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2024 WAREHOUSEMAN BEST PRACTICES

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RECOMMENDATIONS and REQUIREMENTS

- ***ONLY CLASS A BALES SHOULD BE SHIPPED.*** *Baled Cotton Lint USA Domestic (Joint Cotton Industry Bale Packaging Committee (JCIBPC)) (see attached form).*

- *All facilities should conduct self-inspections (see attached form).*

- *Underlining the importance of fire safety, it is MANDATORY that all sprinkler systems undergo annual inspections. These inspections, conducted according to NFPA 25 standards and under the guidance of a qualified sprinkler inspection contractor, are essential to ensure the system's functionality. Any necessary repairs must be promptly completed.*

- *Work with the 2024 NCGA Fire Bale Management Practices (see attached form).*

- *Fire Protocols should be in place and practiced by all personnel so that everyone knows how to combat a Bale cotton fire best (see attached form)*

- *All Sprinkler System Impairments MUST be reported to the Insurance Underwriter with the following information: Warehouse #, System # Impaired, Number of Bales in the affected area, and Estimated time for repairs to be completed.*

- *Once a sprinkler system has been in place for over 20 years, plans should be made to replace/update the entire system systematically.*

- *Recommended AROSA SYSTEM (see Attached Information): Given the new automated Bale Strapping Systems, the AROSA SYSTEM provides an early warning system before a bale cotton fire.*

- *It is highly recommended to use a nitrogen compressor instead of an air compressor as it significantly extends the life cycle of the sprinkler system to 40 years. Nitrogen systems effectively prevent pipe oxidation, ensuring the longevity and reliability of your system. Typically, a sprinkler system that uses compressed air has a life span of 15 to 20 years. There is lots of new technology to control Corrosion Management Sprinkler Systems.*

- *Foam systems are essential for ensuring safety in receiving houses.*

WAREHOUSEMAN'S RESPONSIBILITIES FOR FIRE CONTROL AND PREVENTION

As warehousemen, you play a crucial role in fire control and prevention. Your vigilance and actions are integral to maintaining a safe warehouse environment.

1. **Fire Hazard Awareness:** Warehousemen are responsible for remaining vigilant and actively identifying potential fire hazards within the warehouse premises. This includes promptly identifying conditions or materials that may increase the fire risk.
2. **Firefighting Equipment Inspection:** Regularly inspect and assess the firefighting equipment to ensure it is in proper working condition. This regular inspection ensures that we are always prepared to combat any fire emergencies, providing a sense of security for all personnel.
3. **Maintenance of Warehouse Facilities:** Monitor and report any deterioration or damage to the warehouse facilities or drainage system that may pose a risk to fire safety. Prompt repairs should be conducted to maintain a safe environment.
4. **Enhanced Security Precautions:** Ensure all security precautions are in place to safeguard the facility. This involves securing the warehouse, closing, and securing all walk-through and loadout doors, and implementing adequate security measures to prevent unauthorized access.
5. **Compliance with Fire Protocols:** Ensure all fire protocols and other risk mitigation measures are up to date and practiced by all personnel. This includes regular training sessions and drills to familiarize everyone with emergency procedures.

FIRE CONTROL AND PREVENTION - SPECIFIC RESPONSIBILITIES

A) Lighting:

- Only approved electric lighting (LED or Incandescent) should be used within the warehouse.
- In case of special lighting needs, use electric battery emerging lighting and flashlights.

B) Electric Equipment:

- Flexible light cords, key sockets, exposed switches, exposed fuse blocks or electrical panels, or any devices with exposed connections are prohibited in cotton storage areas.
- Maintain a minimum clearance of three feet between all cotton and lamps, switches, and other electrical equipment.
- Install switches and similar equipment outside the storage area or in the pumphouse areas when feasible.
- Ensure all electric wiring is correctly installed in conduit to prevent contact with cotton or equipment.

FIRE CONTROL AND PREVENTION - SPECIFIC RESPONSIBILITIES-Cont.

C) Heating:

- Prohibit stoves, open grates, and fires in enclosed offices and areas storing or handling samples of Bale Cotton.
- Gas heating devices in warehouse storage buildings should have rigid connections and comply with safety standards.
- If the sprinkler system is a wet system and has gas heaters in the ceiling area**. A clear space radius of 50 to 100 feet from gas heaters must be maintained.**
- Prohibit gasoline and portable kerosene stoves in and around bale cotton storage buildings.

D) Forklifts, Trucks, Tractors:

- Only allow approved mobile equipment with the Underwriters Laboratories label in cotton storage areas. (Electric (ES), Gasoline (GS), Diesel (OS), Liquefied Petroleum (LPS), Dual Fuel – Gasoline/LPG (GS/LPS), Dual Fuel – Gasoline/CNG (GS/CNS))
- Refuel equipment and vehicles outside the warehouse premises.
- Perform all repairs and maintenance outside the warehouse.
- Restrict ordinary commercial trucks from entering any cotton storage area.
- Designate a loading platform for commercial trucks outside the enclosed walls of the warehouse, ensuring it is inclined away from the platform and securely enclosed.

E) Suspect/Actual Fire Cotton Bale Direct from Ginner:

- Store freshly ginned cotton separately from other stock for at least 48 hours and closely monitor it during this period.
- Designate a specific location, section, or compartment for suspect or actual fire cotton bales.
- Remove fire-packed gin bales promptly and maintain a safe distance from other storage areas.
- Follow the guidelines provided by ginners regarding warning marks on bales and notification from ginners that the shipments contain possible fire bales.

F) Warehouse Conditions:

- Maintain proper supervision of the property to prevent fire losses.
- Ensure cleanliness, including regular housekeeping, throughout the entire premises.
- Promptly repair damaged floors, windowpanes, skylights, or building structures.
- Clean floors and yards periodically, especially when managing cotton or receiving time.
- See **“Fire Protection Equipment Self-Inspection Report”**

FIRE CONTROL AND PREVENTION - SPECIFIC RESPONSIBILITIES-Cont.

G) Loose Cotton:

- Keep loose cotton and samples in closed bins or a detached building.
- If damaged cotton is handpicked or reconditioned on the premises, confine it to one section or compartment dedicated to this purpose.
- Immediately sack all pickings and take them to a loose house or remove them from the premises.
- Prohibit drying damaged pickings in the same fire area as stored cotton.

