UC 149-2

UNION CARBIDE **INTERNAL CORRESPONDENCE**

PLAINTIFF'S EXHIBIT
UC-3513

METALS DIVISION • 137 — 47th STREET, P.O. BOX 97, NIAGARA FALLS, NY 14302

To (Name) See Attached Distribution
Division
Location

Date December 11, 1980

Originating Dept. TECHNOLOGY DEPARTMENT — ENGINEERING

Answering letter date

Copy to

Subject Asbestos Bagging Wrap Improvement,
King City, CA
File No. 11217

RECOMMENDATION

After observing seven different overwrap machines in operation and considering fifteen layout arrangements we are recommending the "Proposed Improved Shrink Wrap Equipment Layout - Arrangement Q" as shown on the attached print of SF-7696. This incorporates the "Tack Seal" principle of pre-sealing the sides of the film sleeve before shrinking in the heat tunnel as observed by Mr. J.F. Kantz and myself at the Great Lakes Corporation in Chicago on November 19, 1980.

DISCUSSION

The "Tack Sealer" is a new piece of equipment which we recommend be installed after the existing sleeve wrap machine and which would then seal the top and bottom films together at two spots on each side of the bag. The Tack Sealer requires compressed air to operate the folding arms and electric power for the four sealing heads. The preliminary price is about $9,000.

A new shrink tunnel from Great Lakes Corporation would complete the seal and provide a bag overwrap similar to the present package but with greater reliability of complete closure. The new tunnel would have the same 21 kw rating as the present old tunnel but with better seals and controls is expected to use only 60% as much power for a saving of about $3000 per year. The preliminary price is about $14,000.

Both machines would fit in the space in the main bagging line now occupied by the present tunnel. Installation should be quite simple; only the tunnel must be removed and no new power supply is required, only an air supply. No rearrangements or changes to other machines are necessary. The operating cycle of the Tack Sealer would be controlled by the sleeve wrap machine which will remain as is.

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ACL Doc 18257 · Page 1 of 8 asbestosclaims.law/library/18257/1

OTHER ARRANGEMENTS CONSIDERED

Several arrangements had been considered for a second overwrap of certain bags in the storage shed area. The advantages were that it would serve both packing lines, installation would not interrupt production, and it may have been available earlier. Interest faded when a reliable improvement to the existing bagging lines seemed practical. Also the double wrap in the shed required double film use, extra handling, and double energy for those shipments requiring a dust free wrap.

Of the nine other arrangements proposed for the main line using two films, all were rejected except two. Proposal "M" would be the most reliable of the two and would replace the existing sleeve wrap and shrink tunnel with a new shorter sleeve wrap and tunnel followed by a stretch wrap machine of the orbital type to double wrap on four sides to cover the shrink wrap failure area. New equipment purchase cost may be about $75,000, installation cost would be high, and modifications would be needed to the bag flattener and inclined conveyor. Energy costs may be the same as for our recommended plan, but film cost would double.

In proposal "N" the existing shrink tunnel would be replaced by the orbital type stretch wrap machine following the existing sleeve wrap. A narrower film would cover the bag endwise without shrink, then a four side stretch wrap would cover the sleeve for a complete enclosure. Equipment cost would be substantially less than for proposal "M" but installation and modifications would be about the same. Energy cost would be much less without the tunnel (projected savings of $8000 per year) and film cost would not be double. However, there is some question whether the resulting seal would be acceptable, especially at the corners. This method has not been proven.

We are proceeding with our recommended proposal "Q" by issuing a specification (241-11217-2) for the Tack Seal and tunnel to secure a quotation for equipment to suit our physical requirements, production needs, and electrical standards. It is also our suggestion that the main packaging line be converted first and operated for several months before equipment is ordered for the RG 244 line. Delivery has been reported as 14 to 16 weeks.

We have not made a cost estimate for this proposed work. We will assist in supplying information for job authorization if requested.

