, 3pH, 60 and 2300 V, 3 pH, 60
Control Circuit - - - - - 110 V, 1 pH, 60
Programmable Control - - - - Allen-Bradley PLC 5/40

POPE ROLL UNWIND

Maximum Trim Width In @ Unwind - 138"
Spool width capacity - - - - 100" and 135"
Maximum diameter - - - - 60"
Normal Unwind Diameter - - - 60"
Maximum weight - - - - - 18,000 LBS
Reel Spool Diameter - - - - 13"
Oscillation and guiding - - - - - +/- 4"

SLITTING SYSTEM

Slitting knives are located for easy access at the rear of

machine and at a convenient operator height. The knife system will accept multiple slitters and is designed for tangential slitting. The web is supported on the entry and exit with multi-segmented low inertia table rolls.
The top slitters, Tidland Class III Knife holders, are mounted on a cross beam with convenient manual adjustment of knife depth and side loading.
The bottom slitter knives are mounted on a Tidland Series 950 pneumatic driven knife shaft (external bladder design). The knife shaft is driven by a 25 HP DC drive. For ease of removing and replacement of slitter knives the bottom slitter shaft is designed for this operation to performed without the need to remove the shaft from the machine.
To assist in positioning the knives a metal scale is located above the bottom knives.

BOWED ROLLS

Two bowed rolls are incorporated into the TDS-MW. From the slitting system the web travels through dual bowed rolls for optimum slit separation providing further flexibility for a wide range of materials and slit widths. Bowed roll spacing and width is designed to maximize strip separation while minimizing outer strip tension loss. The width of the bowed rolls extend beyond the maximum trim width of the machine. This feature eliminates the less effective "dead area" at the ends of the rolls.
The bowed rolls are variable bow, vented with pitch adjustment.

WINDER DRUM SECTION

Large (24") diameter winding drums, the rear drum (paper coming) grooved for the maximum evacuation of air while at the same time keeping the maximum contact with the drums. The front drum (paper coming) is coated with a tungsten carbide traction coating with a surface finish to be determined. (Racine Flame spray or equivalent).

The winding drums are driven by individual drive motors, i.e.. "twin motor drive." The PLC controlled adjustable torque between the winding drums (see Drive) is programmed via the operator through the operator interface, using the key pad entry and screen display and helps to provide consistent control of finished roll density.
A safety beam is mounted between the slitting section and the winding drums to assist in containing the rewinding rolls in the event of an unscheduled ejection.

SHAFTLESS REWIND SYSTEM

This system consists of cantilevered chuck carriage assemblies which are mounted on machine tool quality linear ways. The core

chuck carriages are raised and lowered for core loading and finished set ejection by a pneumatic/hydraulic control system. Carriages are motorized for insertion and retraction of the core chucks and all width adjustments from 138" - 96". Additional extensions can be used for narrower widths. Shaftless assemblies will also accept pneumatic rewind shafts.

TOP RIDER ROLL SYSTEM

The top driven rider roll is controlled by motorized ball screw for safe, rapid resetting of rider roll during roll change. The ball screws being powered by an inter-linked 5 HP DC drive where as the rider roll itself is powered by a 40 HP DC drive. The assembly travels on machine tool quality linear ways for smooth, vibration free operation. The complete absence of counterweights and synchronizing chains allow precise low inertia control of rider roll. Rider roll pressure against the winding roll is sensed and controlled by a closed loop load cell system. The combination of the ball screw and load cell control gives total flexibility in rider roll loading and/or relieving. System allows a range of light contact to 2000 Lbs. of roll pressure.
Rider roll drive can be regulated from the operator's console. Programmable control of the rider roll to obtain better control of roll density can be achieved with the operators interface.

TENSION CONTROL

Programmable web tension is provided through the operators programmable controls with key pad data entry and visual display. ASEA PFTA 101 load cells sense web tension.

