Permit by Rule (PBR) Registration
Technical Review

Company:	Westlake Pipe & Fittings Corporation	**Registration No.:**	74463
Nearest City:	Wichita Falls	**Project No.:**	380094
County:	Wichita	**Project Type:**	Revision
Project Reviewer:	John Ma	**Regulated Entity No.:**	RN102613783
Unit Name:	North American Pipe	**Customer Reference No.:**	CN600348619
PBR No(s).:	106.221, 106.227, 106.261, 106.262, 106.265, 106.266, 106.391, 106.393, 106.394, 106.395, 106.472	**Project Received Date:**	September 18, 2024
Physical Location:	3348 Industrial Dr		

Project Overview / Process Description

Westlake Pipe & Fittings Corporation (Westlake) owns and operates a polyvinyl chloride (PVC) pipe extrusion operation in Wichita County. Westlake has submitted this certified project to authorize an expansion of its existing operation. The expansion includes six new Molecularly Oriented Polyvinyl Chloride (PVCO) Pipe extrusion lines. PVCO uses the same materials as traditional PVC pipe production, but the pipe is mechanically stretched as part of the manufacturing process. The stretching realigns the materials molecules to provide enhanced tensile-strength capabilities. The new expansion will increase production output at the facility as the six new lines have a maximum capacity of 68MMlbs/yr. The facility will continue to operate the existing eight extrusion lines that are currently authorized. An extensive process flow diagram is included in the project file.

The PVC Pipe is produced by extruding a mixture of PVC resin, a mineral oil-based stabilizer, calcium carbonate filler ($CaCO_3$), titanium dioxide (TIO_2), and paraffin wax. Particulate emissions are generated during the material storage, pneumatic transfer, high intensity mixing, sawing, grinding, pulverizing, and shredding operations. Except for the sawing operations, all particulate emissions are controlled with baghouses or cyclones.

PVC resin is pneumatically unloaded from railcars to trucks and transferred to one of the site's PVC silos. Minor ingredients are added to the process via bulk truck to silo (for $CaCO_3$), or via supersacks/bags which are installed over augers that route them to weigh hoppers and then to the site's high intensity mixer. Stabilizer oil is added to the blending process via an existing 5,600-gallon vertical fixed roof storage tank, or via tote, for the new PVCO facility. The ingredients are added to the high intensity mixer in a batch process that follows one of the site's formulations. The mixer frictionally heats the ingredients and transfers them to a cooler mixer.

The PVC compound is transferred from the cooler mixer to one of the site's compound silos. The storage silos feed the extruder hoppers which, in turn feed into the extrusion units. Finished pipe is produced in the extruders by forcing PVC compound through specifically designed orifices. As the pipe leaves the extruders, it is sawed into desired lengths. Sawing operations generate large shavings of finished pipe material and virtually no visible emissions. Finished pipe is then rolled into an underwater pressure testing system that uses recycled water supplied from the sites waste water treatment system. Pipe rejected for quality control is sent to the recycling process. This process currently consists of a Miller 2370 Prebreaker; Miller 6215-PL Pulverizer; and a Miller 6410 PL-80 Granulator. The new PVCO expansion will include a Zerma ZRS 1000 Pipe Shredder; GHS 800 Heavy Duty Granulator; and a PM 800 Pulverizer. The ground material is recycled back into the process at the extruder hoppers via small, enclosed mechanical augers.

Permit by Rule Requirements - 30 TAC Chapter 106

General Requirements

Registration Fee Reference No.:	**Application fee: 721778 / 582EA000625867** **Surcharge fee: 721779 / 582EA000625867**
Is this registration certified?	**Yes**
Is planned MSS included in the registration?	**No**
Are there affected NSR or Title V authorizations for the project?	**No**
If there are affected Title V authorizations, is monitoring being submitted as part of this registration?	**No**
Are there any upstream or downstream affects associated with this registration?	**No**
Are associated upstream/downstream emissions either included in the registration OR within current permitted limits with no changes to underlying air authorizations for the applicable units regarding BACT, health and environmental	**NA**

