



**Environmental and Public Protection Cabinet
Office of Housing, Buildings and Construction
Hazardous Materials Section
101 Sea Hero Road, Suite 100
Frankfort, Kentucky 40601-5405
Telephone: (502) 573-1702 Fax: (502) 573-1695**

**PERMIT APPLICATION FOR INTERIOR LINING & REPAIR OF
UNDERGROUND STORAGE TANKS (UGST) FOR PETROLEUM PRODUCTS**

For Office Use Only

Permit No.: _____ Approved By: _____
Amount Paid: _____ Date Approved: _____

Installation Site

Owner of Tanks

NAME OF BUSINESS/COMPANY (D/B/A) _____
STREET ADDRESS _____
CITY STATE ZIP CODE _____
() _____
TELEPHONE NUMBER COUNTY

OWNER/OPERATOR/COMPANY NAME _____
STREET ADDRESS _____
CITY STATE ZIP CODE _____
() _____
TELEPHONE NUMBER COUNTY

UGST SITE I.D. NUMBER (EXISTING SITES ONLY) _____

Interior Lining Contractor

Certified Individual

COMPANY NAME _____
STREET ADDRESS _____
CITY STATE ZIP CODE _____
() _____
TELEPHONE NUMBER

NAME OF CONTRACTOR _____
() _____
TELEPHONE NUMBER
INDIVIDUAL'S CERTIFICATION NUMBER EXPIRATION DATE



Type of Facility

- Commercial
 Private Use
 Government
 Industrial
 Bulk Plant
 Other (Please Specify): _____

1. Tank Information -

TANK TYPE CODES

- | | |
|----------------------|---------------------------------------|
| 01 Sti-P3 | 05 Double Wall Steel, Fiberglass Clad |
| 02 Single Wall FRP | 06 Single Wall Steel, Fiberglass Clad |
| 03 Double Wall Steel | 07 Jacketed |
| 04 Double Wall, FRP | 08 Other (Please Specify): _____ |

NOTE: Tank numbers shall correspond with the tank numbers on the accompanying site plan.

TANK #1:

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CAPACITY (GALLONS)

--	--

TANK TYPE CODE

--	--	--	--

APPROXIMATE AGE OF TANKS

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PRODUCT STORED

- Tank to be lined
 Tank previously lined
 Reason for Lining: Upgrade Leak Repair

TANK #2:

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CAPACITY (GALLONS)

--	--

TANK TYPE CODE

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APPROXIMATE AGE OF TANKS

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PRODUCT STORED

- Tank to be lined
 Tank previously lined
 Reason for Lining: Upgrade Leak Repair

TANK #3:

--	--	--	--

CAPACITY (GALLONS)

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TANK TYPE CODE

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APPROXIMATE AGE OF TANKS

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PRODUCT STORED

- Tank to be lined
 Tank previously lined
 Reason for Lining: Upgrade Leak Repair

2. Tank Information (continued) -

TANK #4:

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CAPACITY (GALLONS)

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TANK TYPE CODE

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APPROXIMATE AGE OF TANKS

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PRODUCT STORED

Tank to be lined Tank previously lined Reason for Lining: Upgrade Leak Repair

TANK #5:

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CAPACITY (GALLONS)

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TANK TYPE CODE

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APPROXIMATE AGE OF TANKS

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PRODUCT STORED

Tank to be lined Tank previously lined Reason for Lining: Upgrade Leak Repair

2. Lining Material Specifications -

a) Manufacturer of lining material: _____

b) Name of lining material: _____

Type of lining material: _____

c) Lining material compatible with any stored product? Yes No

Note: If no, please explain: _____

d) Thickness of coating to be applied to each tank (indicate mils):

_____ TANK #1

_____ TANK #2

_____ TANK #3

_____ TANK #4

_____ TANK #5

e) Each coating application compatible with alcohol based and reformulated fuels. Yes No

f) Each tank to be properly prepared per API 1631 and NLPA 631 Standards. Yes No

g) Each coating application to be completed per manufacturer's specification. Yes No

3. Notification Information -

- a) Estimated date of tank preparation:
- b) Estimated date of tank evaluation:
- c) Estimated date of coating application:
- d) Estimated date of completion:

Note: Precision test mandatory upon completion and results shall be made available for inspection upon request.