WEB THREADING SYSTEM

A tape system located over the driven (10 HP) infeed idler roll is pneumatically loaded to that idler to provide the nip and drive to assist in web threading. When the threading tapes are engaged the machine will not exceed 50 FPM.
From the slitting section on the web is assisted through the bowed rolls and up between the drums by directional threading trays and directed forced air.

EJECTOR ROLL

A hydraulically operated ejector roll, which rotates around the rear drum, ejects the finished roll set into the hydraulically operated roll lowering J- table.

J-TABLE

Hydraulically operated table lowers the finished roll set to floor level. In the running mode, the table in its raised position guards the in running nip. Steel side guards prevent access from the sides of the machine and contain the slit rolls during transfer. The table can be raised from any position when carrying a full finished roll set if required.

TRIM INTAKE

Trim intake chutes, mounted on linear bearings for ease of side to side positioning, are locked in the desired location with the use of a simple hand knob. The chutes are designed to be linked into a customer supplied trim take away system.

DRIVE

Machine is powered by a Reliance DC twin motor drive system complete with individual isolation transformers, pre-wired drive cabinet and operators control console The individual drums are each driven by a 200 HP motor. The rear drum functions as the master speed section and the front drum is torque regulated by varying the load share percentage as a function of roll diameter between the two drives. The drive system includes inertia compensation, programmable ramp rates and programmable stop by diameter or footage. Anti back-up clutch prevents web back up during stops.

PROGRAMMABLE OPERATOR CONTROLS

Programmable control of winding drum variable differential torque, web tension, rider roll loading and relieving (roll density) diameter and or footage stopping etc. is accomplished with the use of an Allen Bradley Series 5-40 PLC control and Panel View interface.
The interface mounts directly within the operators console and is complete with a key pad data entry and 13" color screen data display.
The system allows for both the drum, rider roll and tension control and other aspects of the machine to be programmed and operated together or independently.
All manual operating controls such as push buttons selector switches indicating lamps etc. will be Cutler Hammer10250T series.

"Typical" screens include the following:-

Job File: Index of up to 100 pre-programmed jobs. Job parameters are fully loaded by entering file number.

Input Screen: Parameter entry screen used for manual entry of load share, rider roll and tension set points, slow down and stop set points diameter or footage.

Run Screen: Machine status during run, displays run speed, footage, diameter, drive amps, footage presets, load share and rider roll pressure.

Diagnostic Screen: Displays current status for "no go" condition. Includes machine interlocks (i.e. E-Stops, Guard out of position) and PLC faults.

CONTROLS

Main operator console includes the following controls:

- drive, start, stop, E-stop and speed control
- operator interface
- manual top rider roll position and pressure
- rider roll drive control
- unwind brake on/off
- roll eject/return
- J table raise/lower
- web threading drive controls
- slitter drive on/off
- rewind chucks, in/out, raise and lower
- slitter knives engage/disengage

Displays include:

- Panel View screens

Remote controls include:

Main machine:

- slitting knives engage disengage
- slitter drive engage disengage
- thread assist on/off

- jog
- bowed roll bow & pitch adjustment
- three (3) remote E stop push buttons
- E-stop cable

Main Drive cabinet:

- main isolator switch

Unwind:

- spool coupling engage/disengage
- spool eject
- unwind oscillation on/off
- mechanical brake controls
- one Emergency stop push button
- edge guide on/off/auto
- individual puck switches

NOTE: Webco winders are run prior to shipment for testing and acceptance purposes. All interconnections at Webco are temporary and only for this purpose. All interconnection materials and equipment necessary for installation at the customers site are totally the responsibility of the customer.

POPE ROLL UNWIND SYSTEM

The Pope Roll unwind is designed to accept material wound on the machine spools of 100" and 135" web widths.

A load cell roll arrangement senses and provides the feed back to the unwind for the control of web tension. The unwind system is complete with oscillation and automatic edge guiding giving a total of +/- 4" of lateral movement.
The braking and tension control is by way of an mechanical Montalvo style disc braking system. An RPM sensor on the coupling shaft automatically ramps down the machine speed if the shaft exceeds 2000 RPM.
The unwind spool supports are the open saddle design for ease of loading and unloading via the customer supplied overhead hoist. The pneumatically operated spool to brake jack shaft coupling is disengaged for loading and unloading of the Pope Rolls and empty spools. When disengaged the empty spool is ejected to a retrieval station to allow for the loading of the next Pope Roll.