H) Smoking:

- Strictly prohibit smoking on the premises where cotton is stored, managed, or sampled.
- Clearly post "No Smoking" signs and enforce the prohibition rigorously.

I) Grass and Weeds:

- Remove all grass and weeds to maintain a minimum clearance of fifty (50) feet from buildings and one hundred (100) feet from open cotton storage areas.

J) Open Fires:

- Prohibit any fires within one hundred (100) feet of any building or open cotton storage area. NO OPEN FLAMES – Follow HOTWORKS PROTOCOLS

K) Waste Cans:

- Provide approved self-closing waste cans near machinery and keep all oily waste in these cans until removed from storage areas.
- Do not use combustible trash bins for ashes or rubbish near buildings. Use suitable metal containers and remove waste from the premises daily.

FIRE PROTECTION EQUIPMENT

- Regularly maintain and keep all firefighting equipment in a state of readiness for immediate use.
- Ensure that cotton, operating equipment, and miscellaneous storage do not obstruct the sprinkler system or access to firefighting equipment and watch stations.
- Adhere to the standards outlined by NFPA 13 for installing and maintaining sprinkler systems.
- Perform annual trip tests and prominently display green tags or maintain records to demonstrate compliance. Keep a written record of all sprinkler inspections and repairs made to each sprinkler, noting the system # and Warehouse#.
- Identify hydraulic sprinkler system nameplates with weatherproof signs at designated locations, as required by NFPA 13. Keep a Picture copy of all nameplates.

A) Fire Doors:

- When a firewall is constructed with openings, a four (4) hour-rated fire door must be placed on each side of the opening. Each opening will require two (2) fire doors with heat-actuating devices for automatic closing.
- Maintain all automatic operating fire doors in good operational condition to ensure prompt closure during a fire.
- Fire doors should be clear of any obstructions and have impact protection barriers installed for protection.
- Conduct annual testing of rate-of-rise heat-actuated devices by a safe method.

B) Automatic Sprinkler System:

- Periodically check the sprinkler system to ensure proper operating condition.
- Arrange for qualified personnel to conduct an annual trip test, required maintenance, and churn test on fire pumps annually per NFPA 25 standards.
- **Notify the insurance underwriter if the sprinkler system becomes impaired, inoperative, or under repair and take necessary precautions to protect the cotton during downtime.**
- Ensure familiarity with the facility's sprinkler system type and operation.
- There should be an 18-to-36-inch space between bale cotton and sprinkler heads.
- Make sure all local alarms on sprinkler systems and monitored alarms are working.
- Make sure alarms on any pumps are in good working order.

FIRE PROTECTION EQUIPMENT-Cont.

C) Fire Extinguishers:

- Install Class A Dry Chemical extinguishers with sodium bicarbonate or potassium bicarbonate base powders. Dry Chemical extinguishers using sodium bicarbonate or potassium bicarbonate base powders are recommended. Dry Chemical extinguishers are available in various capacities: twenty (20) Ibs. {9 kg} extinguisher is recommended.
- Place extinguishers of appropriate sizes and quantities per guidelines, ensuring easy access near walk-through and roll-up/loading doors.
- Equip motorized vehicles and stacking machines with suitable extinguishers. A minimum of five (5) lb. (2.3 kg) dry chemical extinguisher rated for ignitable liquids and gases is required.
- Use non-freezing extinguishers or protect against freezing when necessary.
- Keep all extinguishers charged and inspected annually and a tag indicating the inspection date. Remove any non-compliant extinguishers from the premises.

D) Standpipes:

- Keep the hose attached to standpipes and in good condition. Provide racks for hose storage.
- Maintain the hose nozzles in good repair.
- Ensure valves operate smoothly and a water supply is always available at the standpipes.

E) Outside Hydrants:

- Verify the correct operation of all outside hydrants.
- Keep hydrant hoses and nozzles in good condition.
- Regularly inspect, oil, and flush the hydrants every two years.
- Inform the local fire department about the location of all outside hydrants and provide an overview of the warehouse layout and pressure-booster connections.

WATCHMEN SERVICE

A) Duties and Responsibilities:

- Ensure that watchmen understand their duties and responsibilities.
- Provide comprehensive training to familiarize them with the warehouse and firefighting equipment.
- Educate watchmen about the causes of fires, emergency protocols, and the locations of fire alarms.

B) Accessibility of Communication:

- Ensure that the watchman's telephone or mobile phone and supervisory staff are accessible at their designated location. Share contact information for emergencies.

BUILDING RECOMMENDATIONS FOR BALED COTTON WAREHOUSES

A) <u>Warehouse Construction</u>:

- Concrete Floor
- Steel Framing with Metal Siding and Metal Roofing
- Steel / Metal Support Post

B) <u>Warehouse Size</u>:

- ***<u>Limit of Liability</u>:*** The limit varies for each fire division or fire break, with consideration given to anticipating the highest market value of one bale, including the accumulated accrued charges.
- ***<u>Sprinkler System requirements</u>***: A six-inch valve is required for every 25,000 square feet. A 50,000-square-foot building would require two (2) six-inch valves since it would hold more than 15,000 bales. NFPA 13 is the standard for baled cotton storage and sprinkler standards.
- ***<u>Wall Height</u>:*** Baled Cotton cannot be stored higher than 15' and must be at least 18" from any sprinkler head. We recommend a wall eave height of 18’ and no higher than 24’.

C) <u>Warehouse Spacing</u>:

- 100' clear space between each fire division or fire break and any other exposing building, including Module Yards, Trash Piles, and Burr Piles
- Instead of the one hundred (100)' clear space, a 4-hour-rated wall may be constructed. These walls must be built with approved fire-rated material. A 6" solid concrete wall, 8" concrete blocks, or 8" solid brick wall is recommended. These materials must meet the UL standards for 4-hour-rated material.
- When a firewall is constructed with openings, a 3-hour-rated fire door must be placed on each side of the opening. Each opening will require two (2) fire doors with heat-actuating devices for automatic closing.

D) <u>Recommended Warehouse Building</u>:

- 150' x 275' x 18' will store around 14,800 bales.
- 200' x225' x 18' will store around 16,000 bales.

