

PLAINTIFF'S EXHIBIT

ETCO-811

Brown & Root, Inc. Post Office Box Three, Houston, Texas 77001

July 24, 1978



J & S Insulators, Inc.
P. O. Box 15616
Houston, Texas 77020

Attn: Mr. Paul B. Johnston
President

Subject: Subcontract No. 27-4060-5004
Miscellaneous Insulation
General Plant Improvements
Ethyl Corporation
Pasadena, Texas

Gentlemen:

We enclose herewith one fully executed copy of our Subcontract Number 27-4060-5004 dated May 23, 1978 for your permanent file.

Very truly yours,

BROWN & ROOT, INC.

Original Signed By
JOHN M. BUSTAMANTE

John M. Bustamante
Subcontract Administrator
Subcontracts Department
Procurement Division

JMB/yde

Enclosure

bcc: E. E. Kernan (w/original attached)
G. W. Tate (2 w/pink and yellow copies attached)
Jim Wasson

00302



BROWN & ROOT, INC.

JMB/yde

SUBCONTRACT

Ethyl Corporation
General Plant Improvements
Pasadena, Texas

Job Number 27-4060(5)Subcontract No. 27-4060-5004

(Project)

Miscellaneous Insulation

(Sublet Work)

May 23, 1978

(Effective Date)

THIS SUBCONTRACT, by and between BROWN & ROOT, INC., a Texas Corporation, P. O. BOX 3,
HOUSTON, TEXAS 77001, "GENERAL CONTRACTOR" and,
J & S INSULATORS, INC.

a Corporation under laws of Texas
(Corporation, Proprietorship, Partnership) (State)

whose address is P. O. Box 15616, Houston, Texas 77020 (713) 675-6393

"SUBCONTRACTOR," whose contractor's license number under laws of Not Applicable

is Not Applicable, entered into as of the EFFECTIVE DATE stated above,

WITNESSETH:

In consideration of the mutual promises herein contained General Contractor and Subcontractor agree, promise, and obligate themselves as follows:

1. Subcontractor promises to perform the Sublet Work for the Project in accordance with the Contract Documents.
2. General Contractor promises to pay Subcontractor, for full, accurate and timely performance of the Sublet Work in accordance herewith, the Price and other payments, and promises to perform all of the other obligations of General Contractor, as set forth in the Contract Documents.
3. The Contract Documents constituting this Subcontract consist of:
 - a. "Subcontract Terms" and exhibits thereto.
 - b. "Special Conditions" and exhibits thereto.
 - c. "General Conditions" Form P-50 1/77
 - d. "Affidavit for Subcontractor"
 - e.
 - f.

Project Account Code	<u>27-4060(5)</u>
Vendor Code No.	<u>07272024</u>
Net Price:	<u>\$15,000.00 ESTIMATED</u>
Term:	<u>Per Subcontract Item #6</u>

Subcontract No. 27-4060-5004

The foregoing constitutes the entire contract, and supersede all prior proposals, negotiations, agreements, awards, letter of intent and written or oral statements, representations or agreements.

4. The Effective Date set forth above is the date as to which all Contract Documents and provisions thereof have reference for purposes of coordination of their meaning and effect. The price relates to the Sublet Work as described in drawings, specifications and other Contract Documents in their condition on that date. Changes after the effective date will be dealt with in accordance with the provision for changes. Any work commenced and any payments made pursuant to an Award or Letter of Intent prior to the execution hereof shall be deemed to have been done and paid after the Effective Date under the terms of this Subcontract.

GENERAL CONTRACTOR:

BROWN & ROOT, INC.

By: S. S. Mather
for D. E. Newton, Jr.
Title: Vice President - Procurement
Date: July 21, 1978

SUBCONTRACTOR:

J & S INSULATORS, INC.

By: [Signature]
Title: VICE - PRESIDENT
Date: July 20, 1978

SUBCONTRACT TERMS

SUBCONTRACT NO. 27-4060-50041. SUBLET WORK

- 1.1 The Sublet Work, in general, is to furnish, deliver and install miscellaneous insulation as may be required at the Ethyl Corporation Plant located in Pasadena, Texas.
- 1.2 More specifically, the Subcontractor agrees to perform the Sublet Work which consists of furnishing all labor, materials, tools, equipment, scaffolding, warehousing, transportation, supervision, taxes, insurance and all other things necessary (except for that described hereunder in Subcontract Term No. 4) to furnish and install insulation on piping, equipment and/or miscellaneous components at the above described location, if and when requested to do so by the General Contractor's Project Manager or his duly authorized representative.
- 1.3 All Sublet Work performed by the Subcontractor shall be in accordance with the requirements of the specifications listed hereunder in Subcontract Term No. 2.
- 1.4 Subcontractor shall perform all Sublet Work in strict accordance with the requirements and directions of, and as may be required by, the General Contractor's Project Manager, or his duly authorized representative.

2. SPECIFICATIONS

The Sublet Work shall be performed in accordance with, and all materials furnished by the Subcontractor shall comply and conform to the requirements of, the Ethyl Corporation specifications, described hereunder, all of said documents hereby being made a part of this Subcontract by reference.

- 2.1 Ethyl Corporation Specification SP-92-1 "Hot Insulation" dated February, 1977, Sheet Nos. 1 through 17.
- 2.2 Ethyl Corporation Specification SP-92-2 "Cold Insulation" dated February, 1977, Sheet Nos. 1 through 17.
- 2.3 Ethyl Corporation Specification SP-92-3 "Steam Tracing" dated June, 1977, Sheet Nos. 1 through 13.

3. TIME OF PERFORMANCE

- 3.1 Subcontractor shall perform all Sublet Work in accordance with the schedule and requirements of the General Contractor's Project Manager, or his duly authorized representative.
- 3.2 The Sublet Work shall commence on a "call-out" basis as of the effective date of this Subcontract and shall continue on an "as required call-out" basis throughout the duration of the Sublet Work, all of which is anticipated to be completed by the Subcontractor on or about September 1, 1978.
- 3.3 Subcontractor shall maintain contact with the General Contractor's Project Manager, or his duly authorized representative, for the purpose of scheduling and coordinating this Subcontract.

4. FURNISHED BY OWNER

Subcontractor shall be furnished the necessary electrical power and air required to perform the Sublet Work described herein, in addition to drinking water and sanitary facilities.

5. SUBCONTRACT PRICE

- 5.1 General Contractor agrees to pay Subcontractor for complete, satisfactory and timely performance of the Sublet Work in accordance with and pursuant to the rates (and provisions thereto) listed in the Subcontractor's document entitled "Thermal Insulation - Cost Plus Work" dated May 22, 1978, pages 1 through 5 and the "Effective Price List of Materials" dated effective 1/1/78 pages 1 through 30, all of said documents hereby being made a part of this Subcontract by attachment.
- 5.2 The Subcontract Price includes, wherever applicable, all sales/use taxes.
- 5.3 Subcontractor shall be paid for Sublet Work completed by the Subcontractor that has been requested, approved, verified and accepted by the General Contractor.

6. PAYMENT

Supplement the provisions set forth in Paragraph No. 32 of the General Conditions with the following:

Subcontractor shall prepare and submit an invoice monthly acceptable to the General Contractor and in accordance with the unit rates set forth in the documents described in Subcontract Term No. 5 herein. Upon approval, the Subcontractor will be paid the invoiced

6. PAYMENT - (Continued)

amount less 10% of such value as retainage until final completion and acceptance of the Sublet Work by the General Contractor. Subcontractor shall prepare and submit an invoice for the proposed monthly progress payment with supporting documents and proof of payment of all invoices for labor and materials for approval by General Contractor and when approved, payments shall be made within thirty (30) days thereafter. Final payment and release of retainage shall be made when the Sublet Work has been satisfactorily completed and accepted, and Subcontractor has submitted the affidavit as called for in Subcontract Term No. 8.

7. PAYMENT AND PERFORMANCE BONDS

As of the effective date of this Subcontract, the requirement to furnish separate 100% Payment and Performance Bonds, each in the estimated Subcontract amount of \$15,000.00 is hereby waived. However, at General Contractor's option, this requirement may at any time be reinstated in accordance with the provisions of General Condition 19 herein. In the event General Contractor requires Subcontractor to furnish said bonds, General Contractor shall reimburse Subcontractor the premium cost not to exceed:

SIX-TENTHS OF ONE PERCENT OF BOND AMOUNT DOLLARS
(Words)

6/10 of 1% of Bond Amount
(Figures)

Transamerica Insurance Company
(Surety)

4230 LBJ Freeway, Suite #600, Dallas, Texas 75234
(Address)

8. AFFIDAVITS

Two copies of the General Contractor's "Affidavit for Subcontractor" (Form P-7) are attached for use in implementing the provisions of General Condition No. 32. Subcontractor shall execute and return one copy with his final or retainage invoice to the address shown in Subcontract Term No. 9.

9. INVOICES

Subcontractor shall render all invoices to the following address:

Brown & Root, Inc.
209 N. Main Street
Pasadena, Texas 77506

Attn: Jim Wasson

10. INSURANCE

Subcontractor shall forward his Certificate of Insurance stating the names of its Insurance Carriers and certifying that its insurance coverages meet the requirements set forth in General Condition No. 21 herein to the following address, in addition to the address shown in Subcontract Term No. 9.

Brown & Root, Inc.
P. O. Box 3
Houston, Texas 77001

Attn: J. Bustamante
(01-135)

11. LABOR RELATIONS

The following supplements Paragraph 14 of the General Conditions:

The Subcontractor represents that its pre-hiring collective bargaining agreements, if any, contain or will contain provisions that, or Subcontractor has entered into or will enter into a project agreement modifying such collective bargaining agreement to provide that, there shall be no strikes, slowdowns, picketing, secondary boycotts, or work stoppages during the performance of the Sublet Work. Subcontractor will further subcontract only to lower-tier subcontractors having similar provisions in their collective bargaining agreements, if any.

SPECIAL CONDITIONS

ETHYL CORPORATION

1. LOCATION OF PROJECT

The Project, as a whole, is located at Ethyl Corporation's manufacturing plant in Pasadena, Texas.

2. CONFIDENTIALITY AND NON-USE

The following provisions supplement Paragraph 28 of the General Conditions:

- A. Subcontractor agrees to exercise reasonable care to the end that all information and know-how including that embodied in existing types of plant facilities or in drawings, tracings, and/or any other documents made available or otherwise acquired in connection with the construction and/or construction of the sublet work in accordance with this Subcontract, will be maintained by Subcontractor, its employees, suppliers, and lower tier Subcontractors in strict confidence and will not be disclosed to any third party.
- B. In order to further protect General Contractor and/or Owner against the unauthorized use of information and "know-how" developed or acquired from General Contractor and/or Owner hereunder, which information and "know-how" personnel of Subcontractor must of necessity acquire in order to engage in the sublet work authorized, Subcontractor agrees that it will not, except with the written consent of General Contractor and/or Owner, design and/or construct either in whole or in part for Subcontractor or for others, manufacturing facilities based upon process or information supplied to Subcontractor by General Contractor and/or Owner, or based upon information developed by Subcontractor for General Contractor and/or Owner hereunder.
- C. The foregoing obligations of confidentiality and non-use shall not apply to information or know-how which was known to Subcontractor prior to disclosure by General Contractor and/or Owner, to information or know-how which is or becomes generally available to the public through no fault of Subcontractor or any employee or lower tier Subcontractor thereof, or to information or know-how which is acquired by Subcontractor from a source independent of General Contractor and/or Owner without restriction on disclosure.

- D. All inventions and discoveries made or conceived by personnel of Subcontractor while engaged in the performance of Sublet Work authorized hereunder and resulting directly or indirectly from information and know-how acquired from General Contractor and/or Owner shall be the sole and absolute property of General Contractor and/or Owner and shall be assigned by Subcontractor to the General Contractor and/or Owner.
- E. Subcontractor further agrees to use reasonable care in selection and assignment of personnel to perform the work in accordance with this Subcontract and to take proper precautions to avoid the unauthorized dissemination of any of the information and know-how Subcontractor is obligated to maintain in confidence hereunder.
- F. Subcontractor also agrees to return within ten (10) days after request by General Contractor and/or Owner, any drawings, tracings and other documents made available by General Contractor and/or Owner, including any copies or written modifications thereof made by Subcontractor, its personnel, or its suppliers and lower tier Subcontractors. Subcontractor further agrees to confirm, by letter, the return of all requested information by it to General Contractor and/or Owner. The letter shall list the specific items of information or know-how and shall state that such return is complete, including all copies received or made by him, his employees, suppliers, and lower tier Subcontractors.
- G. At General Contractor's and/or Owner's option, Subcontractor's supervisory and technical personnel and lower tier Subcontractors having access to General Contractor's and/or Owner's flow diagrams shall sign separate confidentiality and non-use agreements with Subcontractor and General Contractor and/or Owner; Subcontractor's other supervisory and technical personnel shall sign confidentiality and non-use agreements with Subcontractor. General Contractor and/or Owner reserve the right to approve all such agreements as to form and content prior to their execution.