P R Sherman

P. R. Sherman

Attachments:
Section 1 of Specification No. 241-11217-2
Print of SF-7696

PRS/cw

UCC 009117

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ACL Doc 18257 · Page 2 of 8 asbestosclaims.law/library/18257/2

Niagara Falls, New York, December 4, 1980

SPECIFICATION NO. 241-11217-2

Attachment A

SPECIFICATION

FOR

SHRINK TUNNEL WITH FILM SIDE-SEALING MACHINE

For Use At

UNION CARBIDE CORPORATION
METALS DIVISION
KING CITY, CALIFORNIA

Prepared By

UNION CARBIDE CORPORATION
METALS DIVISION
TECHNOLOGY DEPARTMENT - ENGINEERING
NIAGARA FALLS, NEW YORK

Author P R Sherman Approved By E.C. Woosterdick

This Specification Consists of:

1.	Technical Requirements	Pages 1 to 3
2.	Physical Design Conditions	Page 1
3.	General Requirements	Pages 1 to 4
4.	Drawing and Data Requirements	Pages 1 to 2

Date of Issue	Purpose of Issue	Revision No.	Issue Authorized By
12-4-80	For Bid	0	P R Sherman

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ACL Doc 18257 · Page 3 of 8
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Attachment A

SECTION 1 - TECHNICAL REQUIREMENTS

1.0 SCOPE OF WORK

This specification covers a film sealing machine and shrink tunnel to reliably provide a completely sealed film overwrap for product bagged in kraft paper bags. This machine shall receive bags from the Owner's existing film sleeve wrap machine, close the sides of the sleeve and heat seal in two places each side, then complete the seal in the shrink tunnel.

2.0 PERFORMANCE REQUIREMENTS

2.1 Service Conditions

2.1.1 The equipment shall be automatic and not require the attention of an operator.

2.1.2 The equipment shall be capable of continuous 24 hour per day operation.

2.1.3 The cyclic rate of operation shall be between 4 and 6 bags per minute. Action of the sealing machine will be initiated by the arrival of a bag from the Owner's sleeve wrap machine.

2.1.4 The following bag sizes and weights are representative of the many product grades to be shrink wrapped. The different bag sizes will not be mixed but may be changed several times a day. Adjustments for bag width must be positive and reproduceable.

Net Weight	Filled Dimensions (L x W x H)
50 lb	29 x 18-1/2 x 6-1/2
10 lb	28-1/2 x 18-1/2 x 6-1/2
50 lb	28 x 19 x 7
50 lb	26 x 15 x 5
50 lb	27 x 18-1/2 x 8
50 lb	29-1/2 x 19 x 6

2.1.5 The film presently being used is a 3 mil low density film in widths of 24", 26", 32", and 34".

2.2 Design Criteria

2.2.1 The space to be occupied by both pieces of equipment (side-sealer and tunnel) is 12'-9" long, the space now occupied by an existing shrink tunnel. See UCC Drawing No. SF-7696.

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SECTION 1 - TECHNICAL REQUIREMENTS (Continued)

2.2.2 The upper surface of the belt shall be 6'-3" above the floor. Legs shall be adequately braced without eliminating a crawl access to the far side of the machine.

2.2.3 All operating controls shall be located on the left side of the machine; the right side is accessible for limited maintenance only.

2.2.4 The mechanism of the film side-sealer shall be of heavy duty construction designed for long life.

2.2.5 The shrink tunnel shall be of the dual zone type without a cooling section and shall have thermocouple temperature control and a recirculating air system. Air flow, belt speed, and temperature shall be adjustable.

2.2.6 Spring loaded adjustable side rollers shall be provided at the tunnel discharge.

2.2.7 Motors shall be totally enclosed, standard duty, as described in paragraph 2.2, Section 3. Control panel and all controls shall be NEMA-12. The control panel shall have a lockable disconnect switch interlocked with the door to prevent door opening with the switch closed.

2.2.8 All electrical control circuits shall be single phase, 60 Hertz, 120 volt or less and shall be supplied by the seller.

