

PPG INDUSTRIES, INC.
INDUSTRIAL CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

CONTRACT DOCUMENTS
FOR
CONSTRUCTION CONTRACT
FOR
INSTALLATION OF 2", 4" AND 16" PIPELINES
FOR SOUTH TERMINAL EDC STORAGE FACILITIES

PROJECT NO. P-428

AUGUST 16, 1973

| BB 0014717 |

PPG INDUSTRIES, INC.
INDUSTRIAL CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

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PPG INDUSTRIES, INC.

NOV - 6 1973

CONSTRUCTION AGREEMENT

THIS AGREEMENT made this 29th day of August, 1973, by and between PPG INDUSTRIES, INC. of Pittsburgh, Pennsylvania, hereinafter called the "Owner", and VINCENT'S CONSTRUCTION, INC. of Sulphur, Louisiana, hereinafter called the "Contractor",

WITNESSETH, That

WHEREAS, the Owner desires to install piping and associated items serving his South Terminal EDC tank area, located at Owner's plant site at Lake Charles, Louisiana, and

WHEREAS, the Contractor represents that he possesses the knowledge, skill, experience and legal right required to perform the work called for hereunder in the manner required, and

WHEREAS, based on Contractor's representations as aforesaid, Owner desires to have Contractor perform said work,

NOW THEREFORE, for the considerations hereinafter stated, the parties hereto, intending to be legally bound hereby covenant and agree as follows:

ARTICLE I-
SCOPE OF WORK:

Except as otherwise specified herein, the Contractor shall furnish all of the materials and perform all of the work shown on and called for by the Drawings and Specifications hereinafter identified and enumerated or as otherwise prescribed in this Article I:

- (a) General Terms and Conditions, Exhibit "A"
- (b) Detailed Scope of Work, Exhibit "B"
- (c) Contractor's Procedures, Exhibit "C"
- (d) Drawings, Exhibit "D"
- (e) PPG Industries, Inc. Purchase Order 2577X dated 8/29/73
- (f) Equal Opportunity Clause attached hereto

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Each and all of the documents above listed or otherwise identified, to the extent not inconsistent with each other or this Construction Agreement, are herein incorporated by reference and made a part hereof with the same force and effect as though affixed hereto.

ARTICLE II-
TIME OF PERFORMANCE:

Contractor shall commence the work to be performed hereunder by September 10, 1973, and shall substantially complete said work December 3, 1973.

ARTICLE III-
CONTRACTOR'S COMPENSATION:

The Owner shall pay the Contractor for the performance of this Contract, subject to additions and deductions provided herein, in current funds the sum which shall be paid upon completion of the work; except that at Contractor's request, Owner will make partial payments in the amount of 90% of the value of the work as established by Owner as of the first day of any month, within ten days of receipt of Contractor's written request, supported by estimates of quantities approved by Owner.

ARTICLE IV-
ACCEPTANCE AND FINAL PAYMENT:

Owner shall inspect the work promptly upon receipt of written notice from Contractor that the work has been substantially completed. Final payment shall be due fifteen days after receipt of notice of substantial completion provided the work be then fully completed and the Contract fully performed; provided, further, that Contractor shall have submitted evidence - release of liens or otherwise - satisfactory to Owner that all payrolls, material bills, and other indebtedness connected with the work has been paid in full.

Notwithstanding Owner's acceptance of the completed work and final payment therefor, Contractor shall be and remain responsible for faulty materials and/or workmanship and/or design to the extent that such design is supplied by the Contractor which shall appear within a period of one year from the date of substantial completion and, except as otherwise expressly stated in the Contract, Contractor shall, without cost to the Owner, remedy any defects due thereto and pay for any injury to persons and/or damage to property resulting therefrom.

ARTICLE V-
ASSIGNMENT:

Contractor shall not assign this Contract in whole or in part without the prior written consent of the Owner, nor shall Contractor assign any monies due or to become due to him hereunder, without the prior written consent of the Owner.

Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

ATTEST:

Rose M. Puma
Title: Assistant Secretary

ATTEST:

RD Kill
Title:

PPG INDUSTRIES, INC.
(Owner)

By RE Widling
Title: Vice President,
Manufacturing

VINCENT'S CONSTRUCTION, INC.
(Contractor)

By John D. Lawrence
Title: Vice President

PPG INDUSTRIES, INC.
INDUSTRIAL CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

EXHIBIT B

DETAILED SCOPE OF WORK, CONSTRUCTION SPECIFICATIONS

I. SCOPE

The project and work to be performed consists of all work necessary to complete the construction of the following pipe lines.

4"-42823-PL49

This four inch EDC pipeline extends from the insulating flange at the south terminal pipe support (Drawing 27A-8019-3) to the flange at the bottom of the Organics incinerator piperack (Drawing 68A-81075-4).

2"-42827-PL79

This two inch nitrogen line extends from the insulating flange at the south terminal pipe support (Drawing 27A-8019-3) to the connection with an existing 2" nitrogen line (2"-1405-PL79) as shown on Drawing 20A-1467-6.

16"-42824-PL9

This sixteen inch water line extends from the pipe cap shown on drawing 27A-8019-3 to the 16" butterfly valve shown on Drawing 20A-1464-3.

These lines lie within PPG Industries' plant west of Lake Charles, Louisiana on Columbia-Southern Road. The work shall be performed as described in the Construction Agreement and in the General Terms and Conditions made a part thereof as Exhibit A and as shown in the drawings made a part thereof as Exhibit D and as hereinafter set forth in these Specifications, which are a part of the Construction Agreement as Exhibit B.

The Owner's Specifications for pipelines and the approved valves lists as listed below shall be considered a part of this Specification.

PL-9	Water Piping
PL-49	EDC Piping
PL-79	Nitrogen Piping
P-19	Support Detail for 16"-42824-PL9
PL-3	Carbon-Asbestos Pipe Saddle for 4"-42823-PL49

II. ROUTE OF THE LINE

The pipe line shall follow the route shown on the maps and drawings furnished in Exhibit D and shall be laid to the dimensions shown on the Drawings. The Owner reserves the right to make any changes in routing which it deems necessary, and such changes which change the cost of the work shall be compensated for as outlined in the Construction Agreement.

Contractor shall pay for all costs involved and connected with examination of welders and shall furnish all test equipment except that for radiographic inspection.

5. Contractor shall schedule testing of welders and shall notify Owner's Inspector one (1) day prior to tests of exact time and location of tests. Testing shall be done on job site.

G. Radiographic Inspection

Owner shall furnish radiographic inspection of welding.

- * All welds will be radiographed.

Contractor shall cooperate in this inspection and bear any expense other than that directly paid to the firm doing this inspection for their labor, equipment, and materials. Contractor will be expected to provide any labor or other help requested in making such inspections at no additional expense to the Owner or the company doing said inspection work.

The Owner's Inspector's interpretation of the results of said radiographic or electromagnetic tests shall be final as to the quality of welds being tested, and Contractor shall accept said interpretations. Any welds found to be faulty by radiography inspection shall be removed and replacement made as outlined herein by Contractor at no additional cost to Owner.

XII. COATING

All pipe shall be installed by Contractor coated in a condition free of all pinholes, voids, air bubbles, cracks, breaks or damage of any type as determined by visual inspection and the use of a Holiday detector as specified herein and Contractor shall furnish all materials, equipment, labor and supervision and shall stand any and all expenses necessary to achieve this.

A1. Coating Field Joints - 2"-42827-PL79 and 4"-42823-PL49

After welds have been approved by Owner's Inspector, field joints in pipe shall be coated by the use of irradiated, thermally stable, heat shrinkable polyethylene tubes internally coated with elastic adhesive (Thermofit pipe sleeves preferred).

The field joint coating procedure shall be as follows:

1. The bare metal to be coated shall be cleaned with a wire brush to remove dirt, rust and scale.
2. The adjacent pipe coating on both sides of the joint shall be wiped clean to remove foreign matter.
3. The polyethylene tube shall be centered on the joint and evenly heated with a flame torch or catalytic heater causing the tube to shrink and form a tight, uniform fit around the pipe and shop applied coating.

A2. Coating Field Joints - 16"-42824-PL9

After welds have been approved by Owner's Inspector, field joints in pipe shall be coated by the use of the Standard Kopper's 70-B Hot Enamel Field Coating Procedures.