SERVICE REQUIREMENTS

- 480 volts, 3 PH, 60 HZ 750 Full load amps

- 80 PSI 5 CFM compressed air

GENERAL DESIGN

Machine and unwind construction is of robust precision ground, stress relieved, steel slab frame and/or heavy gauge steel fabrication. Extensive use of ball screws and THK machine tool ways ensure precision and smoothness of linear movement.
The machines are assembled using the latest techniques in optical alignment equipment.
All equipment is fully assembled and tested in plant prior to acceptance trials and/or shipment. The design allows for safe operation with all round accessibility for machine observation and adjustment.

LUBRICATION

All points requiring lubrication are provided with suitable fittings. Frequently lubricated inaccessible locations, inside guards, will have the fittings piped to an accessible location.

SAFETY FEATURES

Emergency pull cords will manual resetting switches and safety gates are interlocked with the drive emergency stop circuit.
Numerous warning and danger signs are fastened to the equipment and guards are fitted at hazardous locations.
As company policy Webco Engineering Inc. continuously strives to ensure the equipment meets the highest standards of safety.

PAINT FINISH

Standard Webco Dove Gray Finish.

TECHNICAL DATA:

Finishing Winder - II

T.D.S. - HD SLITTER/REWINDER 84" TRIM

Face width	88'
Web width	84"
Rewind	60"
Weight capacity	8,500 LBS
Machine speed	4,500 FPM
Minimum slit	3"
Side frames	3"
Bed roll diameter	16"
Rider roll diameter	8"
Idler diameter	6"

MODEL MD 60 SHAFTLESS UNWIND

Web width	24 - 84"
Max opening between	88"
Maximum diameter	60"
Minimum diameter	28"
Maximum weight	6,000 LBS
Auto oscillation/guiding	+/- 6"

POPE ROLL UNWIND

Web width	138"
Maximum diameter	60"
Maximum weight	12,000 LBS
Auto oscillation/guiding	+/- 6"

SLITTING SYSTEM

Slitting knives are Tidland Series II (see Technical Literature, Section 'D') and are located for easy access at the rear of machine and at a convenient operator height. The knife system is designed for operating on both paper and/or board.
The top slitters are mounted on a cross beam with rack a pinion cross machine adjustment and pneumatic knife loading of individual and all knives.
The bottom slitter bushings are mounted on a Tidland pneumatic (external bladder design) driven knife shaft. The shaft is equipped with a quick release drive system and a setting scale for ease of bottom knife positioning. For ease of removing and replacement of slitter knives the bottom slitter shaft is cantilevered. In the running mode the shaft is supported by a live center which is pneumatically retracted to remove knives without the need to remove the knife shaft from the machine.

Standard features include:

- quick and efficient bladder replacement, shaft remains in the machine
- pneumatic control and loading of all and/or individual top slitters
- large diameter top slitter knives and rapid setting of bottom knives
- no risk of bottom slitter shaft damage by fasteners

BOWED ROLLS

Two bowed rolls are incorporated into the TDS-HD(see Technical Literature, Section 'D'). From the slitting system the web travels through dual driven grooved bowed rolls for optimum slit separation providing further flexibility for a wide range of materials and slit widths. Bowed roll spacing and width is designed to maximize strip separation while minimizing outer strip tension loss. The width of the bowed rolls extend well beyond the maximum trim width of the machine, with the bearing supports on the outside of the main frames. This feature eliminates the less effective "dead area" at the ends of the rolls.
The bowed rolls are variable bow type complete with remote power adjustment.

The bow controls are mounted on their own framework and the machine guard has a window for ease of checking bowed roll pitch position.