3. REPRESENTATIONS

Subcontractor represents that he is familiar with the contractual provisions of the prime contract entered into between Owner and General Contractor affecting the Sublet Work and agrees to be bound by the terms and conditions therein so far as applicable to its work, in addition to the terms and conditions of this Subcontract.

GENERAL CONDITIONS

1. INVESTIGATION OF SITE AND PROJECT CONDITIONS

Subcontractor represents that he is familiar with the site and the physical conditions, the availability of labor and materials and all other matters at the site or in the vicinity of the site which affects the Sublet Work. Subcontractor represents that he has examined the subcontract document and familiarized himself with the Project, the laws, rules and regulations relating to the Project; the environmental considerations affecting the Project and the Sublet Work; the participants in the Project; and the contractual and regulatory provisions of governmental agencies, the Owner and General Contractor affecting the participants in the Project and the Sublet Work. No allowance will be made to Subcontractor for not having made such examination and review or for requirements which a reasonable examination, inquiry and review would have disclosed.

2. RESPONSIBILITY

a. Subcontractor agrees to perform the Sublet Work in accordance with good construction practices and the plans, specifications and other requirements of this Subcontract, and to furnish all supervision, labor, supplies, tools, construction equipment, facilities, storage, permanent equipment and materials (except as specified herein to be furnished by Owner or General Contractor) and all other things and services necessary or desirable to perform the Sublet Work.

b. Subcontractor shall be responsible for the correctness of the positions, levels and dimensions of the Sublet Work, notwithstanding the Subcontractor may have been assisted by the General Contractor or any other Contractor in setting out the same; and if at any time during the performance of the Sublet Work, any error shall appear or arise therein, the Subcontractor shall immediately advise the General Contractor's Site Representative and await instructions for removal and replacement or performance of corrective work, before proceeding with that portion of the Sublet Work.

c. All work which is manifestly necessary to carry out the intent of the drawings and specifications pertaining to the Sublet Work, or which is customarily done in performing this type of work for the Owner or General Contractor, shall be performed by the Subcontractor as a part of the Sublet Work.

3. COORDINATION OF THE PROJECT

General Contractor is charged with the responsibility of accomplishing the work of the entire Project, or a significant portion thereof, in accordance with drawings, specifications, permits, licenses, rules and regulations, laws and ordinances, and requirements of the Owner. The contract price provisions, and the definition of requirements of the Sublet Work, as of the effective date, are coordinated and identified in the Subcontract Terms. General Contractor is charged with the responsibility of coordinating the efforts of all, or a significant portion of, the participants in the Project, including various subcontractors, specialty service contractors, suppliers, and other workmen, and the direct employees of General Contractor. Subcontractor agrees to perform the Sublet Work as part of the team of participants in the Project in cooperation with all other participants, and subject to all reasonable rules, regulations, and directives of General Contractor (a) for the coordination of the work of all participants, (b) for the maintenance of safety, efficiency, security and good order on the Project as a whole, (c) for compliance with the terms hereof, and (d) for the protection of the environment and the rights of the public.

4. SCHEDULING SUBLET WORK

Subcontractor agrees to commence the Sublet Work promptly when directed by General Contractor and to prosecute the Sublet Work diligently to completion. Sub-

contractor agrees to provide adequate number and types of: (a) laborers, skilled craftsmen and technicians, supervisors, administrators, and managers, (b) construction equipment in good condition, (c) materials, permanent equipment, and supplies, except for items specified to be supplied by General Contractor or Owner, to accomplish the work and maintain the Schedule or restore the Sublet Work to the Schedule. Subcontractor shall provide General Contractor a detailed Schedule for performance of the Sublet Work and shall revise and update such Schedule from time to time as the work on the Project progresses. The Schedule for the Sublet Work shall be subject to revision or approval by General Contractor to coordinate the Sublet Work with the over-all rate of progress of General Contractor and other participants in the Project as a whole, and to expedite performance of critical items of work on the schedule. General Contractor will schedule and coordinate the use by Subcontractor and others of jointly used facilities, construction equipment, and space, and Subcontractor shall accommodate its Schedule to such shared use. General Contractor will determine the normal working hours for the Project as a whole, and any special working hours for the Sublet Work on a normal shift or overtime basis will be subject to prior approval of General Contractor.

5. INTEGRATION WITH WORK OF OTHERS

Subcontractor shall inform itself regarding the nature, condition and state of progress of work of others which affects or connects with the Sublet Work. Before connecting Sublet Work to work of others, Subcontractor shall ascertain that such work of others is ready, properly aligned, and in suitable condition for such connection and integration with the Sublet Work, and shall report any discrepancies to General Contractor for adjustment prior to proceeding. Subcontractor is not charged with notice of latent defects in the work of others of which he has no actual knowledge.

6. ALLOCATION OF FACILITIES

General Contractor will designate for use by Subcontractor, entrances, parking areas, storage areas, office and work areas, and such facilities and construction equipment as General Contractor is to provide. General Contractor will allocate, and schedule the use of, such common facilities and utilities as are provided by General Contractor for use of Subcontractor and other participants in the Project. Temporary interruption of services, utilities and use of facilities are anticipated and shall not justify a claim for additional compensation.

7. INSPECTION AND QUALITY CONTROL

The Sublet Work shall be performed to the specified standards of workmanship and strictly in accordance with drawings, specifications, procedures, and other requirements of this Subcontract. General Contractor shall have the right to inspect the Sublet Work and Subcontractor's equipment, tools, records and facilities at all times. No work shall be covered until inspected and released in accordance with established inspection procedures, and any work improperly covered shall be uncovered and exposed by Subcontractor for inspection on request. Inspection and approval shall not relieve Subcontractor of the obligation to complete the entire Sublet Work in strict compliance with the requirements of this Subcontract. Any defective Sublet Work shall be discontinued, removed and replaced or corrected in accordance with specifications and directions of General Contractor. Subcontractor shall furnish for the Sublet Work all Quality Assurance and Quality Control documentation, as required by General Contractor for the Project as a whole or for the specific part thereof affected by the Sublet Work.

8. SAFETY, CLEANLINESS AND SANITATION

Subcontractor shall comply with all applicable laws, rules and regulations relating to safety. Subcontractor

shall comply with all safety standards, rules and regulations relating to safety, cleanliness and sanitation established by General Contractor for the Project as a whole. Subcontractor shall immediately stop work and take corrective action when directed by General Contractor because of any unsafe condition or practice. Subcontractor shall be responsible for the safety of its workmen and the Sublet Work and shall not create hazards for others or the work of others. Subcontractor shall provide first aid and ambulance facilities for its workmen to the extent sufficient facilities are not provided for the Project as a whole by General Contractor. General Contractor shall provide for safety of the Project as a whole in case of emergency. General Contractor may direct Subcontractor's personnel and resources for the protection of life and property.

9. DELAYS

If Subcontractor's performance of the Sublet Work is delayed by Owner's or General Contractor's failure to perform their obligations hereunder, or by orders of the General Contractor delaying or suspending the work, or by changes in the work, Subcontractor shall be entitled to an equitable adjustment in the price and time for performance in accordance with the provision for Changes in Article 12; but no price adjustment shall be due for delays or inconvenience to Subcontractor from the scheduling and coordination of the Sublet Work with the rate of progress made by all participants in the Project. In the event Subcontractor is delayed by force majeure, Subcontractor shall be entitled to an equitable extension of time but no adjustment in the price; provided, that inadequate manpower or failure of Subcontractor's workmen to prosecute their work because of strikes, boycott, picketing, or other form of labor dispute shall not be deemed force majeure unless there is clear and substantial danger of bodily harm or property damage if the employees undertook to enter the work site and perform their work, as determined by General Contractor or the chief local law enforcement officer. Subcontractor shall notify General Contractor in writing within 48 hours after the commencement of a delay, if Subcontractor claims an extension of time or an adjustment of price because of such delay, or the right to such extension or adjustment shall be waived.

10. SUPPLEMENTING OR TAKING OVER BY GENERAL CONTRACTOR

If, after seven (7) days written notice by General Contractor to Subcontractor specifying any deficiency in the Sublet Work or the promptness with which it is being performed, Subcontractor has not promptly commenced to correct, and within a reasonable time corrected, such deficiency to the satisfaction of General Contractor, General Contractor may supplement the work of Subcontractor, or take over performance of the Sublet Work temporarily or completely, with General Contractor's own forces or by contract with others. General Contractor may use all or part of Subcontractor's construction equipment, tools and facilities at the project site, and any materials, permanent equipment and supplies, in the performance of the Sublet Work, without payment to Subcontractor otherwise than by the extent such use of Subcontractor's items causes a reduction of cost of completing the Sublet Work. All costs incurred by General Contractor in performing all or part of the Sublet Work, including a mark-up of 10% of such cost, shall be deducted from the price payable to Subcontractor and if such sum plus all payments previously made to Subcontractor shall exceed the price, Subcontractor shall refund to General Contractor the excess within ten (10) days after submittal of a properly documented invoice. If the price is on a cost reimbursable basis, Subcontractor will be reimbursed for use of construction equipment at the lowest applicable rate provided for herein or at prevailing rental rates if no rate is specified, and the cost of Subcontractor's materials used. Upon notice from General Contractor to Subcontractor, Subcontractor shall resume and complete the Sublet Work but this right to supplement or take over the Sublet Work may again be exercised if necessary.

The determination of General Contractor's project manager to invoke the provisions of this Article 10 shall be final and conclusive; provided Subcontractor may within said seven day period, appeal to an executive officer designated by the President of General Contractor, whose decision shall be final absent actual fraud.

11. DEFERMENT OR TERMINATION

In the event the Project is deferred or terminated by Owner, or if General Contractor shall elect to defer or terminate the Sublet Work, Subcontractor shall be paid: (1) the price earned for work completed and accepted, (2) a proportionate part of the price allocated to the portion of the work partially completed, (3) the reasonable cost incurred by Subcontractor in securing and protecting the work in progress against loss, damage or deterioration, and (4) unamortized mobilization and demobilization costs: standby costs, cancellation or deferment charges of suppliers; the cost of materials and equipment not sold or disposed of; and other special costs for terminating or suspending work or preserving the work accomplished and turning it over to General Contractor but (5) no compensation for the portion of the Sublet Work not performed. General Contractor shall notify Subcontractor whether the Sublet work is terminated or deferred to an indefinite or specified date and the deferment shall not exceed six months (or other limits expressed in the Subcontract Terms) without the consent of Subcontractor. If deferred, the Sublet Work may thereafter be terminated and shall be terminated upon expiration of the maximum period of deferment without notice to resume. Following deferment and notice to resume given by General Contractor to Subcontractor in writing, Subcontractor shall resume the Sublet Work in accordance with the terms hereof with an equitable adjustment, if required, in the price and time of completion, determined as in the case of changes. In case of any such termination or deferment, Subcontractor shall, as directed by General Contractor, secure, safeguard, remove or deliver to General Contractor all material, equipment, supplies, work in progress, and contract rights.