The field joint coating procedure shall be as follows:

1. The bare metal to be coated shall be cleaned with a wire brush to remove dirt, rust and scale.
2. The adjacent pipe coating on both sides of the joint shall be wiped clean to remove foreign matter.
3. Prime the bare metal with Koppers 70B Primer.
4. Dry until tacky to the touch.
5. Apply Kopper's High Temperature Enamel. The pot temperature must remain between 450 and 550° F. Application temperature must remain between 400 and 500° F.
6. The pipe joint is to be flooded then wrapped with 15# asbestos pipeline felt at least 12 inches wide.

B. Inspection and Repair of Coating

Contractor will furnish high voltage electric Holiday detector approved by Owner and Contractor shall furnish at its expense the necessary labor and equipment to operate and move such electric Holiday detectors along the line. Contractor should have spare detectors and auxiliary equipment for their operation as failure of equipment to function properly shall be justification for Owner to stop Contractor until situation is corrected, and Contractor shall bear all expenses for such occasioned shutdowns at no additional cost to Owner. Owner will make a detailed inspection of the coating for Holidays and imperfections with such Holiday detector immediately preceding the lowering of the pipe. All Holidays and damaged places in the coating shall be repaired by Contractor until the detector is passed over the entire joint without disclosing any Holiday or incompleteness in the coating. Any repairs necessary shall be made in the following manner.

1. 2"-42827-PL79 and 4"-42823-PL49

All loose coating shall be removed and the area cleaned to the Owner's satisfaction. "X-Tru-Primer" shall be applied to the area and allowed to become "tacky" prior to applying the "X-Tru-Tape". There shall be a minimum of two (2) thicknesses of tape on all repairs. If the repair is of sufficient size, the tape shall be applied with a spiral wrap with a fifty per cent overlap. The coating application must be inspected by Owner's Inspector prior to backfilling.

2. 16"-42824-PL9

All loose coating shall be removed and the area cleaned to the Owner's satisfaction. Kopper's 70-B Primer shall be applied to the area and allowed to become "tacky" prior to applying the wrap. There shall be a minimum of two (2) thicknesses of felt on

all repairs. If the repair is of sufficient size, the felt shall be applied with a spiral wrap with a fifty percent overlap. The felt wrap is to be flooded with hot enamel during the wrap.

The coating application must be inspected by Owner's Inspector prior to backfilling.

C. Handling Coated Pipe

Coated pipe shall be handled at all times with equipment designed to prevent damage to the coating and satisfactory to Owner's Inspector. Pinch bars, chain or cable slings, or other pipe handling equipment found to be injurious to the coating are not to be used.

Sections of coated pipe being tied into the line shall be lifted and not dragged or pulled into position, and the length of such sections shall be regulated to allow their handling without damage to the coating.

At stream crossing or at any other location where it may be necessary to pull or drag sections of pipe into place, the coated pipe shall be protected by wood lath, furnished by Contractor and securely fastened to the pipe, or by such other means as Inspector may direct.

D. Painting Above Ground Pipe and Fittings

Contractor shall deliver all above ground pipe and fittings to the Owner's plant site for painting by the Owner prior to welding into the line. This work must be scheduled with the Owner's Field Engineer at least three (3) days prior to delivering the material to the Owner's plant.

XIII. LOWERING-IN PIPE

A. Slack

The line shall be lowered into the trench in such a manner as to provide "slack" as directed by Owner. When laid on the skids over the trench, the line shall be weaved from one side of the trench to the other to provide extra pipe for this purpose along the entire route of the line.

B. Over-Bends and Side-Bends

All over-bends shall be made and installed in such a manner that the pipe at the point of bend shall clear the high point of the bottom of the trench by at least twelve(12) inches. At side-bends the pipe shall be bent and lowered so as to lay against the outside wall at the bottom of the trench.

C. Pipe Slings

Contractor will be required to provide padded slings for handling coated pipe. The use of belting reinforced with wire cable will not be permitted. Slings used to lower pipe shall not be removed from under pipe in such a manner as to cause damage to coating on the pipe.