WINDER DRUM SECTION

Large diameter winder drums for the maximum assurance of quality finished rolls. To ensure maximum contact with the drums the rear drum is vented for the evacuation of air, the front drum is plasma coated. Designed for running the web path up between the drums in the conventional shaftless configuration.
The winding drums are driven by individual drive motors, i.e.. "twin motor drive." The PLC controlled adjustable draw between the winding drums is programmed via the operator from the console through the operator interface, using the key pad entry and screen display and helps to provide consistent control of finished roll density.
A safety beam is mounted between the slitting section and the winding drums to assist in containing the rewinding rolls in the event of an unscheduled ejection.

SHAFTLESS REWIND SYSTEM

This system consists of cantilevered chuck carriage assemblies which are mounted on machine tool quality linear ways. The core chuck carriages are raised and lowered for core loading and finished set ejection by a pneumatic/hydraulic control system. Carriages are motorized for insertion and retraction of the core chucks and all width adjustments from 42"-84".
Additional extensions can be used for narrower widths.
Shaftless assemblies will also accept pneumatic rewind shafts.

TOP RIDER ROLL SYSTEM

Top rider roll is controlled by motorized ball screw for safe, rapid resetting of rider roll during roll change. Assembly travels on machine tool quality linear ways for smooth, vibration free operation. The complete absence of counterweights and synchronizing chains allow precise low inertia control of rider roll. Rider roll pressure against the winding roll is pneumatically regulated at the operator's console.

The combination of the ball screw and pneumatic loading gives total flexibility in rider roll loading and/or relieving. System allows a range of light contact to 1000 Lbs. of roll pressure.

WEB CLAMP

Web Clamp is a full width pneumatically operated cushioned bar, which holds the web against the rear drum. It is designed to isolate the slit strips in the knife/bowed roll rear/drum area from disturbances during roll change.

EJECTOR ROLL

A hydraulically operated ejector roll, which rotates around the

rear drum, ejects the finished roll set into the roll lowering J-table.

J TABLE

Hydraulically operated table lowers the finished roll set to floor level. In the running mode, the table in its raised position guards the in running nip. Clear side guards, for good visibility, prevent access from the sides of the machine. The table can be raised from any position when carrying a full finished roll set if required.

TRIM INTAKE

Trim intake system consists of two, rail mounted, trim intake chutes with full width adjustment to flexible ducting which exits through the machine side frame for easy connection to take away system.

SHOCK ROLL

Positioned within the winder structure is a shock dampening roll. The shock roll has adjustable pneumatic dampening, and a spring rate selected for the customer's product range. The shock roll effectively reduces the adverse effects of an irregular shaped unwinding roll on the tension sensing and control.

COUNTER

A counter is incorporated within the machine operator interface with digital readout. The counter can be preset to the desired footage required in the rewound rolls. The machine stops automatically at the preset footage and diameter.

DRIVE

Machine is powered by a twin motor, PLC controlled SSD (Eurotherm) 2/100 HP regenerative DC Drive. The TDS-HD Twin Motor Drive System consists of individually driven drums. The rear drum functions as the master speed section and the front drum is torque regulated by varying the load share percentage as a function of roll diameter between the two drives.
The winding drums, rider roll, bottom slitter shaft and bowed rolls are driven by HTD and high performance flat belts respectively. Stopping and "hold back" of the machine against web tension is accomplished with a one way clutch incorporated into the main drive train.
The clutch also has a quick release facility.

PROGRAMMABLE OPERATOR CONTROLS

Programmable control of winding drum variable differential draw, where applicable, and rider roll loading and relieving (roll density) is accomplished with the use of PLC control and an operator interface.
The interface mounts directly within the operators console and is complete with a key pad data entry and 13" color screen data display.
The system allows for both the drum, rider roll and tension control to be programmed and operated together or independently.

Typical screens include the following:-

Job File: Index of up to 100 pre-programmed jobs. Job parameters are fully loaded by entering file number.

Input Screen: Parameter entry screen used for manual entry of draw and rider roll set points, slow down and stop set points.

Run Screen: Machine status during run, displays run speed, footage, diameter, drive amps, footage presets, draw and rider roll pressure.