12. CHANGES

General Contractor reserves the right to make changes in the Sublet Work or the manner of its performance. No change shall be made by Subcontractor in the Sublet Work or its manner of performance, without prior written instructions from General Contractor, in a written Change Order specifying the change in plans, specifications, procedures, time, sequence, or other requirement of this subcontract, and specifying whether there is to be an adjustment in the price or time for performance and how any such adjustment shall be determined. No adjustment in price or time of performance shall be made for changes in arrangement, aesthetics, substitution of equivalent materials or equipment or other changes, unless such changes significantly affect Subcontractor's cost of performing the Sublet Work or extend the time that Subcontractor's equipment and forces are required at the project site. An equitable adjustment will be made in price or time of performance or both, if the change ordered by General Contractor substantially increases or decreases the cost to Subcontractor of the Sublet Work or the time that Subcontractor's equipment and forces are required at the project site. The method of determining the equitable adjustment shall be specified, and if possible, the price fixed at the time of the issuance of written direction for the change. Unless a lump sum is established by agreement or another method of pricing is established by agreement, General Contractor may direct determination of the equitable adjustment in price, whether an increase or decrease, by any of the following methods: (a) agreed or established fixed unit prices, (b) force account, or (c) cost plus fee. If the force account method is directed by General Contractor, the force account rates for equipment use, man-hour labor rate including payroll burden and markup for overhead and profit with reimbursement of actual cost of materials, as established in the Subcontract Terms or by other agreements, shall be used to determine the ad-

justment. If the cost plus fee method is directed by General Contractor the adjustment will be based on the direct cost of the change in the work using the formula established in the Subcontract Terms or by other agreement. In the absence of agreement, Subcontractor shall be paid all actual, direct additional cost incurred, without allocation of home office general and administrative expense, plus 10% of such costs, and Subcontractor shall maintain and furnish General Contractor accurate and detailed records daily segregating the cost of the change in the Sublet Work. In case of deletion or reduction of the Sublet Work by such change, Subcontractor shall not be entitled to anticipated contribution to home office overhead and profit from any portion of the Sublet Work not performed.

13. WORKMEN AND EMPLOYMENT PRACTICES

Subcontractor shall provide competent and adequately trained and skilled personnel. Subcontractor shall, on request, remove from the Project any person found by General Contractor to be incompetent, unsafe, disorderly, unreliable, or unwilling to comply with regulations. Subcontractor shall provide badges, color codes, or other symbols or identification for its employees, tools and equipment, in accordance with the system specified by General Contractor. Subcontractor shall cooperate in security measures for the prevention of theft, pilferage, and waste. Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, national origin, religion, sex, age, or for any reason prohibited by law. Subcontractor agrees to participate and cooperate in the implementation of any Affirmative Action Plan for equal employment opportunity adopted for the Project as a whole. To the extent applicable to the Sublet Work on this Project, Subcontractor shall comply with Executive Order 11246, or any amendment, replacement or counterpart thereof, and the parties mutually represent that they are familiar with such provisions and agree that a full copy thereof may be incorporated herein by either party by attachment at any time.

14. LABOR RELATIONS

Subcontractor shall comply with the National Labor Relations Act, any applicable Right to Work law, and any other applicable law related to labor relations. Subcontractor shall give General Contractor notice and full information regarding any existing or impending labor dispute affecting the Sublet Work or any part of the work on the Project as a whole. Subcontractor shall cooperate in any effort by General Contractor to mediate or otherwise attempt to resolve work stoppages, slowdowns, boycotts, disturbances, strikes, picketing or labor disputes affecting any participant in the Project or affecting any part of the Project as a whole, but Subcontractor shall have exclusive control and responsibility for its own labor relations. No such condition shall excuse Subcontractor from the obligation to diligently prosecute the work, unless, in the opinion of General Contractor, or if so determined by the chief local law enforcement officer, there is clear and substantial danger of bodily harm or property damage to Subcontractor's employees if they should undertake to enter the project site and perform their work. If Subcontractor has pre-hiring collective bargaining agreements, Subcontractor represents that they contain or have been modified to contain provisions prohibiting any strike, slow down, picketing, secondary boycotts or work stoppage during performance of the Sublet Work, and that the acceptance of the Sublet Work from General Contractor on this project does not violate such agreement.

15. LIENS

To the extent permitted by law, Subcontractor, for itself and all of its lower tier subcontractors and all laborers, mechanics and materialmen hereby waive and agree not to claim any lien against the Sublet Work, but shall rely solely upon the general credit of General Contractor. Subcontractor shall pay or cause to be paid when due, all bills for labor, materials, equipment or services

connected with the Sublet Work, and shall not itself assert any lien or permit any lien to be asserted or maintained against the Project or any funds or land involved in the Project. General Contractor may pay directly any such valid obligation of Subcontractor, and Subcontractor shall indemnify General Contractor against any such obligation.

16. TITLE TO AND RESPONSIBILITY FOR SUBLET WORK AND MATERIALS

The Sublet Work in progress and all of the Owner and General Contractor-furnished items and all of Subcontractor-furnished material, equipment, plant, facilities, fabricated items, supplies, drawings, data, and contract rights intended for the Sublet Work shall be the property of General Contractor from the earliest moment of identification to the Sublet Work, subject to General Contractor's obligation to pay the price in accordance with the Subcontract. Notwithstanding General Contractor's or Owner's title thereto, Subcontractor shall be responsible for the care, custody, control and safekeeping and preservation of all Owner-furnished, General Contractor-furnished, or Subcontractor-furnished labor, materials, plant equipment, supplies and other things to promptly repair or replace any such which is damaged or lost, and to complete the Sublet Work and to deliver the Sublet Work complete and in accordance with all provisions and requirements hereof at the time specified. Except as otherwise provided in the Subcontract Terms or the Special Conditions, Subcontractor shall bear, without right of reimbursement, the full risk of loss or damage to the Sublet Work and all materials, equipment and other things.

17. SUBCONTRACTING OR ASSIGNMENT

Subcontractor shall not assign this subcontract or any funds due hereunder. Subcontractor shall not subcontract any portion of the Sublet Work without the prior written approval by General Contractor of the lower tier subcontractor and of the form, terms and conditions of the lower tier subcontract. No assignment or subcontracting, even with General Contractor's approval, shall relieve Subcontractor of any obligations hereunder, or create any contractual relationship between such sub-subcontractor and General Contractor or Owner. Any lower tier subcontractor shall assume unto General Contractor all of the obligations of Subcontractor as they relate to such portion of the Sublet Work.

18. RECORDS AND ACCOUNTS

Subcontractor shall maintain good accounting and personnel records reflecting performance of the Sublet Work and shall preserve such records for a period of two years after completion and acceptance of the Project as a whole. General Contractor shall have the right to inspect and audit such part of the records as relate to cost reimbursement or performance of labor related provisions. Copies of documents and records supporting requests for payment or compliance with labor related provisions shall be furnished General Contractor with such request or at such other times as General Contractor directs.

19. BONDS

If instructed by General Contractor in writing, Subcontractor shall provide a Performance Bond and a Payment Bond in form and with corporate surety satisfactory to General Contractor, at any time required by General Contractor, whether before commencement of the Sublet Work or at any time prior to completion and acceptance of the Sublet Work. General Contractor will separately reimburse Subcontractor the premium cost thereof set forth in the Subcontract Terms unless otherwise expressly provided. General Contractor may terminate this Subcontract for default or exercise the rights provided in Paragraph 16 of these General Conditions if Subcontractor should fail to provide such bond when requested.

20. INDEMNITY

Subcontractor hereby indemnifies and holds harmless General Contractor and Owner from any loss, cost, damage

of liability from injury or death of any person, including Subcontractor or its employees, or damage or destruction of any property, arising from or in connection with the Sublet Work whether or not there be concurring negligence by General Contractor or Owner, but Subcontractor does not hereby assume responsibility for the sole negligence of General Contractor or Owner.

21. INSURANCE

Subcontractor shall provide insurance, with provisions against cancellation without thirty (30) days prior written notice, for the benefit of Subcontractor, General Contractor and Owner and with waiver of subrogation against all participants in the Project, in form and with underwriters satisfactory to General Contractor, with minimum coverages and limits as follows:

- | | |
|---|-----------------------------------|
| (a) Workmen's Compensation | Statutory |
| (b) Employer's Liability | \$ 100,000 |
| (If marine operations are involved, the limits shall be \$250,000 per person and \$500,000 per accident) | |
| (c) Comprehensive General and Automobile Liability | |
| Bodily Injury - per person | \$ 100,000 |
| - per accident | \$ 300,000 |
| Property Damage | \$ 100,000 |
| with blanket contractual, products and completed operations liability endorsements, and with xcu exclusion deleted. | |
| (d) Hull and protection and indemnity for any marine vessels, but not with General Contractor, Owner and their affiliates being co-insured. | Full Value, less than \$1,000,000 |
| (e) Such other available insurance or increased limits as General Contractor may request, the premium cost of which shall be directly reimbursable unless otherwise specified in the Subcontract Terms. | |

22. INSURANCE ON CONSTRUCTION EQUIPMENT

Subcontractor shall fully insure, or self-insure and assumes all risk of loss of, or damage to, Subcontractor's construction equipment and tools, facilities and structures, however caused, including losses caused by vandals or theft, or by the negligence of others, including General Contractor or Owner. Subcontractor agrees to indemnify and hold harmless Owner and General Contractor from any such loss or liability regardless of any provision for reimbursement of uninsured losses.

23. USE OF GENERAL CONTRACTOR'S OR OWNER'S EQUIPMENT

If any construction equipment, tools, marine vessels, facilities, or services of General Contractor or Owner be furnished to Subcontractor or used by Subcontractor, on an exclusive or joint use basis, Subcontractor shall inspect and satisfy itself as to the safety and condition thereof and shall return same to General Contractor or Owner after such use in good order and condition and in at least as good condition as that in which received, fair wear and use excepted. Subcontractor shall at its own cost and without right of reimbursement, insure or self-insure all risks associated with such use and shall indemnify General Contractor and Owner against any liability or cost for injury to, or death of, persons or damage or destruction of property connected with such use even if General Contractor or Owner should be negligent in relation to such equipment or items used.

24. PERMITS, LICENSES, LAND RIGHTS

General Contractor will provide all licenses and permits required for the Project as a whole to be constructed. Subcontractor shall provide all licenses and permits required for Subcontractor to perform the Sublet Work,

including [without limitation], contractors' licenses, specialty permits required by law to be issued to Subcontractor, and transportation permits. General Contractor will provide access to the work site and easements or land rights in the work site, but Subcontractor shall comply with all restrictions, limitations, terms and conditions relative thereto and Subcontractor shall obtain such additional easements and land rights as Subcontractor may require.

25. PATENTS AND PROPRIETARY RIGHTS

Subcontractor shall pay all royalties and obtain all licenses required for items specified to be furnished by Subcontractor, and for all items and methods selected by Subcontractor for the Sublet Work. General Contractor shall pay all royalties and obtain all licenses required for the Project as a whole or for Owner-furnished or General Contractor-furnished items. Subcontractor shall give prompt notice to General Contractor of any claim of infringement of any patent or proprietary right, and Subcontractor and General Contractor shall cooperate in the defense and disposition of any such claim or suit. The party obligated to furnish the license shall defend and indemnify the other party.

26. WARRANTY

Subcontractor guarantees and warrants that all materials furnished by Subcontractor and workmanship furnished by Subcontractor shall comply with the specifications and other requirements of the contract and shall be free of defects for a period of one year after completion and acceptance of the Project as a whole by the Owner, or one year after placement of the Sublet Work in service, whichever is earlier. With respect to items of manufactured equipment specified by General Contractor and purchased by Subcontractor from others, Subcontractor warrants that the equipment is as specified, and agrees to pass on and assign to General Contractor (or to Owner if directed by General Contractor) the manufacturer's warranty and Subcontractor shall prosecute the enforcement thereof in cooperation with General Contractor, but Subcontractor shall have no further quality or performance warranty responsibility with respect to such items of manufactured equipment.

27. PARTIAL OCCUPANCY AND USE

General Contractor and Owner shall have access to the Sublet Work at all times. General Contractor and Owner may occupy and use any portion of the Sublet Work which is sufficiently completed to permit such occupancy and use, provided there is no substantial interference with performance of the balance of the Sublet Work. Such partial occupancy and use shall not relieve Subcontractor of the obligation to complete all of the Sublet Work strictly in accordance with the requirements of this Subcontract.

28. CONFIDENTIALITY

Subcontractor shall not publicize, publish, or photograph the Project, the Sublet Work, or this Subcontract, except by consent of General Contractor and in compliance with General Contractor's regulations for the Project. Subcontractor will maintain in confidence and not use or disclose any confidential proprietary information of General Contractor or Owner. Subcontractor will execute, and if requested will cause its employees or agents to execute, such form of written secrecy agreement, further defining this confidentiality agreement, as is required of other participants in the Project. All plans, specifications, data and other material relating to the Project shall be delivered to General Contractor, on request, when no longer required by Subcontractor for performance of the Sublet Work.