E) <u>Recommended Storage Pattern</u>:

- One 15' central aisle.
- 6' cross aisle between each double row of baled cotton placed on its side.
- Not more than eight (8) bales high (Cordwood method).

MINIMUM FIRE PROTECTION SPRINKLER SYSTEM REQUIREMENTS

The requirements listed below are acceptable, but local codes may be more stringent, so local codes must be followed. The following is based on **NFPA 13.**

A) Water Supply for Sprinkler Protection:

- ***Gravity tank:*** 100,000 gallon {378,530 liters} elevated tank plus capability for refilling in 4 hours; or
- ***Ground level tank:*** 200,000 gallons {757, 060 liters} tank; capable of being refilled in 8 hours by an automatic fire pump with 1,500 *GPM* {5,678 dm3/min} at 100 psi {690 kPa}, with electric or diesel drive motor; or
- ***Reservoir:*** In-ground with automatic fire pump as above. Earth-walled Pond, a minimum of 1,300,000 gallons {4,920,900 liters}. Concrete walled pond, at least 200,000 gallons {7 57,060 liters}. Ponds require a concrete pit with double removable intake screens and a vertical shaft turbine-type pump.
- ***Ground Well Water Supply:*** Capable of supplying water for 120 minutes with a review of earthquake zones and underground water tables.

B) Sprinkler Protection - Extra Hazard Modified:

- Two (2) 6" valves in each building – up to 50,000 square feet {4,650 m2}. One 6" {.24 mm} valve for each 25,000 square feet {2,325 m2}.
- Water flow alarm bell.
- Insulated and lighted valve houses as enclosures for protection against freezing.
- Head Spacing: Not greater than 90 feet {27 m} head spacing.
- Dry-pipe systems must be calculated to provide a sprinkler density of .25 / 3,900 square feet {.12 / 363 (LIs)*/m2}.*

C) Fire Protections:

- Standpipes: As per code – 1½" {.06 mm} hose connection with 100 feet
- {30.5 m} hose with spray nozzle.
- Hydrants: Located preferably 50 feet from the building and capable of reaching any exterior part of the building with no more than 250 feet {76 m} of hose.
- Alarm: Electronic water flow and low air pressure alarm to an Alarm Service where personnel are on duty 24 hours a day for notification to the Fire Department, Police, or Sheriff's Department. When an Alarm Service is not provided, a watchman is required when premises are not open for business.

D) Extinguishers:

- Dry Chemical extinguishers using sodium bicarbonate or potassium bicarbonate base powders are recommended. Dry Chemical extinguishers are available in various capacities; a Twenty (20) Ibs {9 kg} extinguisher is recommended.

MINIMUM FIRE PROTECTION SPRINKLER SYSTEM REQUIREMENTS-Cont.

E) Building Spacing:

- 100 feet {30.5 m} clear space separation from other buildings or constructed with 4-hour Fire Walls and Fire Doors:

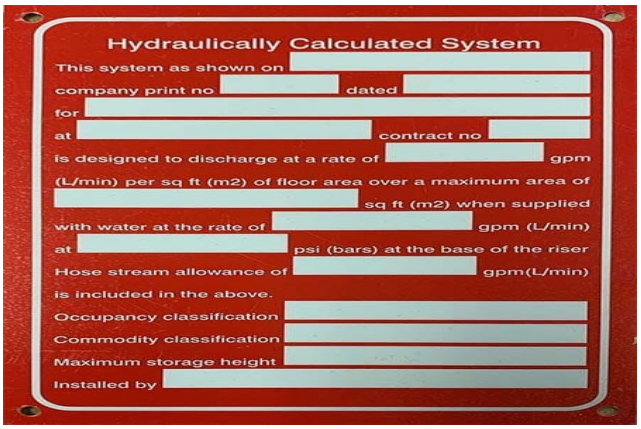
F) Fire Walls and Fire Doors:

- **Fire Walls:** Constructed of Brick / Blocks or material with a 4-hour fire rating.
- **Fire Doors:** There should be two doors per opening on each side of the Fire Wall. Each door must have a fire rating of 3 hours with heat-actuated devices for automatic closing.

G) Hydraulically Sprinkler Systems Nameplates

Signs must have the following minimum information according to NFPA 13

- The location of the design area(s). These are also known as the "hydraulic remote areas" and make up the portion of the building and contents that are most challenging for the sprinkler system to protect. It is important to remember that the hydraulic remote area may not be the area physically most remote from the sprinkler risers.
- The discharge densities over the design area or areas. This is the amount of water the design criteria specify is needed to control a fire in the hydraulic remote area. This value may come from NFPA 13 or the authority having jurisdiction.
- Size (area) of, or number of sprinklers in, the design area.
- The required flow and residual pressure demand at the base of the riser or the fire pump, where applicable.
- Occupancy classification or commodity classification and maximum permitted storage height and configuration.
- Hose stream allowance included in addition to the sprinkler demand.
- The name of the installing contractor.



If these are installed and in place, please take a picture, note the Warehouse # and Riser # should they come off, and have your system's specifications on file with maintenance records.

LIFT TRUCKS MOTORIZED EQUIPMENT NFPA 505

A) Only approved lift trucks should be used for baled cotton handling. All four types listed below may be used provided they have the proper safeguards to qualify them for use in a Class III, Division Two storage facility. The "S" designation would be shown on the Identification Label after the fuel designation (see below).

- Electric (ES)
- Gasoline (GS)
- Diesel (OS)
- Liquefied Petroleum (LPS)
- Dual Fuel – Gasoline/LPG (GS/LPS)
- Dual Fuel – Gasoline/CNG (GS/CNS)

B) Provide fire extinguishers suitable for a fire involving the fuel used in the lift truck as follows:

- Equip each gasoline, LPG, diesel, gasoline/LPG, battery-powered, CNG, and hydrogen-fueled lift truck with a minimum five (5) lb. (2.3 kg) dry chemical extinguisher rated for ignitable liquids and gases.
- Provide a minimum of ten (10) lbs. (4.5 kg) dry-chemical extinguishers rated for ignitable liquids and gases at each gasoline or diesel refueling location.