3.0 WORK INCLUDED

The seller shall furnish the following subject to the terms and conditions of this specification:

3.1 Film side-sealer with pneumatic controls.

3.2 Shrink tunnel with motors, drives, fans, and controls.

3.3 Drawings and data as listed in Section 4.

3.4 Freight to King City, CA.

3.5 Start-up service for at least two days.

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ACL Doc 18257 · Page 5 of 8
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SECTION I - TECHNICAL REQUIREMENTS (Continued)

4.0 WORK NOT INCLUDED

4.1 Off loading, on-site transportation, and installation of equipment.

4.2 Power supply including wiring.

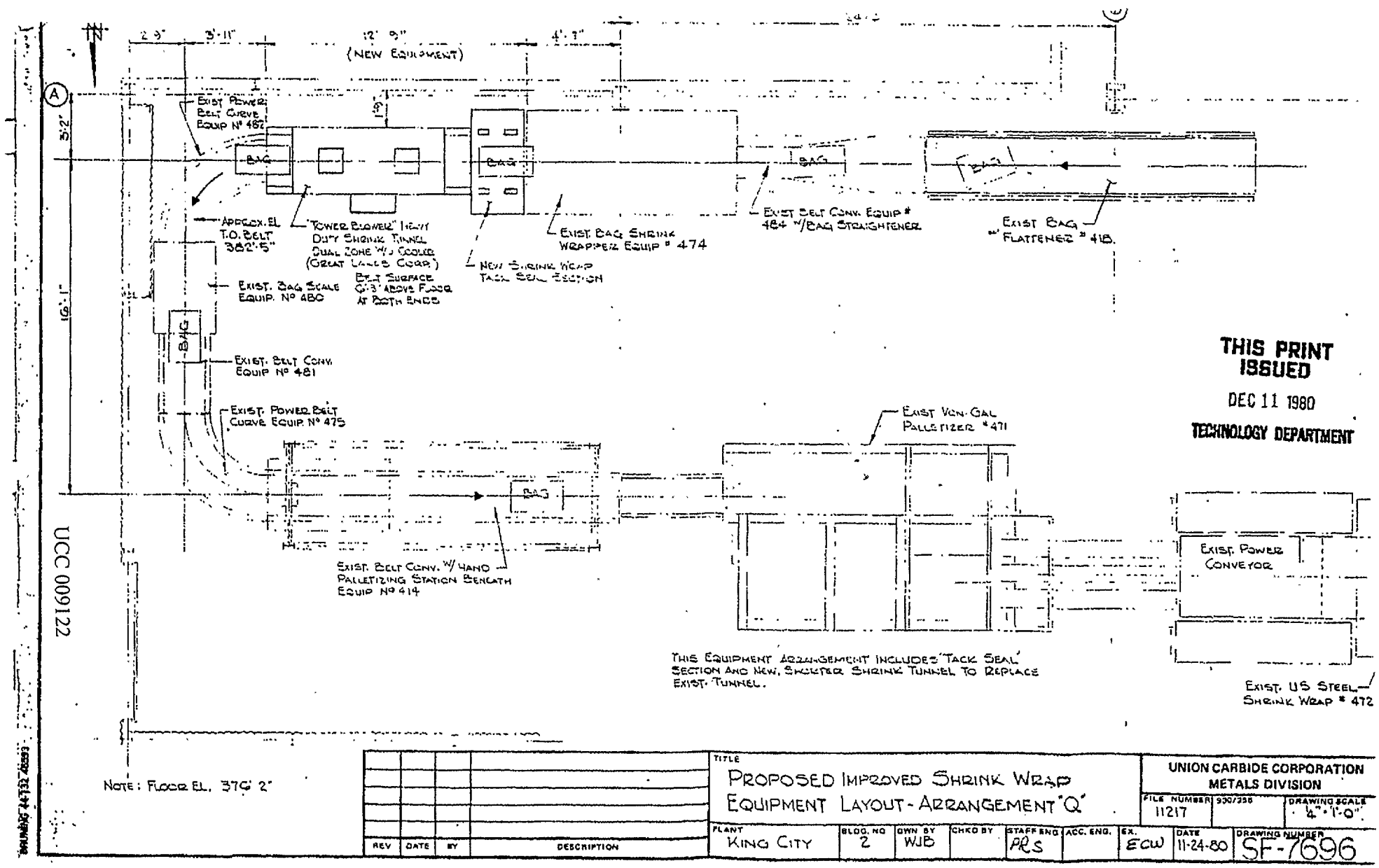
4.3 Compressed air supply

4.4 Sleeve wrap machine before and belt conveyor after the equipment.

UCC 009121

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ACL Doc 18257 · Page 7 of 8
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ACL Doc 18257 · Page 8 of 8
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