D. Time of Work

Pipe shall be lowered in the morning between early daylight and sunrise, except at such time as Owner's Inspector may otherwise direct, and shall be immediately backfilled after inspection by Owner's Inspector.

E. Condition of Trench

In all cases where rock or gravel is encountered in the bottom of the trench, the trench shall be evenly padded with soil, sand or other padding material approved by Owner, and backfill same into the trench to a minimum depth of four (4) inches at the bottom of the trench before the pipe is lowered, thereby insuring sufficient protection for the protective coating on the pipe.

XIV. BACKFILLING, INCLUDING NECESSARY BREAKERS

A. Backfilling

1. After lowering-in has been completed, but before backfilling, the line shall be inspected to be sure that no skids, brush, stumps, trees, boulders or debris may be in the trench. Also, no such materials or debris are to be backfilled into the trench.

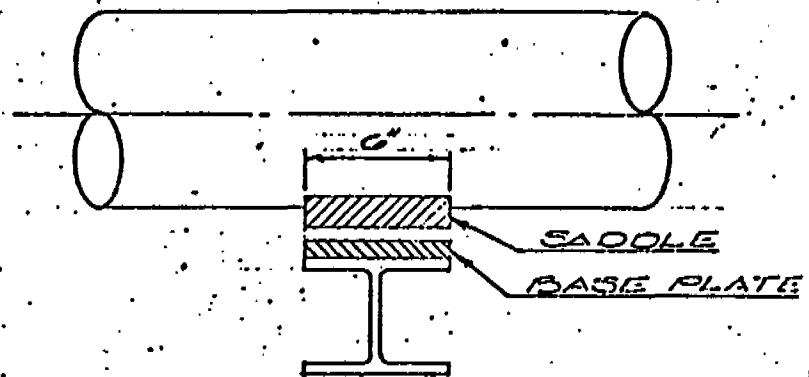
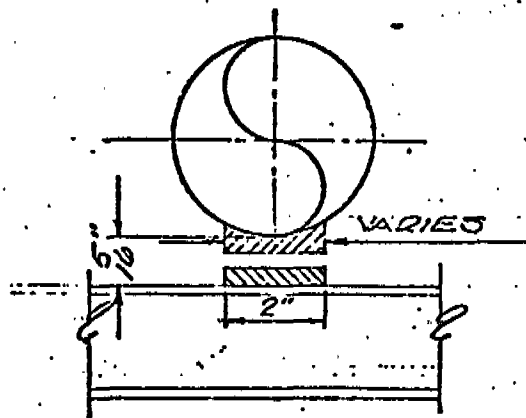
2. After the pipe has been inspected in the trench and approved by Owner's Inspector and after all damage to the protective coating and wrapping has been repaired, then Contractor shall backfill each section in order to prevent floating of the pipe in case water enters the trench from any cause. Contractor shall closely follow with the remaining backfill so that a minimum amount of trench shall remain open at any time.
3. Contractor shall complete the filling-in of the trench in such fashion as will produce a trim backfill. All of the excavated material shall be placed in the trench, bermed over the trench or removed.
4. Rock, gravel or like materials shall not be backfilled directly onto the pipe. Where such materials are encountered, Contractor shall haul, if necessary, sufficient earth or sand to be first backfilled around and over the pipe to form a protective padding or cushion between the pipe and any gravel or small broken rock to be backfilled. Large rock or boulders in excess of six (6) inches in diameter, width or length, shall not be backfilled into the trench. Such rock shall be removed from the right-of-way and disposed of to the satisfaction of the landowner or tenant.
5. Contractor shall not use soil from the right-of-way except from the spoil bank.
6. Contractor shall at all times keep the completed backfill to within one (1) mile of the lowered-in line.

B. Breakers

Contractor shall furnish all sacks, rock, or other materials, and all labor and equipment necessary to install breakers, in the ditch, over and round the pipe to provide full protection against washing at various points along said pipe line.