BALED COTTON WAREHOUSE FIRE PROTOCOLS PROCEDURES

1) Get assistance from the local fire department.
2) To contain the fire:
   - **a. REMOVE BALES OUTSIDE THAT ARE INVOLVED IN FIRE.**
   - **b. MOVE ADJOINING BALES TO A SAFE WATCH AREA.**
   - **c. AFTER MOVING BALES OUT OF THE BUILDING, SEPARATE THEM INDIVIDUALLY.**
   - **d. DO NOT STACK FIREBALES TOGETHER!**
   - **e. DO NOT PUSH UP IN PILES!**
   - **f. DO NOT CUT SRAPS!**
3) You can pile busted bales for later removal. You will not be able to extinguish the fire in this pile. It must be buried; by moving it, it will be reduced. This pile will flame up from time to time. It would be best if you always had someone with a water hose with it.
4) The priority is to work on bales with straps/bans still on them.
5) Set the bales out like chessmen, standing on end, spread two feet apart so you can walk between each bale and inspect it for fire.
6) Get as many men and hoses as possible.
7) Watch for bales with busted straps/bans. They will flame up first and be the hardest to put out.
8) Work as though on an assembly line to save one bale at a time.
9) Work on the best-looking bales first, as they will be extinguished quickly.
10) Do not allow bales to touch each other if they have been in the fire. Keep them at least two feet apart.
11) Do not allow the bales you are trying to save to be on their side. Stand them on end if possible. You want the least bale surface area touching anything else, even the ground. Where you allow the bale to touch is where the fire can hide from you.
12) Inspect each bale individually for hot spots.
13) Spray the bale down with water, then inject the hose as deep as possible at maximum pressure. Physically push it into the bale at the point where the fire is located.
14) If the hose's high pressure causes the fiber to loosen up and hang off the bale as you extinguish the hot spot, hand-pull this loose fiber off. The loose fiber on the ground should be thoroughly soaked with your hose at high pressure. These loose fibers are the second place the fire will hide from you and reappear at the wrong time.
15) Keep hot bales from flaming as you work with others. If one embers or blazes, immediately spray it down, then return to systematically working your bales in order.
16) As some firemen do, do not just stick your hose in the air to spray once the flame is under control. This floods the area, causes more water damage, and wastes water. It is not practical.
17) After you think you have the fire under control, you should have four areas:
    a. pushed-up pile of loose, still smoking, highly guarded, pushed away from everything else.
    b. All the bales with busted ties/straps/bans in the next-most dangerous area (fire is still hiding in these bales).
    c. c. All the bales with the most ties/straps/bans are still intact (these bales are your top priority; you can put the fire entirely out in them).
    d. The unburned adjoining bales. Store the last bales on a dock or under a roof entirely away from the fire and occasionally observe them for odor and smoke.
18) Call us, and we will send a qualified Salvage Professional!

BEST PRACTICES FOR PROCESSING SUSPECT FIRE BALES AT COTTON GINS AND COTTON WAREHOUSES, NCGA

There is a necessity for a fire prevention policy between cotton gins and cotton warehouses to minimize the risk of fire hazards in the storing and shipping of lint. These practices should be used when detecting and managing suspect fire bales: where a visible flame was present in the gin, a detection device alerted a risk and was verified by gin staff, an odor of fire was present, or any other flame risk where ignition could be possible is found. These practices are recommended by the Council as a minimum standard when working with insurance companies.

Gin practices for processing suspect fire bales:

- Gin should isolate suspect fire bales from other bales by placing the suspect fire bales in a monitoring location as selected by gin management.
- Gin should isolate a minimum of **two additional** bales before and after the suspect fire bale for a total of **five bales,** including the suspect fire bale, or more bales as determined by gin management.
- Gin should notify warehouse management of any prior cotton loads delivered or in transit associated with the suspect fire bales as determined by gin management.
- Gin should retain suspect fire bales and additional bales for a minimum of **five** days from the date of suspected detection at the gin premise or longer as determined by gin management.

Gin practices for the delivery of suspect fire bales after the monitoring period:

- Gin should clearly mark the bales as suspect fire bales with approved marking materials as provided by the warehouse. Suspected fire bales should be clearly marked with adhesive tags or tape on both sides of each bale. No markings may be added to the exterior of the bale that cannot be removed without risk of damage to the bagging material.
- Gin should identify suspect bales on the appropriate reporting to the warehouse staff.
- Gin agrees that delivery of suspect fire bales is limited to daytime shifts of warehouse operation hours.
- Gin staff should load suspect fire bales to the back of the truck when shipping to aid warehouse staff in identifying suspected fire bales in a mixed load.

Warehouse practices for processing suspect fire bales:

- Warehouse staff should isolate the suspect fire bales on arrival at a designated area.
- Warehouse staff should receive, record the location, and issue warehouse receipts at the warehouse's discretion for the suspected fire bales.
- Warehouse staff should conduct **daily** monitoring of the suspect fire bales and return the bales to inventory after a monitoring period is completed as determined by warehouse management.
- Warehouse staff should remove markings or adhesive tags designating suspect fire bales after the monitoring period is complete.

Gin and Warehouse should each agree to practice and implement these procedures for suspect fire bales and notify each other of any alterations or deviations to agreed-upon practices regarding suspect fire bales before implementing any new practices.

MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT

Can your company bear a staggering US$3.2 million loss in assets? Neglecting to restore an impaired sprinkler or other fire protection system at your facility could lead to such a financial catastrophe—or worse. Imagine a scenario where a fire breaks out while the system is impaired, rapidly growing undetected and spreading beyond the control capabilities of the protection system. This is not a hypothetical situation. Loss Example 1: A sprinkler system was shut down after a small fire at a manufacturing facility, which was thought to have been extinguished by sprinklers and hose streams applied by company employees. The sprinkler system was not restored promptly, and the local fire service was not notified of the fire. The fire rekindled and spread beyond the capabilities of the sprinkler system even though employees reopened the sprinkler system's shut valve as soon as the fire was discovered. The resulting damage was estimated at more than US$84 million gross.