- e) Manufacturer's sealant specification data will be submitted to the Office of the State Fire Marshal.
 Yes No

Tank Preparation Procedure for Fiberglass Reinforced Piping For UGST's-

1. Tank Preparation Procedure -

- a) If lining FRP tanks, the appropriate inspection, testing, and lining procedures will be accomplished only after consultation with the tank manufacturer or a qualified person. Yes No
- b) Employees performing the lining or tanks repairs are knowledgeable in confined space entry procedures, and of purging, entry, and cleaning procedures per applicable standards.
 Yes No

2. Safety Precautions -

- a) Static electricity precautions regarding grounding of equipment, tank entry personnel clothing and bonding cable requirements for the initial cleaning operation will be properly observed.
 Yes No
- b) Vapor reading of ten percent (10%) LFL or less will be verified immediately prior to removing the manway cover or cutting the tank access opening, and performed throughout the opening process to ensure a safe atmosphere. Yes No
- c) Type of combustible gas indicator used for monitoring purposes: _____
- d) Combustible gas indicator calibrated per manufacturer's specifications. Yes No
- e) Personnel entering the tank will be equipped at all times with positive pressure air-supplied respirators with full face enclosure, safety harness connected to a safety line held by attendant outside the tank.
 Yes No
- f) The interior surface of the tank must be examined by using a light fixture that meets the requirement of NFPA 70 (Class 1, Division 1, Group D). Yes No

3. Visual Inspection -

- a) Measurements for geometric distortion will be taken every three feet (3') of the interior diameter of the tank. Yes No
- b) The tank shell wall will be hardness tested using a Barcol hardness tester, GYZJ 935, or other acceptable instrument to determine if the hardness meets manufacturer's specifications, which should verify whether chemical attack has occurred. Yes No

4. Opening and Repair Procedures -

- a) The access opening will be cold cut in the dome of the tank with the minimum dimensions of 22" by 22". Yes No
- b) All perimeters of the dome section to be cut will be at least eight inches (8") from the tank's ribs. Yes No
- c) The access opening will be bevel cut using an air-driven saber saw, utilizing lubricating oil to reduce friction, heat, and possible sparks. Yes No
- d) After completion of surface preparation, multiple layers of 1.5 ounces per square foot fiberglass mat will be applied to the damaged area, with the initial layer extending at least four inches (4") beyond the perimeter of the damaged area and additional layers two inches (2") beyond the perimeter of the previous applied layer. Yes No
- e) If a section of the tank is missing, a splash will be cut ½ inch larger on all sides than the section that is missing with the edges and side of the splash that the repair FRP laminates properly sandblasted or ground. Yes No

Note: Sandblasting is preferred because it will expose glass fibers during surface preparation that will provide a mechanical bond for the repair of lining material. Grinding could shear or melt glass fibers and not expose as many glass fibers to provide as strong a bonding surface

- f) Fractures will have holes drilled at each end of the fracture. The drilled holes shall be larger in diameter than the width of the fracture. Yes No
- g) The removal, surface preparation, attachment and covering, as well as testing of a tank fitting plate assembly will be done per applicable standard requirements. Yes No
- h) Manway assembly repair or replacement will be accomplished by the use of materials which are FRP compatible and applied in conformance with applicable standards. Yes No
- i) Manway assembly will be provided with a riser and access cover accessible from grade level. Yes No
- j) The FRP tank will be lined for compatibility with products other than those that were intended for storage as originally manufactured, with a proper lining material that will be at least 100 to 125 mils thick. Yes No

4. **Opening and Repair Procedures (Continued)-**

- k) A ¼ inch steel striker plate with the minimum dimensions of 8" x 8" will be installed under the gauge and fill openings if the tank will be lined or if the striker plate was not installed previously.
 Yes No

5. **Tank Closing -**

- a) If an opening is cut, the removed section of the end cap and a minimum of six inches (6") of the adjoining tank wall surface will be abrasive blasted. Yes No
- b) The seams of the entry hole will be sealed by the application of five (5) plies of 1½ ounces per square foot fiberglass chopped strand matting saturated with lining material extending a minimum of four inches (4") beyond the perimeter of the access opening seams. All fiberglass material will be treated with silane, and the final laminate equal to or exceeding the wall thickness of the original tank wall. Yes No
- c) The access opening seal and accessible areas that were repaired will be tested for tightness prior to covering with backfill and paving by performing an air pressure test at a pressure recommended by the tank manufacturer and applying a soap solution to the seal and accessible repair areas and inspecting it for bubbles. *This test is only allowed when the tank does not contain petroleum product liquid or vapors.* Yes No
- d) Before the tank excavation is backfilled, the tank will be tightness-tested using a precision test in accordance with NFPA 329. Particular attention will be paid to the access opening seal and accessible areas of repair. Yes No