Diagnostic Screen (i.e. PLC) Displays current status for "no go" condition. Includes machine interlocks E-Stops, Guard out of position) and faults.

CONTROLS

Main operator console includes the following controls:

- drive, start, stop, E-stop and speed control
- operator interface
- two stage counter to preset roll footage
- manual top rider roll position and pressure
- rider roll torque drive control
- unwind tension setting, manual/automatic
- roll eject/return
- 'J' table raise/lower
- web clamp on/off
- slitter drive engage disengage
- rewind chucks, in/out, raise and lower
- slitter knives engage/disengage

Displays include:

- Panel Mate screen

Remote controls include:
Main machine:

- knife engage/disengage
- slitter drive engage disengage
- bowed roll pitch and bow adjustment
- three (3) remote E stop push buttons
- E-stop cable

Main Drive cabinet:

- main isolator switch

Unwind:

- "Pendant station" control, up/down, chuck/upchuck
- edge guide on/off
- edge guide manual override left/right
- unwind brake on/off
- individual "puck" on/off
- one Emergency stop push button

Pope Roll Unwind:

- spool coupling engage/disengage
- spool eject
- unwind oscillation on/off
- mechanical brake controls
- one Emergency stop push button
- edge guide on/off/auto
- individual puck switches

NOTE: Webco winders are run prior to shipment for testing and acceptance purposes. All interconnections at Webco are temporary and only for this purpose. All interconnection materials and equipment necessary for installation at the customers site are totally the responsibility of the customer.

MODEL MD-60 SHAFTLESS "FLOOR PICK UP" UNWIND STAND

Guided shaftless "floor pick up" unwind stand equipped with motorized ball screws for chucking the parent roll and hydraulics for raising it to the unwind position. An operator's pendant station allows easy roll loading.
High performance Montalvo brakes provide web tension. The unit will accept a variety of core chucks, which are easily fitted or changed, including mechanically expanding and wedge type. The equipment includes a heavy duty skew roll for adjusting cross

machine wrinkles and a shock dampening roll located within the winder structure.

The unit is of rugged tubular construction, and fully guarded. It is installed without pits, special foundations, or rails. Guiding is by way of an automatic edge guiding unit hydraulically actuating the lateral movement of the unwind stand on linear bushings.

STANDARD EQUIPMENT SHAFTLESS(UNWINDS)

- Dover Flexo automatic tension controller
- two (2) Montalvo # 1706 tension brakes
- Fife 1 HP automatic edge guide +/- 6" lateral movement
- hydraulic loading system
- motorized ball screw chucking
- skew roll (all unwinds)

POPE ROLL UNWIND SYSTEM

The Pope Roll unwind is designed to accept material wound on the machine spools. A load cell roll arrangement senses and provides the feed back to the unwind for the control of web tension. The unwind system is complete with oscillation giving a total of +/- 6" of lateral movement.
The braking and tension control is by way of an mechanical Montalvo style disc braking system. An RPM sensor on the coupling shaft automatically ramps down the machine speed if the shaft exceeds 2000 RPM.
The unwind spool supports are the open saddle design for ease of loading and unloading via the customer supplied overhead hoist. The pneumatically operated spool to brake jack shaft coupling is disengaged for loading and unloading of the Pope Rolls and empty spools. When disengaged the empty spool is ejected to a retrieval station to allow for the loading of the next Pope Roll.

SERVICE REQUIREMENTS

- 480 volts, 3 PH, 60 HZ 350 full load amps
- 80 PSI 5 CFM compressed air

GENERAL DESIGN

Machine and unwind construction is of robust precision ground, stress relieved, steel slab frame and/or heavy gauge steel fabrication.

Extensive use of ball screws and THK machine tool ways ensure precision and smoothness of linear movement. The machines are assembled using the latest techniques in optical alignment equipment.

All equipment is fully assembled and tested in plant prior to acceptance trials and/or shipment.
The design allows for safe operation with all round accessibility for machine observation and adjustment.

PAINT FINISH

Standard Webco Dove Gray Finish.

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