From 1986 to 2005, shut sprinkler valves were a factor in 229 fire losses insured by FM Global, causing more than US$739 million* gross in damage—an average of more than US$3.2 million per incident. All the events that resulted in a considerable loss to our client's assets could have been prevented with a strong impairment management program, the Red Tag Permit System. Further investigation of these events revealed that sprinkler control valves had been closed for the following reasons:

- Sprinkler system installation
- Sprinkler system repair
- Building alteration
- Maintenance
- Lack of heat in the protected area

However, you create a fire hazard whenever you take your fire protection equipment out of service, even for a minute. Sure, making repairs, installing new equipment, or completing building alterations are among valid reasons for impairing protection. However, the fact remains that if a fire ignites in an area where the fire protection system has been impaired, the fire can spread unabated. As a result, it is essential to take quick and efficient steps to minimize the duration of the impairment and implement temporary measures to help prevent a loss from occurring while protection is out of service. Fortunately, there are several steps you can take to ensure your facility's fire protection system is ready when you need it, and the following Red Tag Permit System is top on the list. Designed to help you manage impairments and restore complete fire protection, this program comprises four key elements:

1) Red Tag Permit
2) Fire Protection Equipment Decals
3) Reusable Impairment Tag for Fire Service Connections
4) Red Tag Permit System Wall Hanger

The following guidelines require the use of a Red Tag Permit System Wall Hanger, which includes:

- One copy of this brochure
- One Fire Protection Equipment Decals sheet is to be affixed to fire protection equipment as a reminder that authorization is needed before any shutdown can occur.
- One 12.5 x 13.25-in. (31.75 x 33.66-cm) wall hanger with pockets to keep other system elements organized and within reach; also lists steps to take before, during, and after an impairment.
- Four Red Tag Permits (F2480) to authorize impairments and document tasks as they are performed.
- One Reusable Impairment Tag for Fire Service Connections (P7427t) should be wired to fire service connections as a reminder that fire protection is out of service.

MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT-Cont.

Be sure to familiarize personnel with this system as soon as possible before planning your following fire protection system impairment. Display the wall hanger where it is visible and alert personnel to its location. Educate staff about all procedures and let them know who is assigned to authorize an impairment.

Before a Planned Impairment

- Complete all applicable sections of the permit (see page 5), providing critical information, such as telephone numbers for your local fire service, alarm company, water department, and Insurer.
- Office servicing your property.
- Affix the red-and-white Fire Protection Equipment Decals to all protection equipment to remind.
- Personnel that authorization is needed before any shutdown can occur.
- Plan to work on fire protection when the facility is not operating. Shut down any hazardous processes.
- Prohibit any process with an inherent ignition source, such as hot work. Smoking also should be prohibited.
- Be prepared. Have everything ready before impairing protection, e.g., excavating equipment, pipe plugs, repair parts, and personnel.
- Plan to have temporary fire protection on hand: extra extinguishers, charged hose lines, temporary sprinkler protection, etc.
- Set up temporary sprinkler protection, especially for prolonged impairments, by running a 2.5-in. (65-mm) hose from the hydrant to the 2-in. (50-mm) drain of an active system (you will need an adapter to connect the hose to the drain).
- Notify your emergency response team (ERT) and the public fire service so they can be ready to manage any emergency.
- If fire protection equipment can be restored, determine how to quickly return it to service if a fire occurs during the impairment.
- Assign a fire watch to patrol the area where protection is impaired.
- Notify your local Insurer office of the planned impairment.

An engineer and client service representative can advise you on proceeding and follow up until protection has been restored. In addition, they can help minimize downtime, reduce fire exposure to the area, arrange for temporary protection, and determine how to restore protection as quickly as possible in the event of a fire.

AUTHORIZING THE IMPAIRMENT

- Inform employees that the *Red Tag Permit System* is in effect. It is best to display the wall hanger in plain view so that the fire safety supervisor or appropriate personnel can easily follow the procedures listed on the poster and permit.
- Use the three-part *Red Tag Permit* to initiate the impairment and identify affected equipment. Complete the permit, following each step carefully.

RESTORING THE SYSTEM

- Promptly restore fire protection equipment to automatic service immediately.
- If sprinkler protection is impaired, connect a 2-in. (50- -mm) drain test at the sprinkler riser to obtain a clear, unobstructed water flow.
- Lock sprinkler control valves in the wide-open position.
- Reset the alarm system; notify the central station, if applicable.
- Notify your ERT, public fire service, and Insurer representative that fire protection has been restored.
- Complete the Red Tag Permit. The fire protection equipment operator documents all steps to restore fire protection in Part 3 of the permit, signs it, and returns it to the fire safety supervisor.

The fire safety supervisor:

- Reviews the information on the signed permit and retains it as a record of the impairment. and
- Transfers information from Part 3 of the permit to Part 2 and phones or emails the information in Part 2 to the Insurer.

MANAGING UNPLANNED IMPAIRMENTS

The steps outlined on the previous pages work well for planned fire protection impairments; however, not all impairments can be planned. Suppose sprinkler piping starts leaking or freezing, causing pipes to break. Suddenly, you are faced with an unplanned impairment, and the steps you take to manage the situation could mean the difference between minor damage and a significant loss. To ensure safe handling of the impairment:

- Stabilize the situation and immediately follow the precautions outlined in “Before a Planned
- Impairment” on page 4.
- If a fire starts, ensure sprinkler valves are opened immediately.
- If it is safe to do so, immediately dispatch the sprinkler valve operator(s) to the valve(s) controlling the fire area; the valve operator’s job is to:

FIRE PROTECTION IMPAIRMENT MANAGEMENT CHECKLIST

The risk of a significant fire loss is increased when the fire protection systems or equipment are out of service (i.e., impaired). A comprehensive impairment management program should be developed and implemented to minimize the risk associated with fire protection system impairments. This checklist can help verify that the critical elements of an impairment management program have been utilized during an impairment.

System/equipment impaired:

Date of impairment:

Area impacted by the impairment:

HAZARDOUS OPERATIONS IN THE IMPAIRED AREA

- Suspend or restrict non-critical cutting and welding.
- Halt spray painting and spray finishing operations.
- Restrict flammable liquid transfer and related operations.
- Eliminate heat-producing processes and sources.
- Eliminate all other hazardous operations that could cause a fire or increase the size of a fire.

NOTIFICATIONS

- Notify the local fire department of the impairment and temporary protection established.
- Notify The Insurer — go to **report an impairment**
- Advise facility management and the emergency response team of the impairment and control measures established.
- Advise alarm companies and signaling stations of the impairment. Notify impacted employees of the impairment and actions they should take.

