

Commercial roofing – hot tar kettle and tanker operations safety guidelines

Tankers and hot tar kettles used in commercial roofing operations pose potential exposure to loss. Losses are typically personal injury or property damage, which can result from improper use and maintenance of equipment. The following guidelines are provided to assist you in providing a safe work environment when using this type of equipment.

TAR KETTLE CONSTRUCTION

- A tar kettle vat for molten material should be of welded construction and all other materials used in its construction, except tires, should be noncombustible. A tanker for molten material should be braced and baffled to contain the load.
- A cover for a tar kettle vessel should be hinged, close fitting and capable of smothering a fire inside the vessel when in a closed position.
- A tar kettle should be maintained at a level position when containing molten material.
- A discharge valve from a tar kettle vessel should be a quick-closing type with standard pipe thread.
- Pipe, tubing, hose and conductors used for hot material from a tar kettle or tanker should be supported when above ground or floor level. Hose, tubing, pipe and conductors running horizontally should be supported at intervals that will prevent sagging. Connections should be made with unions or couplings and should be maintained free of leaks.
- A rotating or reciprocating part exposed to contact should be guarded with an enclosure of 16-gauge sheet metal or expanded metal secured to the frame or kettle.
- Where a pump unit is mounted on a tar kettle and the fuel container is an integral part of the pump, the pump unit should be shielded from the tar kettle by a barrier of rigid noncombustible material.

LOADING AND OPERATING

- A tar kettle vessel should be charged or loaded in a manner to avoid splashing. The weight of chunk material lifted manually should not be more than 25 pounds.
- A vessel should not be filled higher than 6 inches from the overflow level.
- A tar kettle or tanker should have a qualified, experienced operator in attendance at all times that the kettle or tanker is being fired. The operator should not leave the ground area or be at a distance from the kettle or tanker that would prevent the operator's immediate attention.

CONTROLS

- A tar kettle and tanker should be equipped with a working temperature gauge.
- A yard storage unit should have a safety pilot light with an audible alarm system and should be thermostatically controlled.
- A yard storage unit or tanker should have a level indicator to show the amount of the contents within the vessel.

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FUEL

- Fuel for a tar kettle or pump motor should be limited to natural gas, liquefied petroleum gas, fuel oil, kerosene or electricity. Gasoline may be used as fuel for a pump motor.
- Fittings, hose and piping should be compatible with the fuel used.
- If a fuel tank is located less than 10 feet from a tar kettle or tanker, the fuel tank should be shielded from the tar kettle or tanker by a barrier of rigid noncombustible material.

FIRE PRECAUTIONS

- One or more portable fire extinguishers of the dry powder type with a minimum total capacity of 40 pounds should be located between 10 feet and 25 feet from a tar kettle being fired. A fire extinguisher with a total capacity under 10 pounds should not be provided.
- Tar kettles should not be within 20 feet of combustible materials unless separated by a fire-resistant blanket.
- Tar kettles should not be within 10 feet of a structure that extends above the highest part of a kettle, piping excluded.
- A tar kettle should not be placed in or on a building, except by permission of an authorized representative of the department.
- Do not move a tar kettle while it is being fired.

MATERIAL HANDLING

- A supply bucket used for handling hot material should be of metal construction with all seams liquid tight. The pail handle should be made of steel (not less than 1/4 inch) with the handle attached to hook ears riveted to the bucket. The handle ears should be located above the center of balance.
- Any leaking buckets should be removed from service and repaired or scrapped.
- A supply bucket of hot material should not be carried up a ladder.
- A manually powered hoist should be equipped with manila rope (not less than 3/4 inch). The rope should be inspected before the start of each job for broken fibers, burns, mildew and cuts. A rope having any of these conditions should be replaced. The rope pulley should be secured to a hoisting jack in a manner to support not less than three times the weight to be lifted. The pulley groove should be the same size as the rope.
- A cast or forged steel hook equipped with a safety latch should be used to prevent a bucket from becoming unhooked when hoisting.
- If a counterweight is used, it should be contained or secured in place to prevent slippage.
- If a manual or powered hoisting jack is used, it should be designed and installed in such a manner as to support not less than three times the load to be lifted.
- An employee should not stand or walk under material being hoisted.
- A supply bucket should not be filled higher than 2 inches from the top.

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- When working on a roof deck or tending a tar kettle, tanker or yard storage unit, an employee should wear a closed shirt covering the upper body including the arms and wrists, trousers that extend over the tops of the shoes and leather shoes not less than ankle high.
- During roofing work, materials and equipment should not be stored within 6 feet (1.8 meters) of a roof edge, unless guardrails are erected at the roof edge.
- Materials that are piled, grouped or stacked near a roof edge should be stable and self-supporting.

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