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TITLE
PIPE SUPPORT SHOES AND SADDLES

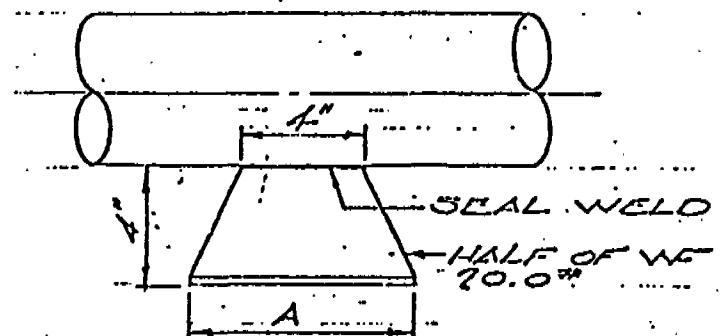
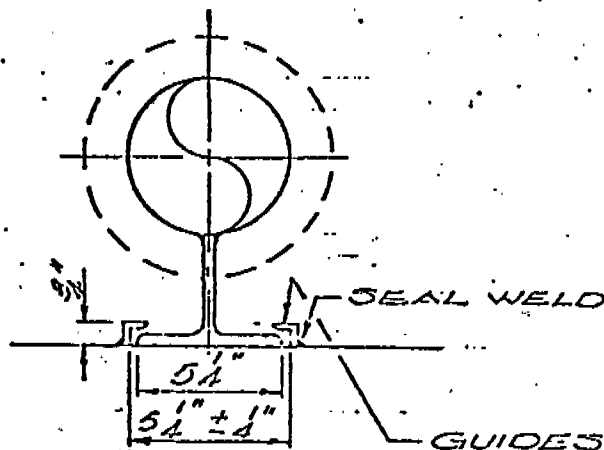


CARBON-ASBESTOS PIPE SADDLES

FOR ALL NON-INSULATED LINES 1/2" THRU 8"

NOTE:

CEMENT SADDLE TO PIPE, AND BASE PLATE
TO SUPPORT AFTER PAINTING, USING PLASTIC
MASTIC.



GUIDES - 1"x1"x1/4" ANGLE 6" LONG
TRIM AS SHOWN. USE
ONLY WHERE INDICATED
ON DRAWING.

STEEL PIPE SHOES

FOR ALL INSULATED LINES AND ALL
LINES 10' THROUGH 18"

NOTES

1. GUIDES AS INDICATED WHERE REQUIRED.
2. DIMENSION "A" = 10" FOR LINES 8" & UNDER.
3. DIMENSION "A" = 12" FOR LINES 10" THRU 18"

BB 0014730

PPG Industries, Inc.
Industrial Chemical Division
Lake Charles, Louisiana

Chemicals



SPECIFICATION NO. PL-9

Apprvd. CLP

Date 7-25-70 Page 1 of 1

TITLE

PIPING MATERIALS

A. SERVICE WATER (Well, Chilled, Cooling Tower & Potable)

B. RATING Press. 0 to 150 psig
Temp. -20 to 200 °F

C. PIPE 1-1/2" & Under: Wld. or smls. steel, Sch. 80, ASTM A106, Grad A or B.
2" thru 10" : Wld. or smls. steel, Sch. 40, ASTM A53, Grade A or B.
12" thru 24" : Wld. or smls. steel, .375" wall, ASTM A53, Grade A or B.
Over 24" : Consult Engineering.

SCREWED

WELDED/FLANGED

D. FITTINGS 1" & Under:
3000# forged steel, screwed, ASTM
A105, Grade I or II.

1-1/2" & Over:
Seamless steel butt-welding, ASTM
A234, Grade WPA or WPB, same
schedule as pipe.

E. FLANGES None.

150# steel slip-on welding flange,
raised face, ASTM A181, Grade I
or II. Wld. neck flgs. same sch.
as pipe are acceptable. Use flat
face flg. where required to mate
valve or fitting.

F. UNIONS 1" & Under:
3000# forged steel, ground joint,
screwed union with steel to steel
faces, ASTM A105, Grade I or II.

1-1/2" & Over:
Use flanges.

G. BOLTING None.

ASTM A193, Grade B7 bolt studs
with ASTM A194, Grade 2H nuts.
Studs and nuts to be ASTM A165-
61, Type TS Cadmium plated.

H. THREAD DOPE J. C. Plastic Lead #2.

None.