COMPARTMENTALIZATION

- Close fire doors in the impaired area.
- Secure exterior doors to protect against hostile fires.
- Secure fire control dampers, curtains, and partitions in the impaired area.

TEMPORARY FIRE PROTECTION

- Connect hydrants to the sprinkler riser.
- Place charged hose lines in the impaired area.
- Distribute extra fire extinguishers, as needed, throughout the facility. Establish extra security or fire watch patrols.
- Assign personnel to transmit fire alarms to the occupants and the fire department.
- Assign personnel to re-open fire protection valves in case of fire.

IDENTIFICATION

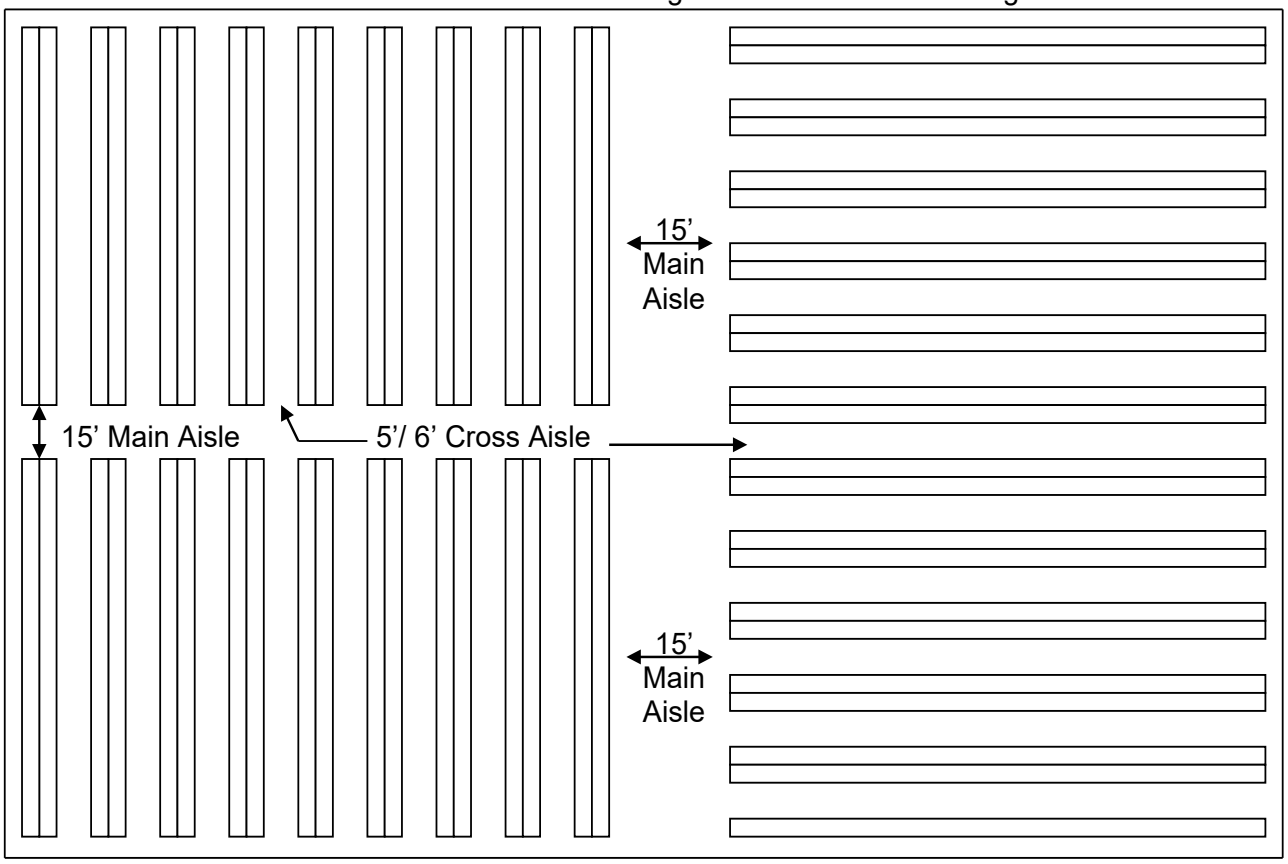
- Attach impairment tag to the impaired system (see attached).
- Develop and post a repair timetable.

AFTER THE IMPAIRMENT (RESTORATION)