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impacts, or other representations.	
Are emissions for each PBR authorized facility less than the § 106.4(a)(1) limits?	**Yes**
Are total emissions from all sitewide PBR authorized facilities less than the § 106.4(a)(4) limits, OR has the site been subject to public notice requirements? **Sitewide emissions meet 106.4 limits.**	**Yes**
Are there permit limits on using PBRs at the site?	**No**
Is the facility in compliance with all other applicable rules and regulations?	**Yes**
Does the registration include an appropriate PBR workbook, and has the workbook been verified?	**Yes**

Federal Applicability	
Does this project trigger a PSD or Nonattainment review?	**No**
Does the Major NSR applicability analysis include all associated upstream and/or downstream emissions?	**NA**
Are there any applicable standards under NSPS, NESHAP, or NESHAP for source categories (MACT)?	**No**

Permit by Rule Requirements - Compliance Demonstrations

PBR 106.221 Extrusion Presses

Presses used exclusively for extruding metals, minerals, plastics, rubber, or wood are permitted by rule except where halogenated carbon compounds or hydrocarbon solvents are used as foaming agents. Presses used for extruding scrap materials or reclaiming scrap materials are not permitted by rule.

EPNs: 35, 43, 18

PBR 106.227 Soldering, Brazing, Welding

Brazing, soldering, or welding equipment, except those which emit 0.6 ton per year or more of lead, are permitted by rule.

EPNs: 49

PBR 106.261/262 Facilities (Emission Limitations / Emission and Distance Limitations)

- The emission point(s) associated with the facilities or changes to facilities are located **511ft** from the nearest off-site receptor.
- The total new or increase emissions will comply with the applicable hourly and annual emission limits as represented in the table below.
- Any facilities handling chemicals included in §106.262(a)(4) will be > 300 ft from the nearest property line and > 600 ft from any off-site receptor and the cumulative amount of any of the listed chemicals resulting from one or more authorizations under this section will be < 500 pounds on the plant property and all listed chemicals shall be handled only in unheated containers operated in compliance with the United States Department of Transportation regulations (49 Code of Federal Regulations, Parts 171-178).
- There are no changes to or addition of any pollution abatement equipment.
- Visible emissions to the atmosphere, from any point or fugitive source, do not exceed 5.0 percent opacity in any six-minute period.
- This registration does not authorize construction or changes to a facility authorized under another section of this chapter or under standard permit.

EPNs: 37, 45, 46, 47, 43, 7, 20, 21, 22

PBR 106.265 Hand-held and Manually Operated Machines

Hand-held or manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding, or turning of ceramic artwork, ceramic precision parts, leather, metals, plastics, fiber board, masonry, carbon, glass, graphite, or wood is permitted by rule.

EPNs: 44, 45, 46, 47, 19

PBR 106.266 Vacuum Cleaning Systems

Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes are permitted by rule.

EPNs: 44, 45, 46, 47

PBR 106.391 Rubber and Plastic Curing Presses

Presses used for the curing of rubber products and plastic products are permitted by rule.

EPNs: 35, 43

PBR 106.393 Conveyance and Storage of Plastic and Rubber Material

Equipment used exclusively for conveying and storing plastic and/or rubber solid materials is permitted by rule, provided that no visible emissions occur, and all the conditions of this section are met:

(1) equipment used for conveying of powders or resins to storage silos must be equipped with fabric filter(s) having a maximum filtering velocity of **7.0 ft/min with air cleaning**; and

(2) transfer of powders or resins is accomplished in an enclosed system.

EPNs: 29, 34, 37, 38, 39, 40, 48, 31, 32, 33, 40, 41, 42, 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

PBR 106.394 Plastic Compression and Injection Molding

Equipment used for compression molding and injection molding of plastics is permitted by rule.

EPNs: 35, 43

PBR 106.395 Equipment for Mixing Plastic and Rubber (No Solvent)

Mixers, blenders, roll mills, or calenders for rubber or plastics are permitted by rule, provided the following conditions of this section are satisfied. Mixers, blenders, roll mills, or calenders handling or adding asbestos shall not be eligible to be permitted by rule under this section.