29. INDEPENDENT CONTRACTOR

Subcontractor shall perform the Sublet Work as an independent contractor with exclusive control of the manner and means of performing the Sublet Work in accordance with the requirements of the Contract, unless

an agency or other relationship is specified in the Subcontract Terms. Subcontractor has no authority to act or make any agreements or representation on behalf of General Contractor or Owner, and no contractual relationship exists between Subcontractor and Owner. No employee or agent engaged by Subcontractor shall be, or shall be deemed to be, an employee or agent of General Contractor or Owner. In the event General Contractor should, at the request of Subcontractor, furnish workmen to Subcontractor for any purpose to work under the direction and supervision of Subcontractor, such employees of General Contractor shall be deemed to be the borrowed servants of Subcontractor and Subcontractor shall be responsible for their actions while so engaged.

30. LAWS

This Subcontract is entered into in Houston, Texas, and shall be construed and governed by the laws of the State of Texas. Subcontractor shall comply with all laws, statutes, ordinances, rules and regulations of any governmental entity, having jurisdiction, and Subcontractor shall indemnify and hold harmless the Owner and General Contractor from any fines, penalties, costs or liability arising from Subcontractor's failure to comply therewith.

31. DISPUTES

All questions arising under this Subcontract shall be resolved in the first instance by General Contractor's project manager. No claim for additional compensation or extension of time shall be considered unless presented to General Contractor's project manager in writing within ten (10) days after the occurrence giving rise to the dispute. Any claim not satisfactorily resolved by General Contractor's project manager in the first instance, and which is presented in writing within the time provided, may be appealed by notice in writing to the project manager within ten (10) days after the project manager's initial decision. (a) to the engineer for the Project if the issue is interpretation of the drawings or specifications, or compliance of the Sublet Work therewith, in which event the engineer's decision shall be final, (b) to an Executive Officer of General Contractor as provided under Article 10 if the claim arises under Article 10, or (c) to an Executive Officer of General Contractor if any other question under the Subcontract is involved. Such review shall be a prerequisite to any further relief.

32. PROGRESS PAYMENTS AND FINAL PAYMENT

Progress payments will be made by General Contractor to Subcontractor monthly or at other intervals specified, in accordance with the Subcontract Terms. All progress payments are Trust Funds to be applied by Subcontractor to payment for labor, materials, equipment, services and supplies for the Sublet Work. With each request for progress payment, Subcontractor shall submit proper evidence, including affidavits and certificates, as may be requested by General Contractor showing: (a) the portion of the Sublet Work completed, (b) compliance with all requirements of this Subcontract, (c) payment of all bills, and (d) that no lien exists or could be claimed arising from the Sublet Work. General Contractor may withhold from progress payments ten percent (10%) of the amount earned, as retainage until final completion and acceptance (unless otherwise provided in the Subcontract terms), and in addition may withhold such amount as may be reasonably required to assure compliance by Subcontractor with the terms of this Subcontract. General Contractor may pay directly any obligation of Subcontractor arising under this Subcontract and withhold such payment from amounts otherwise due Subcontractor. Subcontractor shall submit with his request for final payment similar evidence and such expressions of warranty and indemnity as are required herein and a release of further claims against Owner or General Contractor. Subcontractor indemnifies General Contractor and Owner against any cost or liability, including attorney's fees, for failure of Subcontractor to perform all its obligations and pay all of its bills as required by this Subcontract.

33. APPLICATION TO COST REIMBURSEMENT TERMS

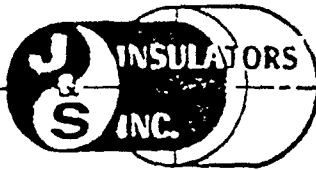
These General Conditions define the obligations, responsibilities and relationships of Subcontractor and General Contractor, and apply without change whether the terms for payment are fixed price or cost reimbursable or a combination thereof. The price and other payments to be made to Subcontractor for performance of the obligations of these General Conditions are provided for in the Subcontract Terms or other portions of this Subcontract.

34. NOTICES

Notices of changes, deficiencies, delays, claims or disputes shall be in writing, and shall furnish full information to the extent available. The party notified will acknowledge receipt by endorsement of a copy if requested, or will otherwise confirm receipt in writing. Ordinarily, notice will be given by delivery to the General Contractor's project manager, or Subcontractor's designated representative at the site, respectively, and mailing a copy to the address shown in the Subcontract Terms. To avoid difficulty in delivery of Notice, sufficient Notice shall be deemed to have been given by mailing by Registered or Certified Mail or equivalent, to the address shown in the Subcontract Terms.

35. INTEGRATION

The entire agreement between General Contractor and Subcontractor and all negotiations, proposals, representations and interpretations have been integrated into and superseded by the written provisions of this Subcontract. This Subcontract shall be valid and in force when signed by both parties and delivered and the parties understand that thereafter no person is authorized to amend this Subcontract except by agreement in writing and signed with equal formality. These General Conditions may be modified by the Special Conditions for the Project or by the Subcontract terms; and the Special Conditions for the Project may be modified by the Subcontract Terms, and as so modified it is intended that all terms and provisions of this Subcontract shall be construed in harmony and with equal dignity and effect.



INDUSTRIAL & POWER PLANT CONTRACTORS

678-6593

P. O. BOX 15616

HOUSTON, TEXAS 77020

May 22, 1978

Proposal 2921

Brown & Root, Inc.
P. O. Box 3
Houston, Texas 77001

Attention: Mr. Jim Wasson

Subject: Thermal Insulation
Cost Plus Work
Ethel Project

RECEIVED
BROWN & ROOT INC.
MAY 24 2 17 PM 1978
SUBCONTRACTS DEPT.
PROCUREMENT DIV.

Gentlemen:

In accordance with your instructions we are pleased to submit herewith our proposal for furnishing labor, material, scaffolding, warehousing, transportation and supervision necessary to complete the scope of work on the subject job.

COST PLUS (UNIT PRICE) WORK

A. Materials

Material will be furnished you at published preferred industrial prices where applicable and all others at our cost plus 15%.
Copies of all price sheets are attached.

Description	No.	Date	Escalation Prices firm thru
1. Mineral Wool P/C (J & S "V" Wrap) Industrial	48 M.F.	1/1/78	12/31/78
2. Calcium Silicate P/C	200	7/15/77	12/31/78
3. Calcium Silicate Block	200	7/15/77	12/31/78
4. Mineral Fibre P/C (OC 6#)	MP-3-10	10/18/77	12/31/78
5. Mineral Wool Block and Cement	RW	1/1/78	12/31/78
6. Foamglas P/C & Block (Plain)	CTFG	12/15/76	12/31/78
7. Polyurethane P/C & Block (Plain & Coated)	CT Poly	10/1/77	12/31/78
8. Weld ells & tees (Cal Sil, Min Fibre & Poly)		1/1/76	12/31/78
9. Flange Covers (Cal Sil, Min. Fibre & Poly)		1/1/76	12/31/78
10. Flanged Valve Covers (Cal Sil, Min Fibre & Poly)		1/1/76	12/31/78
11. Aluminum Covers, Tees & Flanges (Epoxy coated-2 sides)		1/1/76	12/31/78
12. Alum. Covers, Tees & Flanges (Epoxy coated-1 side)		1/1/76	12/31/78
13. Alum. Covers Flanged Valves (Epoxy coated 2 sides)		1/1/76	12/31/78

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14. Alum Covers Flanged Valves (Epoxy coated 1 side)		1/1/76	12/31/78
15. Alum. Epoxy coated & Plain (roll goods) ACC,ARJ-1077		10/1/77	Current cost sheet
16. Alum. Epoxy coated (sheets)	DCS-1077	10/1/77	" " "
17. Stainless Steel (Roll Goods)	SSRJ-1077	10/1/77	" " "
18. Steel Jac (Roll Goods)	SJRJ-1077	10/1/77	" " "
19. Aluminum Accessories	FDA-1077	10/1/77	" " "
20. Stainless Steel Accessories	FDSS-1077	10/1/77	" " "
21. Accessories	ACCS-178	1/15/78	" " "
22. Aluminum Elbows (Epoxy coated)(2 sheets) EJAE-177		1/1/77	" " "
23. Aluminum Gores (Epoxy coated)(2 sheets) GEJ-177		1/1/77	" " "
24. Coatings & Sealers (Ben Foster or Childers)		3/1/77	" " "

Please Note:

Items 1 thru 7, basic insulation materials are current prices.

Items 8 thru 14 are the same prices as for 1974 thru 1977 and will continue to hold firm throughout 1978.

Items 15 thru 21 are current cost sheets and are subject to escalation at the time of new published manufacturers price increase. We do not expect any significant increase for the current year.

Items 22, 23 and 24 are current cost sheets (Net prices to B & R) and are subject to escalation at the time of manufacturers increases. Again, we do not anticipate 1978 increases.

All consumable supplies normally used by our trade are included in the prices quoted except that which is requested by Brown and Root. If requested by B & R, they would be priced at invoiced cost plus 15%.

B. Labor

Labor will be furnished you at the following rates which include all expenses, applicable, taxes, insurance, overhead and profit.

Classification	Wages to be paid by B & R per man hour	
	Straight time - Overtime	
Office - General Supervision	15.60	21.65
Insulator General Supervisor	15.23	21.15
Insulator Supervisor (Gen. Foreman)	14.88	20.58
Insulator Foreman	14.52	20.17
Insulator Sub-Foreman	13.22	19.17
Insulator Master Mechanic	13.46	18.69
Insulator Mechanic 4th Class	12.05	16.70
Insulator Mechanic 3rd Class	10.64	14.79
Insulator Mechanic 2nd Class	9.22	12.82
Insulator Mechanic 1st Class	7.80	10.25
Insulator Helper	6.38	8.88

Please Note:

The labor rates, as quoted on the previous page, are firm through December 31, 1978 except as amended by the following conditions.

The master mechanic rate will be subject to escalation at any time Brown and Root change these rates for like craftsmen and in like amount. This, of course, increases all rates of supervisors accordingly.

We will strive to maintain an average man hour rate of \$ 9.22 which we have found to give the best crew productivity. This is changed to suit each particular job and will average out as stated above.

General Supervisor will be classed as office personnel, required for material co-ordination such as take off or detailed ordering of material, general hiring and placement of man power over and above the normal duties of Foreman. This duty will be performed at job site (Ethyl Plant)

Insulator Supervisor (General Foreman) (one required) duties will be performed at job site as co-ordinator and supervisor of all areas of work.

Insulator Foreman (Required as needed) will assist supervisor and be responsible for several areas of work.

Insulator Sub-foreman (required as needed) to be used when several areas of work are performed at one time. This will be Brown and Root's option for best performance of work.

Labor rates for office and/or timekeeping jobs will be the same as insulator classifications as agreed by Brown and Root.

C. Equipment

Equipment will be furnished you at the following rates.

Classification	Rate		
	Daily	Weekly	Monthly
Office	6.00	40.00	173.34
Change House (8' x 10') (Min. 2 months)	2.50	15.00	65.00
Warehouse (App. 3000 s/f) Min. 3 months)	6.00	40.00	173.34
Chemical Toilet (Minimum 2 months)	2.50	15.00	65.00
Insulation Band Saw	8.00	40.00	130.00
Insul. Band Saw Dust Collector (OSHA Approv.)	5.00	25.00	104.00
Asphalt Pot	3.00	15.00	56.34
Sheet Metal Shear (Table Top)	5.00	25.00	104.00
Sheet Metal Roll	4.00	20.00	78.00

Equipment Continued		Rates		
		Daily	Weekly	Monthly
Sheet Metal Pittsburgh Machine		5.00	25.00	104.00
Sheet Metal Easy Edger		3.00	15.00	56.34
Sheet Metal Bearer		2.00	10.00	34.67
Sheet Metal Crimper		2.00	10.00	34.67
Sheet Metal Unishear		3.00	15.00	56.34
Sheet Metal Whitney Punch		2.00	10.00	34.67
Sheet Metal Button Punch		2.00	10.00	34.67
Sheet Metal Brake (Up to 4')		5.00	25.00	104.00
Waste Dumpster (3 dumps per week)		7.00	40.00	173.31
Work table		1.00	7.00	25.00
Pickup Truck (Fully Maintained)		20.00	100.00	433.00
Transportation Bus (Fully maintained)		36.00	180.00	780.00
Air Tugger (Hoist)		12.00	70.00	303.34
Air Hoses (per 100 ft. section)		2.00	12.00	52.00
Aluminum staging 24' long to 32' long		2.50	15.00	65.00
Ladders: 8' long		.30	2.00	8.67
14' long		.45	3.00	13.00
20' long and up		.60	4.00	17.34
Metal Basket (material carrier)		.45	3.00	13.00
Bosin Chair with rigging		1.50	10.00	43.34
Scaffolding (steel & boards) minimum rent 1 month				
Safeway end frames with pins and braces		.30	2.00	8.67
2" Tubelok - 6 foot long and smaller			.22	.96
8 foot long			.26	1.13
10 foot long			.30	1.30
13 foot long			.35	1.52
16 foot long			.42	1.82
2 1/2" Tubelok 6 foot long and smaller			.34	1.48
8 foot long			.38	1.65
10 foot long			.45	1.95
13 foot long			.53	2.30
16 foot long			.60	2.60
2" Standard & Swivel clamps			.20	.87
2 1/2" Standard & Swivel clamps			.24	1.04
Boards - 8 foot long & smaller			.20	.87
10 foot long			.24	1.04
12 foot long			.30	1.30
14 foot long			.35	1.52
16 foot long			.40	1.74
14' toe plate			.20	.87
Toe plate brackets			.10	.44
40 foot JLG lift	195.50		586.50	1,794.00
Wheel barrow	1.50		10.00	43.34
Air Drill 1/2"	4.00		20.00	78.00
" " 3/8"	5.00		25.00	104.00

Please Note: The above equipment is rented on a per week, 7 day basis whether worked or not and will remain on rent until asked to be removed by B & R. Pick up trucks and busses will be rented on a per day basis, generally working days only, along with weekly and monthly rates. All equipment will be placed on rent as directed and/or by option of B & R.