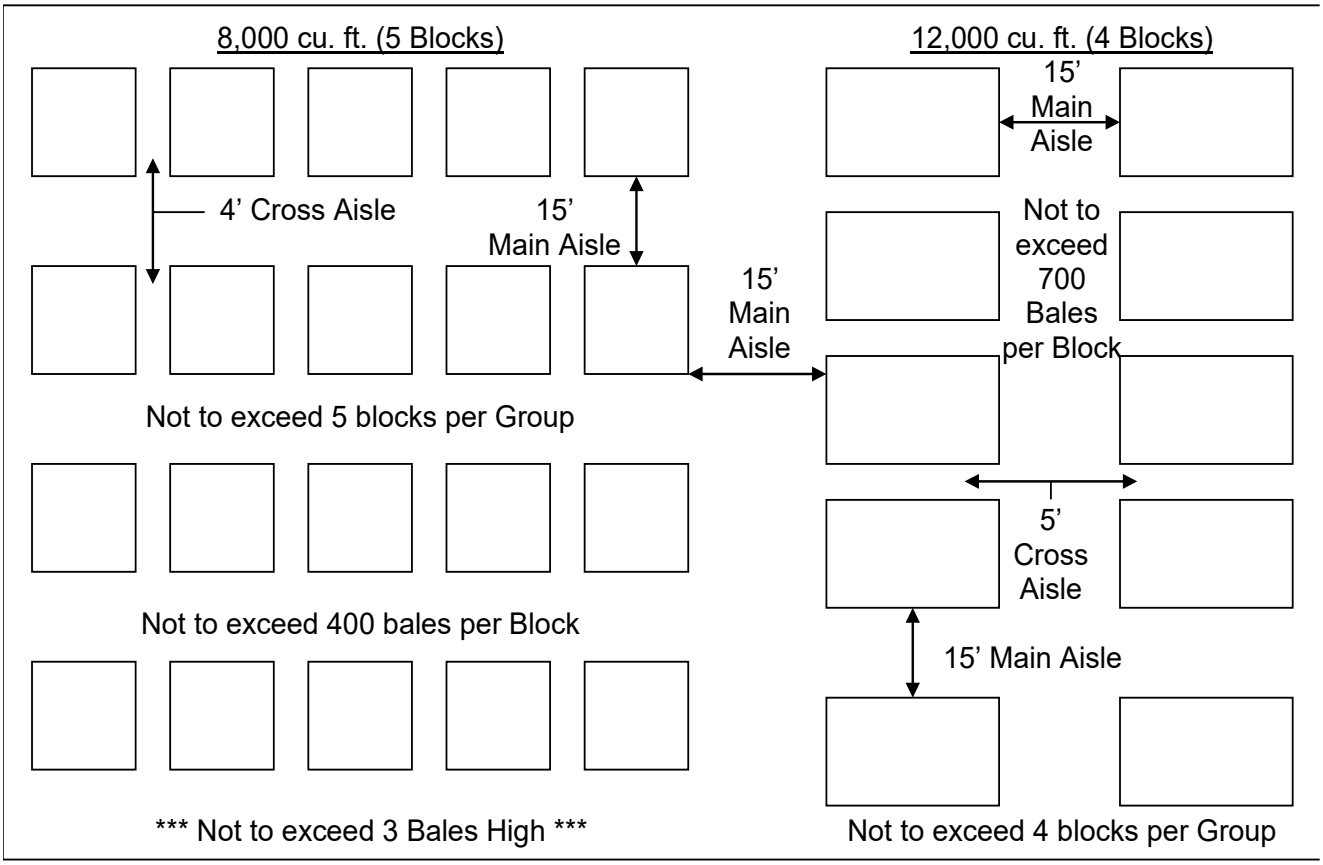
- Verify the system is operational.
- Restoring all alarm services.
- Notify the Local Fire Department that the system is being restored.
- Notify all facility personnel that the system is restored.
- Notify the insurer that the system has been restored.

Baled Cotton Warehouse Storage

Double Row Cordwood Stacking not to exceed 8 Bales High



Block Storage – 8,000 cu. ft. or 12,000 cu. ft. per USDA Handbook for Cotton Warehousemen.



BALE DIMENSIONS DIAGRAM and CLASS A BALE

Physical Description

While ties/straps/bans length indicates bale thickness, other factors that play a role in determining bale thickness should not be ignored. Some of these factors are cotton's natural resilience, the force applied during bale pressing, and the bagging material used to protect the lint.

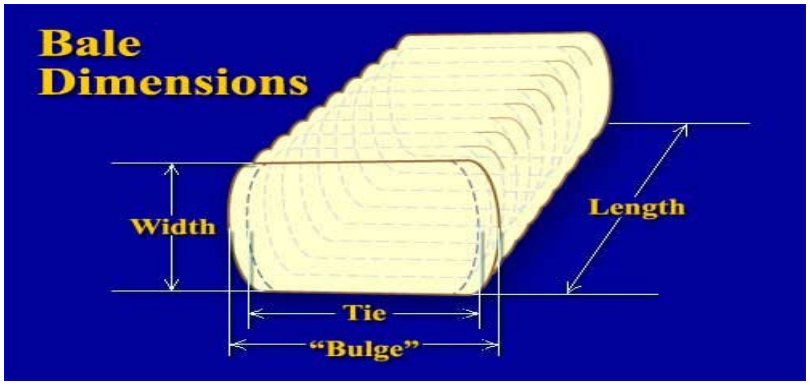
Size matters! Producing uniform, well-protected cotton bales for our mill customers is a primary goal of the U.S. bale packaging program. Uniform cotton bales benefit the U.S. industry by maximizing mill processing efficiency and creating efficiencies for everyone storing, handling, and transporting bales of cotton.

Gin Universal Density Bale*

Approximate Values	**Units**
English	SI
Net Weight	500 pounds /226.8 kg
Length	54-55 inches /1.37-1.40 m
Width	20-21 inches / 0.51-.53 m
Average Bulge Thickness	33 inches (or less) / 0.84 m (or less)
Volume	17 ft3 / 0.48 m3
Density	28 lbs./ ft3 / 472 kg/ m3

Note: These are approximate values, and some normal variations are to be expected.

*The JCIBPC Publication Specifications for Cotton Bale Packaging Materials provide gin universal density and gin standard density bale tie lengths for approved ties.



Baled Cotton Lint USA Domestic (Joint Cotton Industry Bale Packaging Committee (JCIBPC))

Grade A bales are characterized by the following:

- **Completely covered.**
- **Covered with JCIBPC-approved packaging and recommended patching material.**
- **JCIBPC specified the number of ties/straps/bans.**
- **Wire knots on ball of bale**
- **All ties/straps/bans recessed into the flat side of the bale (1) (Recommended)**
- **Square (level) heads.**
- **Permanent Bale Identification (PBI) tag on bale**

Grade A bales are generally considered acceptable. The recipients of cotton bales expect Grade A conditions and many times specifically require Grade A conditions in contracts.

U.S. Cotton Bale Dimensions

Description and characteristics of a typical U.S. gin universal density cotton bale. The Joint Cotton Industry Bale Packaging Committee (JCIBPC) established the following guidelines in 2001 to clarify the dimensions of cotton bales compressed to U.S. Gin Universal Density Bale standards: "...the outside bulge to bulge (thickness) dimensions shall average no greater than 33 inches (.84 m) and outliers are not to exceed 34 inches (.86 m)."

BALE COTTON WAREHOUSE COVERAGE

UDSA Licensed Warehouses govern how they operate and what they are required to do in case of a claim.

The USDA has approved the USDA Cotton Warehouse to store cotton bales for a particular license capacity. This purchase capacity from the USDA is based on capacity, dependent on the size of the building and method of storage. They must carry insurance for direct physical loss to baled cotton stored in their warehouse facilities. However, they are only responsible for the published USDA growth region daily spot value on the day of the loss, plus any premiums or discounts. Warehouses have a locator system that is tied into EWR. The warehouse does not necessarily know which bales belong to which Merchant, Farmer, Pool, etc. They should have a list of Bale tag numbers by their warehouse building. The locator system should tell them where a particular bale is by its tag number. It should indicate the row or block for which warehouse building that bale is located.