(1) Organic solvents, diluents, or thinners shall not be used.

(2) Material in powder form shall not be added unless the mixer, blender, roll mill, or calender is vented to a fabric filter having a maximum filtering velocity of **7.0 ft/min with automatic air cleaning.**

(3) There shall be no visible emissions.

EPNs: 35, 36, 6

PBR 106.472 Organic and Inorganic Liquid Loading and Unloading

Liquid loading or unloading equipment for railcars, tank trucks, or drums; storage containers, reservoirs, tanks; and change of service of material loaded, unloaded, or stored is permitted by rule, provided that no visible emissions result and the chemicals loaded, unloaded, or stored are limited to:

(1) the following list: asphalt, resins, soaps, lube oils, fuel oils, waxes, polymers, detergents, lube oil additives, kerosene, wax emulsions, vegetable oils, greases, animal fats, and diesel fuels;

EPNs: 23

Compliance History and Site Review

In accordance with 30 TAC Chapter 60, a compliance history report was reviewed on:			**September 27, 2024**
Site rating / classification:	**Unclassified**	Company rating / classification:	**Unclassified**
Has any action occurred on the basis of the compliance history or rating?			**No**
Did the Regional Office provide site approval and confirm distances?			**NA**

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106.261(a)(2) Emissions

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold?
Calcium Carbonate	PM		6	10	1.12E-02	5.16E-02	Yes

106.261(a)(3) Emissions

Chemical	Criteria Pollutant Designation	L Value (mg/m^3)	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold ?
Calcium Stearate	PM			1	4.38	1.00E-03	4.93E-03	Yes
Inhalable, Ground Polyvinyl Chloride (PVC)	PM		9002-86-2	1	4.38	0.1060	0.4612	Yes

106.262(a)(2) Distance

Distance to nearest off-plant receptor (feet):	201
K value:	199.39

106.262(a)(2) Emissions – Table 262

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	L Value (mg/m^3)	E, maximum Hourly Emission Threshold (lb/hr)	Actual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
Vinyl Chloride	VOC		2	0.01	0.04	8.80E-03	3.85E-02	Yes

106.262(a)(2) Emissions – 1997 ACGIH Guide

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	L Value (mg/m^3)	E, maximum Hourly Emission Threshold (lb/hr)	Actual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
Titanium Dioxide	PM		10	0.05	0.22	1.00E-03	4.41E-03	Yes

Total 106.261/262 Combined Emissions

	Total Hourly Emissions (lb/hr)	Total Annual Emissions (tpy)
Total VOC Emissions:	8.80E-03	3.85E-02
Total PM Emissions:	0.1060	0.4612

Emission Summary

EPN / Emission Source	VOC		NOx		CO		PM		PM_{10}		$PM_{2.5}$		SO_2	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
New Emissions														
29 / Pneumatic transfer from railcar unloading to storage silos							0.03	0.12	0.03	0.12	0.03	0.12		
31 / 250,000lb Calcium Carbonate Filler Storage Silo							0.04	0.16	0.04	0.16	0.04	0.16		