Brown & Root, Inc.

Page 5 Proposal 2921

5/22/78

General Conditions and/or Clarifications

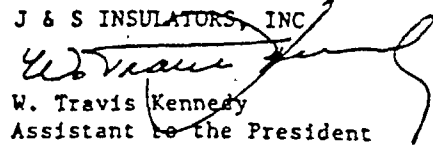
Sub-Contract Work We expect to be reimbursed for payments made under subcontracts entered into with Brown and Root's approval covering materials and services in connection with the work, plus a fee of 5%.

~~Terms of Payment Our prices are based on submitting weekly billings for cost plus work, as per your cost plus contract instructions to be paid within 30 days after receipt of same.~~

We sincerely appreciate the opportunity of quoting on your insulation needs and trust you will find our proposal in order.

Very truly yours,

J & S INSULATORS, INC


W. Travis Kennedy
Assistant to the President

WTK:ls

00320

Subject to Change Without Notice

INDUSTRIAL
J & S "V" WRAP 8# MINERAL WOOL P/C
PIPE INSULATION NET PRICES PER LINEAR FOOT

Pipe Sizes		1" thick	1½" thick	2" thick	2½" thick	3" thick
Inches						
1 piece	½	.57	.91	1.37	1.82	2.31
	¾	.59	.92	1.38	1.95	2.43
	1	.60	.94	1.39	2.03	2.57
	1½	.62	.95	1.40	2.16	2.61
	2	.65	.98	1.42	2.18	2.64
	3	.68	1.00	1.43	2.21	2.67
	4	.86	1.16	1.59	2.24	2.74
	5	1.01	1.30	1.92	2.63	3.12
	6	1.20	1.43	2.11	2.81	3.38
	7	1.37	1.48	2.34	2.99	3.64
	8	1.59	1.69	2.50	3.19	3.95
	9	1.79	1.89	2.73	3.51	4.26
2 pieces	10	1.95	2.08	2.99	3.82	4.58
	11	2.11	2.18	3.19	4.00	4.89
	12	2.25	2.33	3.38	4.30	5.15
	14	2.67	2.76	3.93	5.02	6.07
	15	2.86	2.96	4.16	5.30	6.40
	16	2.99	3.09	4.32	5.54	6.73
	17	3.25	3.28	4.55	5.82	7.10
	18	3.38	3.47	4.75	6.07	7.42
	19	3.54	3.64	5.02	6.36	7.67
	20	3.67	3.77	5.28	6.60	7.94
	21	3.89	3.93	5.46	6.86	8.27
	22	4.04	4.08	5.68	7.15	8.61
3 pieces	24	4.36	4.36	5.81	7.61	9.26
	26	4.68	4.68	5.92	8.19	9.92
	28	4.94	4.94	6.76	8.79	10.53
	30	5.27	5.27	7.22	9.20	11.13
	32	5.69	5.69	7.80	9.79	12.05
	34	6.01	6.01	8.27	10.40	12.57
	36	6.40	6.40	8.78	11.05	13.36

.Pipe Size

00322

...
at 30 days
... subject to change with ...

CALCIUM SILICATE BLOCK (ASBESTOS FREE)
PREFERRED INDUSTRIAL PRICES (NET PRICE PER SQUARE FOOT)

<u>Thickness-Inches</u>	<u>Flat</u>	<u>Beveled or Scored</u>
1		
1½	1.05	1.11
2	1.36	1.49
2½	1.71	1.80
3	2.06	2.13

11-11-11

4

MINERAL FIBER PIPE COVERING (OWENS CORNING)
Preferred Industrial Prices (Net prices per linear foot)

[illegible]

to change notice

Effective
Supersedes 1, 1, 77

5

MINERAL WOOL PRODUCTS
Preferred Industrial Prices

I. Mineral Fibreboard (8# Density) Net Price per Square Foot

Thickness	Price
1"	.20
1½"	.30
2"	.40
2½"	.50
3"	.60

Furnished in 2' x 4' Boards Only

II. Mineral Wool & Finishing Cements Per 50# Bag

One Coat Cement (Hydraulic Set)	\$ 8.00/each
Mineral Wool	8.00/each

PIPE INSULATION--NET PRICES PER LINEAR FOOT

Inches

Flat
Beveled

7

Polyurethane Pipe Covering (Plain & Asphalt Coated)
Preferred Industrial Prices (Net Price Per Linear Foot)

Pipe Size Inches	Nominal Thickness of Insulation									
	1"		1½"		2"		2½"		3"	
	Pl.	Co.	Pl.	Co.	Pl.	Co.	Pl.	Co.	Pl.	Co.
½	.53	.57	.95	1.00	1.29	1.35	1.77	1.86	2.18	2.29
¾	.54	.62	.98	1.03	1.32	1.39	1.80	1.89	2.21	2.32
1	.74	.78	1.12	1.18	1.55	1.63	2.28	2.39	2.26	2.37
1½	.82	.86	1.29	1.35	1.61	1.69	2.37	2.49	2.84	2.98
2	.94	.99	1.51	1.59	2.23	2.34	2.79	2.93	3.32	3.49
3	1.27	1.33	1.79	1.88	2.37	2.49	3.04	3.19	3.67	3.85
4	1.66	1.74	2.17	2.28	3.04	3.19	3.56	3.74	4.55	4.78
6	1.86	1.95	2.46	2.58	3.61	3.79	4.49	4.71	5.48	5.75
8	2.24	2.35	2.78	2.92	4.30	4.52	5.63	5.91	6.32	6.64
10	2.64	2.77	3.78	3.97	5.17	5.43	6.58	6.91	7.32	7.69
12	3.19	3.35	4.27	4.48	5.83	6.12	7.25	7.61	8.20	8.61
14	3.30	3.47	4.52	4.75	6.23	6.54	7.40	7.77	8.79	9.23
16			4.69	4.92	6.58	6.91	8.69	9.12	9.74	10.23
18			5.40	5.67	7.23	7.59	9.48	9.95	11.11	11.67
20			6.30	6.62	8.03	8.43	10.40	10.92	12.31	12.93
22			7.18	7.54	8.80	9.24	10.99	11.54	13.64	14.32
24			7.90	8.30	9.38	9.85	10.88	11.42	14.39	15.11

Polyurethane Board (Plain & Asphalt Coated) Net Price per Square Foot

	1"		1½"		2"		2½"		3"	
	Pl.	Co.	Pl.	Co.	Pl.	Co.	Pl.	Co.	Pl.	C
Flat	.38	.40	.57	.60	.76	.80	.94	.99	1.12	1.1
Beveled	.48	.50	.67	.70	.86	.90	.95	1.09	1.22	1.2

Furnished in 2' x 4' Boards Only

YOUR NAME HERE

9

Pipe Size In Inches	NOMINAL TENSILE STRENGTH					
	1"	1-1/2"	2"	2-1/2"	3"	4"
1/2	.89	1.52	2.03	2.34	2.72	
3/4	.96	1.63	2.17	2.40	2.84	
1	1.09	1.73	2.30	2.75	3.19	
1-1/4	1.21	1.86	2.45	2.89	3.34	
1-1/2	1.34	1.87	2.58	3.01	3.47	
2	1.46	2.11	2.72	3.59	4.03	
2-1/2	1.81	2.53	3.31	3.79	4.24	
3	2.17	2.97	3.91	4.31	4.75	
3-1/2	---	---	---	---	---	
4	2.88	3.83	5.12	5.16	5.60	
4-1/2	---	---	---	---	---	
5	3.59	4.69	6.32	6.55	7.00	
6	4.30	5.54	7.51	8.94	9.38	
7	---	---	---	---	---	
8	8.10	8.54	11.46	13.37	15.42	
9	---	---	---	---	---	
10	8.66	11.54	15.42	20.16	24.36	
12	9.54	15.86	20.59	25.20	30.06	
14	13.27	18.52	26.47	33.53	37.26	
16	16.50	23.69	33.26	42.34	47.69	
18	22.79	28.22	40.82	52.17	56.59	
20	28.20	33.26	50.40	63.00	67.79	
22	31.30	38.30	60.20	70.00	105.80	
24	34.44	43.34	66.04	87.19	136.08	

00329

CONCRETE

STANDARD

10

Pipe Size In Inches	NOMINAL THICKNESS OF INSULATION					
	1"	1-1/2"	2"	2-1/2"	3"	4"
1/2	1.51	2.02	2.61	---	---	---
3/4	2.11	2.31	3.53			
1	2.11	2.61	3.73			
1-1/4	2.11	2.61	4.03			
1-1/2	2.31	3.12	4.32			
2	2.42	3.12	4.33			
2-1/2	4.24	4.24	5.34			
3	5.54	5.54	6.05			
3-1/2	---	---	---	---		
4	6.55	6.55	8.06	11.08		
4-1/2	---	---	---	---		
5	7.05	7.05	9.07	12.09		
6	8.06	8.06	10.08	14.11	17.40	
7	---	---	---	---	---	
8	---	9.07	12.09	15.12	18.72	
9	---	---	---	---	---	
10	---	12.09	16.13	22.18	28.80	
12	---	15.12	20.16	24.19	30.00	
14	---	18.14	23.18	28.22	33.60	
16	---	22.18	28.22	35.28	42.00	
18	---	24.19	31.68	40.32	48.00	
20	---	28.22	36.29	45.36	54.00	
22	---	31.25	41.30	51.20	61.00	
24	---	36.29	46.36	56.45	67.00	

00330

SECTION 21-11.10 - INSULATION

11

YOUR BRAND NAME _____

Pipe Size In Inches	NOMINAL THICKNESS OF INSULATION					
	1"	1-1/2"	2"	2-1/2"	3"	4"
1/2	5.04	6.05	8.06			
3/4	5.04	6.05	8.06			
1	6.05	7.05	8.06			
1-1/4	7.05	6.05	9.07			
1-1/2	8.06	9.50	11.08			
2	9.07	10.50	12.09			
2-1/2	10.08	11.50	13.10			
3	12.09	14.50	17.13			
3-1/2	---	---	---			
4	16.12	18.60	21.16	26.20		
4-1/2	---	---	---	---		
5	19.15	22.15	25.20	31.24		
6	21.17	24.70	28.22	35.28		
7	---	---	---	---		
8	---	27.21	36.28	45.36		
9	---	---	---	---		
10	---	36.29	47.37	60.48		
12	---	47.37	62.49	78.62		
14	---	64.51	84.67	104.83		
16	---	76.60	100.00	126.00		
18	---	83.66	110.80	138.00		
20	---	100.80	133.00	166.00		
22	---	125.00	156.00	201.00		
24	---	143.00	174.00	237.00		

00331

TEE & FLANGES ALUMINUM COVERS (EPOXY COATED BOTH SIDES)