Tank Preparation Procedure for Steel UGST's-

1. **Tank Preparation Procedure -**

- a) Type of combustible gas indicator used for monitoring purposes: _____
Model of combustible gas indicator used for monitoring purposes: _____
- b) Combustible gas indicator calibrated per manufacturer's specifications? Yes No
- c) Tank ventilation provided by which type of air mover? _____
- d) Purging, air ventilation, and testing will continue throughout the entire lining process to ensure the vapor concentration does not exceed ten percent (10%) of the LFL. Yes No
- e) Personnel entering the tank will be equipped at all times with positive pressure air-supplied respirators with full face enclosure, safety harness connected to a safety line held by attendant outside the tank. Yes No
- f) The interior surface of the tank must be examined by using a light fixture that meets the requirement of NFPA 70 (Class 1, Division 1, Group D). Yes No

1. Tank Preparation Procedure (Continued)–

- g) Tank metal thickness determination shall be accomplished by which method?
 Destructive Non-destructive
- h) A white metal blast will be completed on the shell surface preparatory to lining. Yes No
- i) All perforations in the tank shall be plugged with boiler plugs or hydraulic cement prior to abrasive blasting. Yes No
- j) Boiler plugs and hydraulic cement plugs will be covered with epoxy or polyester and then covered with fiberglass cloth (minimum 1½ ounces per square yard, silane treated) that overlaps all sides of the plug by a minimum of two inches (2"). Yes No

2. Application of Lining:

- a) A ¼ inch steel reinforcing plate rolled to the contour of the tank and with minimum dimensions of 8" by 8" will be installed under the fill (drop) tube and gauging tube. Yes No
- b) The blast cleaned surface will be coated within eight (8) hours after blasting and before any visible rusting appears. Yes No
- c) Manufacturer's instructions will be followed on handling and mixing of resin compounds, and these compounds will be applied to the entire interior surface of the tanks by the manufacturer or his designated distributor. Yes No
- d) If a heater is used to accelerate the curing process, all other work that might release flammable vapors will be halted and the heating unit will be attended whenever it is in operation.
 Yes No
- e) The coating will be cured thoroughly to manufacturer's specifications and checked for air pockets and pin holes using a holiday detector. Any defects found will be repaired to manufacturer's specifications. Yes No
- f) The coating thickness will be checked with a thickness gauge and tested for hardness using a hardness tester to ensure compliance with the manufacturer's specifications. Yes No
- g) Manway assembly will consist of steel construction and be properly installed per manufacturer's instruction. Yes No
- h) Manway assembly is to be repaired per manufacturer's instructions. Yes No
- i) Manway assembly is to be provided with housing and cover accessible from grade level.
 Yes No

3. Tank Closing -

- a) A ¼ inch thick steel cover plate rolled to the contour of the tank will be made to overlap the hole by at least two inches (2") on each side. Yes No
- b) The cover plate will be sandblasted to white metal on both sides, and the entire inside surface will be coated with coating material to act as a gasket. Yes No
- c) Before the coating on the tank cures, the cover will be fastened to the tank by ½ inch bolts (minimum diameter) placed through the holes from inside the tank, held in place by spring clips and then fastened with locking washers and nuts. Yes No

If "no", please indicate if self-tapping bolts will be used to fasten the cover to the tank.

- Yes No
- d) After the cover has been bolted to the tank, the cover plate and surrounding tank surface will be properly sandblasted, coated with coating material, and allowed to cure before the tank excavation is back-filled. Yes No
- e) The cover plate seal will be tested for tightness prior to covering with backfill and paving by performing an air pressure test of the tank at five (5) psig and applying a soap solution to the cover and inspecting it for bubbles. This test is only allowed when the tank does not contain petroleum product liquid or vapors. Yes No
- f) Before the tank excavation is backfilled, the tank will be tightness-tested using a precision test in accordance with NFPA 329. Particular attention will be paid to the cover plate and all exposed fittings. Yes No

I, the undersigned, do hereby agree that this installation shall comply with all applicable requirements of the "Standards of Safety" promulgated in 815 KAR 10:060 and all other applicable standards as required. All answers in this application are true and accurate to the best of my knowledge.

Contractor Signature

Date

Fee Schedule

A charge of \$100.00 for the first tank and \$50.00 for each additional tank is required for this specialized review. **The required fee must accompany your application for permit.** Your check or money order should be made payable to the "Kentucky State Treasurer". The name and location of the project must be indicated on the check or money order.

Note: Site plan, specifications and check or money order shall accompany this document for approval. Please return completed application to the address listed below:

Office of Housing, Buildings and Construction
Hazardous Materials Section
101 Sea Hero Road Suite 100
Frankfort, Kentucky 40601-5405