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32 / 250,000lb PVC Resin Storage Silo							0.02	0.08	0.02	0.08	0.02	0.08		
33 / 250,000lb PVC Resin Storage Silo							0.02	0.08	0.02	0.08	0.02	0.08		
34 / Pneumatic transfer from resin silos to mixing system							0.01	0.05	0.01	0.05	0.01	0.05		
35 / Mixing System	0.01	0.06					0.15	0.66	0.15	0.66	0.15	0.66		
36 / Cooler System							0.15	0.66	0.15	0.66	0.15	0.66		
37 / Pneumatic transfer from 7 Minor ingredient stations to mixing system							0.01	0.05	0.01	0.05	0.01	0.05		
38 / Pneumatic transfer from mixing system to compound silos							-	-	-	-	-	-		
39 / Pneumatic transfer from compound silos to extrusion lines							-	-	-	-	-	-		
40 / PVC Compound Storage Silo No. 13							0.01	0.06	0.01	0.06	0.01	0.06		
41 / PVC Compound Storage Silo No. 14							0.02	0.08	0.02	0.08	0.02	0.08		
42 / PVC Compound Storage Silo No. 15							0.02	0.09	0.02	0.09	0.02	0.09		
43 / 6 Extrusion Line	0.59	2.60												
44 / 6 Product Saws							0.02	0.07	0.02	0.07	0.02	0.07		
45 / Zerma ZRS 1000 Pipe Shredder							<0.01	0.01	<0.01	0.01	<0.01	0.01		
46 / GHS 800 Heavy Duty Granulator							<0.01	0.01	<0.01	0.01	<0.01	0.01		
47 / PM 800 Pulverizer							<0.01	0.01	<0.01	0.01	<0.01	0.01		
48 / Pneumatic conveyance from ZRS 1000 to GSH 800							0.06	0.24	0.06	0.24	0.06	0.24		
49 / Welding Operations							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
Currently Authorized Emissions														
1 / Pneumatic transfer from railcar unloading to storage silos							<0.01	0.04	<0.01	0.04	<0.01	0.04		
2 / Calcium Carbonate Filler Storage Silo No. 13							<0.01	0.04	<0.01	0.04	<0.01	0.04		
3 / VC Resin Storage Silo No. 4							<0.01	0.02	<0.01	0.02	<0.01	0.02		
4 / PVC Resin Storage Silo No. 8							<0.01	0.04	<0.01	0.04	<0.01	0.04		
5 / Pneumatic transfer from resin silos to mixing system							<0.01	0.04	<0.01	0.04	<0.01	0.04		
6 / Mixing	<0.01	0.02					0.10	0.44	0.10	0.44	0.10	0.44		
7 / Minor Ingredient Stations							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		

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8 / PVC Compound Storage Silo No. 1							<0.01	0.02	<0.01	0.02	<0.01	0.02		
9 / PVC Compound Storage Silo No. 2							<0.01	0.02	<0.01	0.02	<0.01	0.02		
10 / PVC Compound Storage Silo No. 3							<0.01	0.02	<0.01	0.02	<0.01	0.02		
11 / PVC Compound Storage Silo No. 5							<0.01	0.02	<0.01	0.02	<0.01	0.02		
12 / PVC Compound Storage Silo No. 6							<0.01	0.02	<0.01	0.02	<0.01	0.02		
13 / PVC Compound Storage Silo No. 7							<0.01	0.02	<0.01	0.02	<0.01	0.02		
14 / PVC Compound Storage Silo No. 9							<0.01	0.02	<0.01	0.02	<0.01	0.02		
15 / PVC Compound Storage Silo No. 10							<0.01	0.02	<0.01	0.02	<0.01	0.02		
16 / PVC Compound Storage Silo No. 11							<0.01	0.02	<0.01	0.02	<0.01	0.02		
17 / PVC Compound Storage Silo No. 12							<0.01	0.02	<0.01	0.02	<0.01	0.02		
18 / Extrusion	0.38	1.66												
19 / Product Saws							0.02	0.07	0.02	0.07	0.02	0.07		
20 / Product Regrind (Pre-breaker and Grinder)							0.06	0.24	0.06	0.24	0.06	0.24		
21 / Pulverizer 1							0.03	0.12	0.03	0.12	0.03	0.12		
22 / Pulverizer 2							0.03	0.12	0.03	0.12	0.03	0.12		
23 / Stabilizer Oil Storage Tank	<0.01	<0.01												
TOTAL EMISSIONS (TPY):		**4.34**						**3.83**		**3.83**		**3.83**		
MAXIMUM OPERATING SCHEDULE:			**Hours/Day**		24	**Days/Week**		7	**Weeks/Year**		52	**Hours/Year**		8,760

TCEQ

October 8, 2024
Mr. John Ma
Permit Reviewer
Rule Registration Section
Date

Michael Partee

October 10, 2024
Michael Partee, Manager
Rule Registrations Section
Air Permits Division
Section Manager
Date