PIPE INSULATION - NET PRICES PER LINEAR FOOT									
PIPE SIZE INCHES	1" THICK	1 1/4" THICK	2" THICK	2 1/2" THICK	3" THICK	3 1/2" THICK	4" THICK	4 1/2" THICK	5" THICK
1/2	6.48	6.98	8.70	10.00					
3/4	6.54	8.42	8.70	10.16					
1	6.90	8.42	8.70	16.34					
1 1/4	6.90	8.72	14.18	17.42					
1 1/2	7.34	8.72	14.18	18.28					
2	8.42	8.72	14.18	18.28					
2 1/2	10.36	16.34	18.28	18.94					
3	11.08	16.76	18.28	20.52					
3 1/2	-	-	-	-					
4	16.34	18.28	20.52	22.68	24.84				
1/2	-	-	-	-	-				
	24.68	26.92	29.08	31.10	33.60				
6	24.68	26.92	29.08	31.10	33.60				
7	-	-	-	-	-				
8	-	36.58	40.16	43.56	46.60				
9	-	-	-	-	-				
10	-	47.30	49.68	59.90	67.20				
12	-	68.40	82.22	86.46	91.20				
14	-	77.40	86.60	90.72	96.60				
16	-	90.86	98.00	101.30	108.00				
18	-	104.90	108.00	110.56	115.20				
20	-	118.08	123.80	128.72	136.80				
22	-	136.20	144.40	148.00	154.60				
24	-	155.38	160.48	166.00	172.80				

TEE AND FLANGE ALUMINUM COVERS (EPOXY COATED INSIDE ONLY)

13

PIPE SIZE INCHES	NOMINAL THICKNESS OF INSULATION								
	1" THICK	1 1/2" THICK	2" THICK	2 1/2" THICK	3" THICK	3 1/2" THICK	4" THICK	4 1/2" THICK	5" THICK
1/2	4.54	5.04	6.12	6.98					
3/4	4.60	5.90	6.12	6.98					
1	4.82	5.90	6.12	11.44					
1 1/4	4.82	6.12	9.92	12.24					
1 1/2	5.14	6.12	9.92	12.24					
2	5.90	6.12	9.92	12.82					
2 1/2	7.28	11.44	12.82	13.24					
3	7.78	11.72	12.82	14.40					
3 1/2	-	-	-	-					
4	11.44	12.82	14.40	15.92					
4 1/2	-	-	-	-					
5	17.28	18.86	20.38	21.74					
6	17.28	18.86	20.38	21.74					
7	-	-	-	-					
8	-	25.52	28.14	30.52					
9	-	-	-	-					
10	-	33.12	34.78	42.76					
12	-	54.00	58.74	61.78					
14	-	59.24	61.92	64.80					
16	-	67.46	70.00	72.36					
18	-	74.94	77.18	77.84					
20	-	84.38	88.48	91.94					
22	-	98.40	102.20	105.70					
24	-	110.94	114.62	118.58					
26									
28									
30									
32									
34									
36									
38									
40									
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H

Flanged Valve Aluminum Covers (Epoxy Coated Both Sides)

PIPE INSULATION - NET PRICES PER LINEAR FOOT									
PIPE SIZE INCHES	1" THICK	1½" THICK	2" THICK	2½" THICK	3" THICK	3½" THICK	4" THICK	4½" THICK	5" THICK
1/2	10.80	11.64	14.52	16.68					
3/4	10.92	14.04	14.52	16.92					
1	11.52	14.04	14.52	27.24					
1 1/4	11.52	14.52	23.64	29.04					
1 1/2	12.24	14.52	23.64	30.48					
2	14.04	14.52	23.64	30.48					
2 1/2	17.28	27.24	30.48	31.56					
3	18.48	27.96	30.48	34.00					
3 1/2	-	-	-	-					
4	27.24	30.48	34.20	37.80					
4 1/2	-	-	-	-					
6	41.16	44.88	48.48	51.84					
8	41.16	44.88	48.48	51.84					
10	-	-	-	-					
12	-	60.96	66.96	72.60					
14	-	-	-	-					
16	-	78.84	82.80	99.84					
18	-	114.00	137.04	144.12					
20	-	129.00	144.36	151.20					
22	-	151.44	163.32	168.84					
24	-	174.84	180.00	184.44					
26	-	186.80	206.40	214.56					
28	-	230.40	237.00	244.90					
30	-	258.96	267.48	276.72					
32									
34									
36									
38									
40									



METAL JACKETING SYSTEMS

ALUMINUM¹⁵
Coated Roll
Jacketing

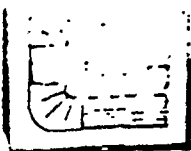
CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

SIZE OF ROLLS	SMOOTH OR 3/16" CORRUGATED CLEAR & COLORED EXTERIOR SIDE GREEN-TINTED EPOXY INSIDE COLORS AS SPECIFIED	
	1-49 ROLLS	50-OVER ROLLS
.016 x 36" x 100'	109.75 85.00	\$82.00
.020 x 36" x 100'	132.83 115.50	112.50
.024 x 36" x 100'	158.95 133.00	130.00
.032 x 36" x 100'	198.38 171.50	169.50
.040 x 36" x 100'	205.00	202.00

DEDUCT \$2.00/100 LINEAL FOOT ~~ROLL~~ WITHOUT MOISTURE BARRIER ✓

00335



METAL JACKETING SYSTEMS

ALUMINUM
Roll Jacketing

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

SIZE OF ROLLS	SMOOTH OR STY/6 CORRUGATED				
	WITH POLYKRAFT MOISTURE BARRIER*				
	50 FT ROLL	1-29 ROLL Roll Cost	30-99 ROLL Roll Cost	100-249 ROLL Roll Cost	250 Over Roll Cost
.006 x 36" x 100'	300	\$42.00	\$44.00	\$41.00	\$39.00
.006 x 48" x 100'	400	64.00	58.50	54.50	52.00
.010 x 36" x 100'	300	59.00	55.00	52.00	50.00
.010 x 48" x 100'	400	72.50	73.00	69.00	66.50
.016 x 36" x 100'	300	67.00 93.15	77.00	74.00	72.00
.016 x 48" x 100'	400	108.00	102.50	98.50	96.00
.020 x 36" x 100'	300	94.00 105.10	90.00	87.00	85.00
.020 x 48" x 100'	400	125.50	120.00	116.00	113.50
.024 x 36" x 100'	300	109.00 125.35	105.00	102.00	100.00
.024 x 48" x 100'	400	145.50	140.00	136.00	133.50
.032 x 36" x 100'	300	137.00 157.55	133.00	130.00	128.00
.032 x 48" x 100'	400	182.50	177.00	173.00	170.50
.040 x 36" x 100'	300	169.00	165.00	162.00	160.00
.040 x 48" x 100'	400	225.50	220.00	216.00	213.50
.050 x 36" x 100'	300	206.00	202.00	199.00	197.00

SAVE MONEY! INQUIRE FOR CUT AND ROLLED PRICES

DEDUCT \$2.00/100 LINEAL FOOT ROLL WITHOUT MOISTURE BARRIER
ADD \$2.00/ROLL FOR 30-90-30 MOISTURE BARRIER OR LAP SEAL
STUCCO EMBOSSED: ADD \$3.00/ROLL

00336



METAL JACKETING SYSTEMS

17
Aluminum
Stainless Steel, Steel-Jac

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

ALUMINUM DEEP CORRUGATED SHEETS 12" and 24" CORRUGATIONS WITH POLYKRAFT MOISTURE BARRIER				
.016 x 33"	.020 x 33"	.024 x 33"	.032 x 33"	.040 x 33"
.397 / Sq. Ft.	.405 / Sq. Ft.	.432 / Sq. Ft.	.570 / Sq. Ft.	.730 / Sq. Ft.
.342	.425	.437	.656	

ALUMINUM COATED DEEP CORRUGATED SHEETS 12" and 24" CORRUGATIONS WITH POLYKRAFT MOISTURE BARRIER				
.016 x 33"	.020 x 33"	.024 x 33"	.032 x 33"	.040 x 33"
.344 / Sq. Ft.	.406 / Sq. Ft.	.475 / Sq. Ft.	.594 / Sq. Ft.	ON REQUEST
.396	.467	.549	.680	

1/8" Stainless Deep Corrugated	
.010 x 33"	.420 / Sq. Ft.
	.477

Steel-Jac Deep Corrugated	
.010 x 33"	.40 / Sq. Ft.
	.76

DEDUCT .01 / Square Ft. WITHOUT MOISTURE BARRIER
ADD .01 / Square Ft. for STUCCO EMBOSSED

00337



METAL JACKETING SYSTEMS

Roll Jacketing

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

SMOOTH OR .015" CORRUGATED			
SIZE OF ROLLS	WITH POLYKRAFT MOISTURE BARRIER*		
	50 SQ. FT./ ROLL	10 ROLLS	50 ROLLS-OVER
.010" x 36" x 50' (T/304)	150	\$128.00 159.50	\$128.00
.015" x 36" x 50' (T/304)	150	187.50 217.93	187.50
.019" x 36" x 50' (T/304)	150	219.50	217.50
.010" x 36" x 50' (T/316)	150	172.50	170.50
.015" x 36" x 50' (T/316)	150	248.00	246.00
.019" x 36" x 50' (T/316)	150	278.00	276.00

00338

METAL JACKETING SYSTEMS

STEEL
Roll Jacketing

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

SMOOTH DRG'S CORRUGATED			
SIZE OF ROLLS	WITH POLYKRAFT MOISTURE BARRIER		
	SOFT ROLL	ROLL COST	SOFT COST
.010" x 36" x 50'	150	43.32 44.00	\$.28
.010" x 36" x 75'	225	63.00	.28
.015" x 36" x 50'	150	Special Quote	Special Quote

For White add \$3.00 per Roll — 50' Roll

For Red add \$4.75 per Roll — 50' Roll

For other colors check local branch office.

Childers Steel Jac[®] is .010 Electro-galvanized steel top coated with a chemically resistant fused vinyl organosol. Steel Jac shall have a factory attached polykraft or 30-90-30 moisture barrier.

00339



METAL JACKETING SYSTEMS

ALUMINUM - GALVANIZED
STRAPPING, SCREENS,
and SEALS

20

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE OCTOBER 1, 1977

.020 ALUMINUM and GALVANIZED STRAPPING 200 FT. CARTONS			
	PT. 1	PT. 2	PT. 3
.020 Aluminum — 1/4" x 200 ft.	\$2.85 per carton	\$2.60 per carton	
— 1/2" x 200 ft.	3.70 per carton	3.35 per carton	
— 3/4" x 200 ft.	5.10 per carton	4.55 per carton	
.020 Galvanized — 1/4" x 200 ft.	3.65 per carton	3.25 per carton	
— 1/2" x 200 ft.	4.75 per carton	4.20 per carton	
— 3/4" x 200 ft.	6.40 per carton	5.65 per carton	

.020 ALUMINUM STRAPPING			
COIL WEIGHTS: 1/4" - 10 lbs. 1/2" - 10 lbs. 3/4" - 10 lbs.			
	0-99 LBS.	100-999 LBS.	1000-OVER LBS.
1/4" (118 ft./lb.)	\$1.17 per lb. (1.35)	\$1.07 per lb.	\$1.00 per lb.
1/2" (84 ft./lb.)	1.13 per lb. (1.30)	1.04 per lb.	.97 per lb.
3/4" (56 ft./lb.)	1.10 per lb. (1.27)	1.00 per lb.	.94 per lb.

.020 GALVANIZED STRAPPING			
COIL WEIGHTS: 1/4" - 10 lbs. 1/2" - 10 lbs. 3/4" - 10 lbs.			
	0-99 LBS.	100-999 LBS.	1000-OVER LBS.
1/4" (40 ft./lb.)	ON REQUEST	ON REQUEST	ON REQUEST
1/2" (30 ft./lb.)	\$.55 per lb.	\$.48 per lb.	\$.44 per lb.
3/4" (20 ft./lb.)	.55 per lb.	.48 per lb.	.44 per lb.