I. GASKETS None.

1/16" Garlock 901 or 951 graph-
ited or equal. Use full face gasket
for flat face flanges.

J. VALVES
GATE V-35A, V-36A in Caustic, V-24A
GLOBE V-69, V-101, V-112
PLUG V-210
BALL V-275
SWG.CK. V-236, V-168
BUTFLY. V-127
LFT.CK.

1-1/2" & Over:
V-15A, V-241B (underground), V-31
V-6A in Caustic
V-103, V-237, V-79
V-211, V-4
V-157
V-240, V-40
V-239, V-148

BB 0014731

PPG Industries, Inc.
Industrial Chemical Division
Lake Charles, Louisiana



SPECIFICATION NO. PL-49
Apprvd. CLP
Date 5-25-70 Page 1 of 1

TITLE

PIPING MATERIALS

- A. SERVICE ETHYLENE DICHLORIDE (Bottoms, Crude, Customer Grade, Product, Rework, & Wet Alkaline)
- B. RATING Press. 0 to 150 psig
Temp. -20 to 350 °F
- C. PIPE 1-1/2" & Under: Wld. or smls. steel, Sch. 80, ASTM A106, Grade A or B.
2" thru 10" : Wld. or smls. steel, Sch. 40, ASTM A53, Grade A or B.
12" thru 24" : Wld. or smls. steel, .375" wall, ASTM A53, Grade A or B.
Over 24" : Consult Engineering.

SCREWED

WELDED/FLANGED

- D. FITTINGS 1/2" & Under:
3000# forged steel, screwed, ASTM A105, Grade I or II.
- E. FLANGES None.
- F. UNIONS 3/4" & Under:
3000# forged steel, ground joint, screwed union with steel to steel faces, ASTM A105, Grade I or II.
- G. BOLTING None.
- H. THREAD DOPE Teflon tape.
- I. GASKETS None.
- J. VALVES 3/4" & Under:
GATE V-24B
GLOBE V-112B
PLUG
BALL V-156
LFT. CK. V-127
SWG. CK V-168
- 1" & Over:
V-31B
V-79B
V-157
V-80

BB 0014732

PPG Industries, Inc.
Industrial Chemical Division
Lake Charles, Louisiana



SPECIFICATION NO. PL-79
Apprvd. CLP
Date 5-25-70 Page 1 of 1

TITLE

PIPING MATERIALS

A. SERVICE NITROGEN

B. RATING Press. 0 to 150 psig
Temp. -20 to 275 °F

C. PIPE 1-1/2" & Under: Wld. or smls. steel, Sch. 80, ASTM A106, Grade A or B.
2" thru 10" : Wld. or smls. steel, Sch. 40, ASTM A53, Grade A or B.
12" thru 24" : Wld. or smls. steel, .375" wall, ASTM A53, Grade A or B.
Over 24" : Consult Engineering.

SCREWED

WELDED/FLANGED

D. FITTINGS 1/2" & Under:
3000# forged steel, screwed, ASTM
A105, Grade I or II.

3/4" & Over:
Seamless steel butt-welding, ASTM
A234, Grade WPA or WPB, same
schedule as pipe.

E. FLANGES None.

150# steel slip-on welding flange,
raised face, ASTM A181, Grade
I or II. Wld. neck flgs. same sch.
as pipe are acceptable. Use flat
face flg. where required to mate
valve or fitting.

F. UNIONS 1" & Under:
3000# forged steel, ground joint,
screwed union with steel to steel
faces, ASTM A105, Grade I or II.

1-1/2" & Over:
Use flanges.

G. BOLTING None.

ASTM A193, Grade B7 bolt studs
with ASTM A194, Grade 2H nuts.
Studs and nuts to be ASTM A165-
61, Type TS Cadmium plated.

H. THREAD DOPE J. C. Plastic Lead #2.

None.

I. GASKETS None.

1/16" Garlock 901 or 951 gra-
phited or equal. Use full face
gasket for flat face flanges.

J. VALVES
GATE V-24A
GLOBE V-112A
PLUG
BALL V-275
LFT. CK. V-127
SWG. CK. V-168

3/4" & Over:
V-15A, V-31B
V-79A
V-157
V-40

BB 0014733