.012 WING TYPE ALUMINUM SEALS			
	0-999	1000-9999	50000-OVER
1/4" (3 lbs./M)	\$ 6.75 per M (7.76)	\$ 6.20 per M	ON REQUEST
1/2" (4 lbs./M)	\$ 7.55 per M (8.68)	\$ 7.05 per M	ON REQUEST
3/4" (8 lbs./M)	\$ 11.50 per M (13.22)	\$ 10.75 per M	ON REQUEST

.012 WING TYPE GALVANIZED SEALS			
	0-999	1000-9999	50000-OVER
1/4" (8 lbs./M)	ON REQUEST	ON REQUEST	ON REQUEST
1/2" (10 lbs./M)	\$ 10.00 per M	\$ 9.05 per M	\$ 8.45 per M
3/4" (18 lbs./M)	\$ 11.80 per M	\$ 10.70 per M	10.10 per M

ALUMINUM SHEET METAL SCREENS PANHEAD SCOTTED			
	0-999	1000-9999	10000-OVER
7 x 1/4"	\$6.85 per M	\$6.40 per M	\$6.00 per M
7 x 1/2"	\$7.70 per M	\$7.25 per M	\$6.80 per M
8 x 1/2"	\$7.95 per M (9.15)	\$7.40 per M	\$6.95 per M

00340



METAL JACKETING SYSTEMS

STAINLESS STEEL
STRAPPING, SEALS,
SCREWS and TIE WIRE

CONFIDENTIAL CONTRACTOR PRICES

EFFECTIVE JANUARY 1, 1977

STAINLESS STEEL STRAPPING - 200 FT. CARTONS		
	304	316
.015 x 1/4" x 200	\$5.25 per carton	\$4.85 per carton
.015 x 1/2" x 200	6.95 per carton	6.30 per carton
.015 x 3/4" x 200	10.10 per carton	9.05 per carton
.020 x 1/4" x 200	7.00 per carton	6.30 per carton
.020 x 1/2" x 200	9.55 per carton	8.65 per carton
.020 x 3/4" x 200	13.45 per carton	12.05 per carton

STAINLESS STEEL STRAPPING COIL WEIGHTS: 31" = 25 lbs., 36" = 25 lbs., 42" = 40 lbs.					
Thickness	Width	100-250 lbs.	250-500 lbs.	500-1000 lbs.	1000-2000 lbs.
.015 T 302/304	3/4"	\$1.26 per lb.	\$1.22 per lb.	\$1.13 per lb.	60 45 30
	1/2"	1.22 per lb.	1.17 per lb.	1.09 per lb.	
	3/8"	1.17 per lb.	1.13 per lb.	1.05 per lb.	
.020 T 302/304	3/4"	1.17 per lb.	1.13 per lb.	1.05 per lb.	40 30 20
	1/2"	1.13 per lb.	1.09 per lb.	1.01 per lb.	
	3/8"	1.09 per lb.	1.05 per lb.	.97 per lb.	
.020 T 316	3/4"	2.33 per lb.	2.21 per lb.	2.11 per lb.	40 30 20

STAINLESS STEEL WING SEALS & CLOSED SEALS - 1000/BOX				
	1000-5000	6000-10000	50000-OVER	(LBS./M)
TYPE 304 3/4"	\$14.86/M	\$14.30/M	INQUIRE	8 lbs./M
1/2"	14.86/M	16.20/M	INQUIRE	10 lbs./M
3/8"	14.86/M	21.55/M	INQUIRE	19 lbs./M
TYPE 316 1/2"	30.25/M	26.60/M	\$25.20/M	10 lbs./M
3/4"	37.50/M	33.80/M	32.55/M	19 lbs./M

STAINLESS STEEL METAL SCREWS - 1/2" PAN HEAD SCOTED		
Quantity	1000-5000	5000-10000
32000 per M	23.00	\$19.00 per M
		\$17.00 per M

STAINLESS STEEL WIRE SOFT ANNEALED			
Quantity	1000-5000	5000-10000	10000-OVER
0-99 lbs.	\$2.15 per lb.	\$2.00 per lb.	\$2.00 per lb.
100-999 lbs.	2.00 per lb.	1.87 per lb.	1.83 per lb.
10,000-Over lbs.	1.85 per lb.	1.75 per lb.	1.70 per lb.

STAINLESS STEEL WIRE ON 5 LB. SPOOLS		
16 Gauge	18 Gauge	20 Gauge
	\$16.95 ea.	\$14.95 ea.

00341

METAL JACKETING SYSTEMS

CONFIDENTIAL CONTRACTOR PRICES

Effective January 15, 1978

3" x 3" x 1/2" (32 Gauge) .010	SEE 25 ea.	SEE 25 ea.
3" x 3" x 1/2" (32 Gauge) .010	SEE 4.00 ea.	SEE 6.00 ea.

TIN EDGES

TIN PLATED RIGHT ANGLE EDGES
FOR AIR CONDITIONING DUCTS

	LF/CTN	WT/CTN	UNDER 5000 L.F.	OVER 5000 L.F.
1 1/2" x 1 1/2" x 6" (32 Gauge) .010	504	54	\$49.00	\$46.00
2" x 2" x 6" (32 Gauge) .010	336	50	65.00	62.00

CHIL-SPRINGS

STAINLESS STEEL FOR EXPANSION OF TANK STRAPS

		1-99	100-OVER
4" CHIL-SPRINGS	STAINLESS	\$2.75	\$2.00
2" CHIL-SPRINGS	STEEL T302	\$2.00	\$1.40

CHIL-GLAS

REINFORCING FIBER-GLASS MEMBRANE
FOR PLASTICS AND COATINGS

	ROLLS PER CTN.	COST LIN YD.	COST PER ROLL	
			BROKEN CARTONS	FULL CARTONS
#5 HEAVY DUTY 42" x APPROX. 50 YDS.	4	\$1.70		
#10 (10 x 10) 4" x 150'	18		\$ 2.75	\$ 2.60
#10 (10 x 10) 26" x 150'	9		26.95 25.00	21.00
#20 (20 x 20) 4" x 150'	18		\$ 2.40	2.25
#20 (20 x 20) 26" x 150'	9		26.90 25.00	16.00

MONOL Mesh - 48" x 150' Roll - 600' H.C. 258.75

297.5

00342

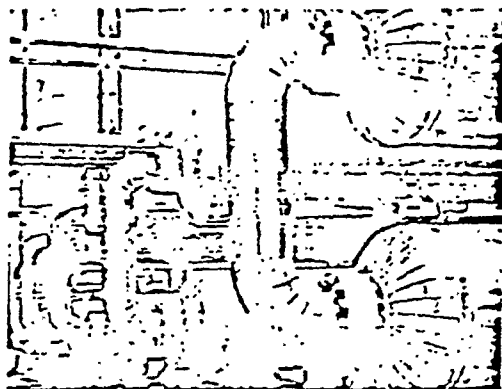


METAL JACKETING SYSTEMS

PRODUCT INFORMATION

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ELL-JACS® Aluminum Elbows



DESCRIPTION

Childers Ell-Jacs are made in two precision formed matching halves and are sized to cover and weatherproof insulated 90° and 45° turns along pipelines, or wherever a turn or sweep occurs. They can be used on long and short radius, butt weld, socket weld, screwed, and sweat piping from ½" to 12" inclusive. (Larger sizes are available as Gore-type Elbow covers.)

When ordering, long radius, short radius, 90°, or 45° must be specified. Ell-Jacs are manufactured from 1100 Aluminum alloy in .024" thickness, and have a baked epoxy moisture barrier coating in the interior for resistance to electrolytic decomposition plus a clear acrylic coating on the exterior for resistance to oxidation.

ADVANTAGES

Childers Ell-Jacs are the closest fitting elbow covers available from any source. Scratches

and marks are non-existent; there are no hidden valleys (outside edge corrugations) which can guide water into the insulation. Ell-Jacs always have perfectly smooth surfaces, and a weather-lock edge that locks tightly around to create a perfect weather seal.

The unique selection chart now shows all interchangeable sizes for additional ease in ordering. The previous 128 sizes have been refined down to 55, thereby saving inventory space. Instead of one size printed on the interior, Childers Ell-Jacs have labels printed on the exterior showing the interchangeable sizes.

SPECIFICATION - 2000

All 90° and 45° insulated elbows having a nominal pipe size of ½" to 12" inclusive shall be protected with Childers Aluminum Ell-Jacs manufactured from high-purity aluminum. The elbow covers shall be installed in accordance with manufacturer's instructions.

SELECTION CHART

90° ALUMINUM ELL-JACS®

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Iron Pipe Size	Insulation Thickness							
	1/2"	1"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"	1	2	5	8	12	23	26	31
3/4"	1	2	5	8	12	23	26	31
1"		3	6	11	12	23	26	31
1 1/4"		3	9	15	16	23	26	31
1 1/2"		4	9	18	23	26	31	34
2"		7	10	18	20	25	31	34
2 1/2"		13	16	20	24	31	34	40
3"		14	19	22	24	30	34	40
3 1/2"		17	21	27	30	33	40	45
4"		17	21	27	30	33	40	45
4 1/2"		28	27	30	33	40	45	48
5"		28	29	36	38	39	44	48
6"		32	35	37	39	44	48	49
7"		35	37	39	44	47	49	52
8"		41	42	43	47	49	52	53
9"		42	43	47	49	52	53	
10"		46	50	51	52	53		
11"		50	51	52	53			
12"		54	55	56				

PRICE CHART					
Size	Cost	Size	Cost	Size	Cost
1	\$1.77	20	\$5.83	39	\$9.95
2	2.07	21	5.83	40	9.95
3	2.18	22	5.83	41	11.42
4	2.35	23	5.95	42	11.60
5	2.65	24	6.30	43	12.71
6	2.65	25	6.54	44	12.71
7	2.65	26	6.54	45	12.71
8	2.77	27	6.54	46	13.72
9	2.77	28	6.59	47	13.89
10	2.77	29	7.06	48	13.89
11	2.77	30	7.18	49	14.95
12	3.23	31	7.18	50	15.01
13	3.30	32	7.83	51	15.77
14	3.53	33	7.83	52	18.13
15	4.47	34	7.83	53	18.24
16	4.47	35	8.54	54	21.77
17	5.18	36	8.66	55	22.83
18	5.18	37	9.24	56	24.83
19	5.30	38	9.24		

SELECTION CHART

45° ALUMINUM ELL-JACS®

Iron Pipe Size	Insulation Thickness							
	1/2"	1"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"		1	3	5	7	8	9	10
3/4"		1	3	5	7	8	9	10
1"		2	4	6	7	8	9	10
1 1/4"		2	5	6	7	8	9	10
1 1/2"		3	5	7	8	9	10	11
2"		4	6	7	8	9	10	11
2 1/2"		5	7	8	9	10	11	12
3"		6	7	8	9	10	11	12
3 1/2"		7	8	9	10	11	12	13
4"		7	8	9	10	11	12	13
4 1/2"		8	9	10	11	12	13	14
5"		8	9	10	11	12	13	14
6"		9	10	11	12	13	14	15
7"		10	11	12	13	14	15	
8"		11	12	13	14	15		
9"		12	13	14	15			
10"		13	14	15				
11"		14	15					
12"		15						

PRICE CHART	
Size	Cost
1	\$2.07
2	2.18
3	2.65
4	2.77
5	3.30
6	3.53
7	4.47
8	5.83
9	6.30
10	8.54
11	9.24
12	11.60
13	12.71
14	15.01
15	18.13

To use the selection chart, locate elbow number by reading coordinates of IPS (Iron Pipe Size) column and insulation thickness column. Example in the shaded area is 2" Iron Pipe with 2" Insulation which is a number 18 on the 90° chart, or a number 7 on the 45° chart. Then locate the price on the proper price chart.

Childers Special Fabricated Fitting Covers are manufactured to the "ASTM recommended dimensional standard C450." These and all pre-fabricated jacketings are designed to fit "Manufacturers simplified dimensional standards" of U.S. manufactured

Calcium Silicate pipe insulations. Childers can not be responsible for insulation materials or applications not conforming to these standards. If in doubt as to compliance of the insulation you are jacketing, take measurements and call Childers.

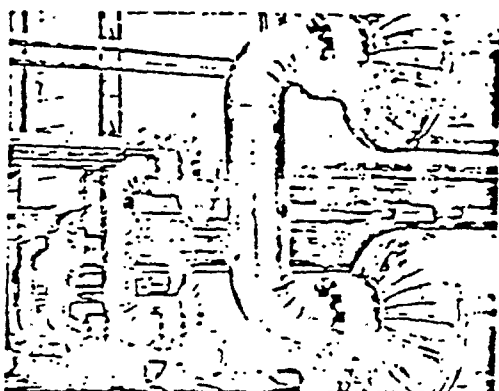


METAL JACKETING SYSTEMS

PRODUCT INFORMATION

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GORE ELL-JACS® Aluminum Elbows



DESCRIPTION

Childers Gore Ell-Jacs are manufactured in segments to cover and weatherproof insulated 90° and 45° turns along pipelines or wherever a turn or sweep occurs. Manufactured under ASTM specifications, Gore Ell-Jac segments are crimped along half of the circumference, and on the other edge, beaded along the entire circumference, to assure a perfect fit. A factory-applied catalyzed and baked Epoxy moisture barrier coating is applied to the interior for resistance to electrolytic decomposition, and a clear acrylic coating is applied to the exterior for corrosion protection.

When ordering; long radius, short radius, 90°, or 45° must be specified. Gore Ell-Jacs are normally manufactured from 1100 Coated Aluminum alloy in .016" and .019" thicknesses. Other metals and thicknesses are available upon request. As custom fabrica-

tions, Gore Ell-Jacs are available in any size or any special configuration upon request.

ADVANTAGES

Childers Gore Ell-Jacs are the closest fitting elbow covers available from any source. Marks and scratches are non-existent. Gore Ell-Jacs always have perfectly smooth surfaces. Sizes are marked internally for ease of identification. The Crimp and Bead interlocking edges lock tightly and create a perfect weather seal.

SPECIFICATION = 2500

GORES: All 90° and 45° insulated long or short radius weld elbows or sweeps having nominal pipe size of 12" or more shall be protected with Childers Aluminum interlocking Gore Ell-Jacs manufactured from high purity aluminum. Install in accordance with manufacturer's instructions.

GORE ELL-JACS[®]

Iron Pipe Size	INSULATION SIZE								
	1"	1½"	2"	2½"	3"	3½"	4"	4½"	5"
6"								16.48	17.07
7"							15.65	INO	INO
8"						14.83	16.71	INO	19.84
9"					17.63	17.66	18.24	19.19	21.19
10"				18.07	18.24	18.19	18.60	20.66	22.72
12"		22.76	23.69	23.72	24.78	25.66	26.90	28.19	29.43
14"	21.89	22.78	23.78	24.95	26.01	27.07	28.08	30.31	32.37
16"	24.83	25.89	26.90	27.78	28.55	29.61	30.01	31.14	33.19
18"	28.13	28.78	29.66	30.43	31.31	31.96	32.90	34.02	35.07
20"	31.14	32.43	33.96	35.31	36.84	39.90	41.43	43.02	44.49
22"	36.13	37.43	38.91	40.37	42.25	43.43	44.37	45.73	47.38
24"	41.08	42.67	44.08	45.55	46.14	49.08	52.26	54.88	58.14
26"	46.14	48.02	49.90	51.79	53.85	55.97	58.03	60.14	62.21
30"	65.56	66.80	70.15	72.27	74.33	76.45	78.33	80.39	82.51

Sizes in shaded area: 45° Gores only. (90° supplied as 2-Pc. Ell-Jac.)

Minimum: Invoice of \$25.00 of Ell-Jacs in any assortment of sizes.

INO Not Standard. (Inquire for prices)

Childers Special Fabricated Fitting Covers are manufactured to the "ASTM recommended dimensional standard C450." These and all pre-fabricated jacketings are designed to fit "Manufacturers simplified dimensional standards" of U.S. manufactured

Calcium Silicate pipe insulations. Childers can not be responsible for insulation materials or applications not conforming to these standards. If in doubt as to compliance of the insulation you are jacketing, take measurements and call Childers.

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FOSTER[®] PRICE LIST

The prices contained herein are
F.O.B. shipping dock prices for
either customer or common
carrier pickup, at the following
locations:

5841 West 66th Street
Chicago, Illinois 60638

P.O. Box 34280
13115 Conklin Lane
Houston, Texas 77034

4635 West Girard Avenue
Philadelphia, Pennsylvania 19131

Effective March 1, 1977

foster[®] / COATINGS
SEALANTS
ADHESIVES
HB FULLER COMPANY
ASSEMBLY PRODUCTS DIVISION
5220 Main Street Northeast - Minneapolis, Minnesota 55421
Telephone: Toll Free 1-800-328-7307

00347

	Product Name	55-gallon drums	5-gallon containers	2-gallon containers	1-gallon containers
30-02	Flame Resistant High Velocity Duct Sealant . . .	9.21	9.31	9.66	9.91
30-04	Adhesive Coating	4.53	4.63	4.98	5.23
30-35	Tite Fit Coating, White	7.01	7.11	7.46	7.71
30-36	SEALFAS® Coating	4.60	4.70	5.05	5.30
30-45	FOAM:SEAL® Sealant	8.81	8.91	9.26	—
30-46	Insulation Sealant	7.13	7.23	7.58	—
30-70	LAGTONE® Coating	7.51	7.61	7.96	—
30-76	White Insulation Coating	6.16	6.26	7.01	—
31-31	INSULFAS® Coating	5.34	5.44	—	—
31-90	LAGTONE® Coating, Gray	8.59	8.69	9.04	—
32-14	High Velocity Duct Sealant	6.58	6.68	7.03	7.28
135-00	SEALFAS G-P-M® Mastic, White (Trowel)	5.89	5.99	6.34	—
135-01	SEALFAS G-P-M® Mastic, Gray (Trowel)	5.89	5.99	6.34	—
135-02	SEALFAS G-P-M® Mastic, Black (Trowel)	5.99	6.09	6.44	—
36-00	SEALFAS G-P-M® Mastic (Polystyrene Grade)	7.55	7.65	8.40	—
145-00	SEALFAS G-P-M® Mastic White (Spray Grade)	6.09	6.19	6.54	—
145-01	SEALFAS G-P-M® Mastic, Gray (Spray Grade)	6.09	6.19	6.54	—
145-02	SEALFAS G-P-M® Mastic, Black (Spray Grade)	6.19	6.29	6.64	—
51-06	STACKFAS® Concrete Curing Agent	4.40	4.50	—	—
60-25	C.I. MASTIC® (Trowel)	2.22	2.41	3.01	—
60-26	C.I. MASTIC® (Spray)	2.22	2.41	3.01	3.26
60-28	C.I. MASTIC® (Lo-Temp)	2.22	2.41	—	—
60-29	MONOLAR® Mastic, Gray (Spray)	9.97	9.99	10.63	—
60-30	Fire Resistive Mastic, Trowel	7.43	7.53	8.13	—
60-35	Fire Resistive Mastic, Aluminum (Trowel)	8.03	8.13	8.73	—
60-36	MONOLAR® Mastic, White (Spray)	9.91	10.11	10.75	—
60-44	STACKFAS® Mastic (Spray)	6.30	6.40	—	—
60-45	STACKFAS® Mastic (Trowel)	6.39	6.49	—	—
60-60	Fire Resistive Mastic (Spray)	7.45	7.55	8.15	—
60-65	Fire Resistive Mastic, Aluminum (Spray)	7.87	7.97	8.57	—
60-80	SAFETEE H.I. MASTIC®	2.10	2.20	2.80	—
60-99	HiLASTIC® Mastic	2.15	2.25	2.85	—
*65-04	Fire Resistive Cork-Filled Asphalt Mastic	3.84	3.94	4.54	—
65-05	Fire Resistive C.I. MASTIC® (Trowel)	3.75	3.85	4.45	—
65-06	Fire Resistive C.I. MASTIC® (Spray)	3.75	3.85	4.45	—
65-07	Safetee C.I. MASTIC® (Trowel) (Non-flammable)	4.39	4.49	5.09	—
65-08	Safetee C.I. MASTIC® (Spray) (Non-flammable)	4.39	4.49	5.09	—
81-10	S.M. Green Adhesive	3.74	3.84	4.19	4.44
81-19	S.M. Black Adhesive	3.84	3.94	4.29	4.54
81-27	Fibrous Adhesive	3.12	3.22	3.57	—
81-33	Fire Resistive Adhesive	8.56	8.66	9.41	—
81-42	Fire Resistive Lagging Adhesive	5.17	5.27	6.02	—
81-42W	LAGFAS® Adhesive	3.62	3.72	4.07	4.67
81-93	Fibrous Adhesive (Trowel)	3.28	3.38	3.73	—
*82-08	KOLD-FAS® Adhesive (Brush)	3.27	3.37	4.12	—

†SEALFAS G-P-M® Mastic (35-00 Series and 45-00 Series) is available in Blue Gray, Green Gray, and Sea Gray on special order.

*Star identifies 50 gallons per drum.

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	Product Name	1 gallon containers	5-gallon containers	2-gallon containers	1 gallon containers
82-40	Tabfas Contact Bond Cement (Non-flammable) ..	9.28	8.38	10.13	10.33
85-11	SPARK-FAS [®] Adhesive, Non-flammable Spray ..	6.39	6.49	7.24	7.44
85-15	STIC-SAFE [®] Adhesive, Flammable, Brush	3.68	3.78	4.53	4.73
85-17	JAC-TAC [®] Adhesive	6.44	6.54	7.29	-
85-20	SPARK-FAS [®] Adhesive, Non-flammable, Brush .	7.53	7.63	7.98	8.23
85-62	JAC-TAC [®] Adhesive, Black	6.87	6.97	7.72	-
85-75	DRION [®] Contact Bond Cement (Non-flammable)	8.77	8.87	9.62	9.82
90-07	H.I. MASTIC [®]	1.97 ✓	2.07 ✓	2.67	-
90-10	Low-Temperature H.I. MASTIC [®]	2.58	2.68	3.43	-
95-44	Elastolar Sealant, Aluminum	6.86	6.96	7.71	7.91
95-49	Elastolar Sealant, White	7.86	7.96	8.71	-

One gallon containers are packed four to a carton. Split or broken carton orders cannot be processed.

Code No.	Product Name	Cartridge, 11 Fluid Ounces 12 cartridges per carton Price per Cartridge	Cartridge, 28 Fluid Ounces 12 cartridges per carton Price per Cartridge
30-02	Flame Resistant High Velocity Duct Sealant	2.43	4.59
30-45	FOAMSEAL [®] Sealant	1.99	3.98
30-46	Insulation Sealant	1.42	3.32
32-14	High Velocity Duct Sealant	1.48	3.79
95-44	Elastolar Sealant, Aluminum	1.32	3.21
95-49	Elastolar Sealant, White	1.97	4.69

Orders are accepted for full carton quantities only. Split or broken carton orders cannot be processed.

MAST-A-FAB[®] White Membrane

54.40 per roll

58" wide x 50 yards (725 sq. ft.)

SEALFAS[®] Glass Lagging Tape

Rolls 15 yards long by:

2" wide

3.21 per roll

4" wide

5.44 per roll



10212 Denton Court
Dallas, Texas 75220

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Size	List Price Per 100 Lin. Ft.	Rolls Per Case	Lin. Ft. Per Case	Weight Per Case	Liquid Equivalent Per Case for Discount Purpose
Foster THERMFAS® Heat Transfer Tape 30-61					
3/8" x 3/8" x 15'	15.18 Ctl.	40	600	50 Lbs.	5 Gallons
5/8" x 5/8" x 10'	43.78 Ctl.	24	240	55 Lbs.	6 Gallons
1" x 3/4" x 20'	37.62 Ctl.	24	480	65 Lbs.	7 Gallons

*Tracer grooved

Foster Extruded Tape 96-01					
3/16" Round Bead x 35'	2.66 Ctl.	60	2100	36 Lbs.	5 Gallons
1/4" Round Bead x 25'	3.29 Ctl.	40	1000	38 Lbs.	4 Gallons
1/4" x 3/32" x 40'	2.66 Ctl.	40	1600	43 Lbs.	4 Gallons
3/8" x 1/16" x 50'	3.17 Ctl.	60	3000	43 Lbs.	5 Gallons
3/8" x 1/8" x 40'	3.71 Ctl.	60	2400	60 Lbs.	6 Gallons
3/8" x 3/16" x 40'	5.26 Ctl.	20	800	35 Lbs.	3 Gallons
1/4" x 1/16" x 50'	2.45 Ctl.	60	3000	36 Lbs.	5 Gallons
1/4" x 3/16" x 40'	2.45 Ctl.	20	800	23 Lbs.	2 Gallons
1/2" x 3/32" x 50'	2.46 Ctl.	40	2000	57 Lbs.	5 Gallons
1" x 1/8" x 40'	7.35 Ctl.	24	960	73 Lbs.	6 Gallons
1" x 3/32" x 50'	6.18 Ctl.	24	1200	65 Lbs.	6 Gallons

Foster Extruded Tape 96-06					
1/4" x 3/16" x 40'	3.86 Ctl.	20	800	23 Lbs.	3 Gallons
1/4" x 1/4" x 30' **	4.18 Ctl.	20	600	19 Lbs.	2 Gallons
1" x 1/16" x 50'	5.64 Ctl.	24	1200	51 Lbs.	5 Gallons
1" x 1/8" x 40'	8.79 Ctl.	24	960	65 Lbs.	6 Gallons

**"Hour Glass Shape"