CLAIMS

In the event of a fire or other insured loss, warehouses ***MUST*** notify the INSURANCE UNDERWRITERS, USDA, and EWR by providing them with a list of the bales involved in the claim. EWR posts the loss, and it is up to the Merchant, Farmer, Pool, etc., to sort which bales are theirs. The INSURER appoints an adjuster to settle claims presented on a spot price basis, including premiums and discounts. Every bale posted on that tag list supplied to INSURANCE UNDERWRITERS, USDA, and EWR must be accounted for, and the receipts must be returned for cancellation.

COTTON BALE BREAKOUT PROCEDURES

Proper cotton bale breakout procedures are crucial for a cotton warehouseman to ensure efficient operations, maintain cotton quality, and prioritize worker safety. Below is a detailed guide on the procedures for breaking out cotton bales, along with essential safety precautions.

Definition: Bale breakout refers to the process of removing cotton bales from storage, inspecting them, and preparing them for sampling, processing, or shipment. The goal is to handle bales efficiently while preserving the integrity of cotton and ensuring accurate documentation.

Step-by-Step Procedures

1. **Preparation and Planning**
    - **Verify Orders**: Confirm the breakout order, including the number of bales, lot numbers, and specific bale tags or barcodes as per the warehouse inventory system.
    - **Check Equipment**: Ensure all equipment (forklifts, bale clamps, conveyors, etc.) is in good working condition. Perform pre-operation checks on machinery.
    - **Gather Tools**: Prepare tools such as bale hooks, tag scanners, sampling tools, and documentation materials (e.g., bale tickets or handheld devices for digital tracking).
    - **Assign Personnel**: Ensure trained personnel are assigned to the task, including forklift operators, samplers, and supervisors.
2. **Locate and Retrieve Bales**
    - **Identify Storage Location**: Use the warehouse management system (WMS) or inventory records to locate the specific bales in the warehouse (e.g., rack, stack, or block storage).
    - **Use Proper Equipment**: Employ forklifts with bale clamps or other specialized attachments to safely retrieve bales. Ensure the load capacity of the equipment matches the weight of the bales (typically 480 lbs for a standard U.S. cotton bale).
    - **Move Bales Carefully**: Transport bales to the breakout area, avoiding sudden movements to prevent bale damage or equipment tipping.
3. **Inspection and Documentation**
    - **Verify Bale Identity**: Scan or check bale tags/barcodes to confirm they match the breakout order. Cross-reference with warehouse records.
    - **Visual Inspection**: Check bales for visible damage, such as torn bagging, wet spots, mold, or contamination. Report any issues to the supervisor.
    - **Record Condition**: Document bale condition and any discrepancies in the WMS or on paper bale tickets.
4. **Sampling (If Required)**
    - **Prepare Sampling Area**: Ensure the area is clean and free of contaminants to avoid affecting cotton quality.
    - **Use Proper Tools**: Use approved sampling tools (e.g., bale cutters or probes) to extract samples from designated areas of the bale (typically two samples per bale, one from each side).
    - **Follow Standards**: Adhere to USDA or industry standards for sampling to ensure accurate classification (e.g., HVI testing for fiber quality).
    - **Package Samples**: Place samples in sealed, labeled bags, and record sample details for traceability.

5. **Repackaging and Staging**
    - **Repair Bagging**: If bales are damaged, repair or replace bagging using approved materials (e.g., polyethylene or polypropylene) to protect the cotton.
    - **Re-tag Bales**: Attach new tags or update existing ones if necessary, ensuring accurate identification.
    - **Stage Bales**: Move bales to the designated staging area for loading, shipment, or further processing. Stack bales securely to prevent tipping.
6. **Loading for Shipment (If Applicable)**
    - **Coordinate with Transport**: Verify the loading schedule and ensure the correct bales are loaded onto trucks or containers.
    - **Secure Bales**: Use straps or bracing to secure bales during transport to prevent shifting or damage.
    - **Final Documentation**: Complete shipping manifests or bills of lading, ensuring all bale numbers and lot details are accurate.
7. **Clean-Up and Record Keeping**
    - **Clean Work Area**: Remove any loose cotton, debris, or damaged bagging from the breakout area to maintain a clean and safe environment.
    - **Update Inventory**: Record the movement of bales in the WMS to reflect their new status (e.g., sampled, shipped, or returned to storage).
    - **File Reports**: Submit any required reports, such as damage reports or sampling records, to management or regulatory bodies.

Safety Precautions

Safety is paramount during cotton bale breakout due to the heavy equipment, manual handling, and potential hazards in the warehouse environment. Below are key safety precautions:

1. **Personal Protective Equipment (PPE)**
    - **Mandatory PPE**: Require all workers to wear appropriate PPE, including steel-toed boots, gloves, high-visibility vests, and hard hats (if overhead hazards exist).
    - **Respiratory Protection**: Provide dust masks or respirators if workers are exposed to cotton dust, especially during sampling or in poorly ventilated areas.
    - **Eye Protection**: Use safety glasses when cutting bagging or handling bales to protect against flying debris.
2. **Equipment Safety**
    - **Operator Training**: Ensure all forklift operators and equipment handlers are certified and trained in safe operation.
    - **Pre-Use Inspections**: Conduct daily checks on forklifts, bale clamps, and other machinery to identify and address issues like hydraulic leaks or worn tires.
    - **Load Limits**: Never exceed the rated capacity of forklifts or other equipment. Verify that bale clamps are designed for cotton bales (typically 400–600 lbs).
    - **Clear Pathways**: Keep aisles and breakout areas clear of obstacles to prevent collisions or tipping.
3. **Manual Handling**
    - **Avoid Overexertion**: Use mechanical aids (e.g., forklifts or conveyors) instead of manual lifting to move bales, as they are too heavy for safe manual handling.
    - **Proper Techniques**: If manual handling of tools or samples is required, train workers on proper lifting techniques to avoid back injuries.
    - **Team Lifting**: For tasks requiring manual movement of heavy items, use two or more workers to reduce strain.

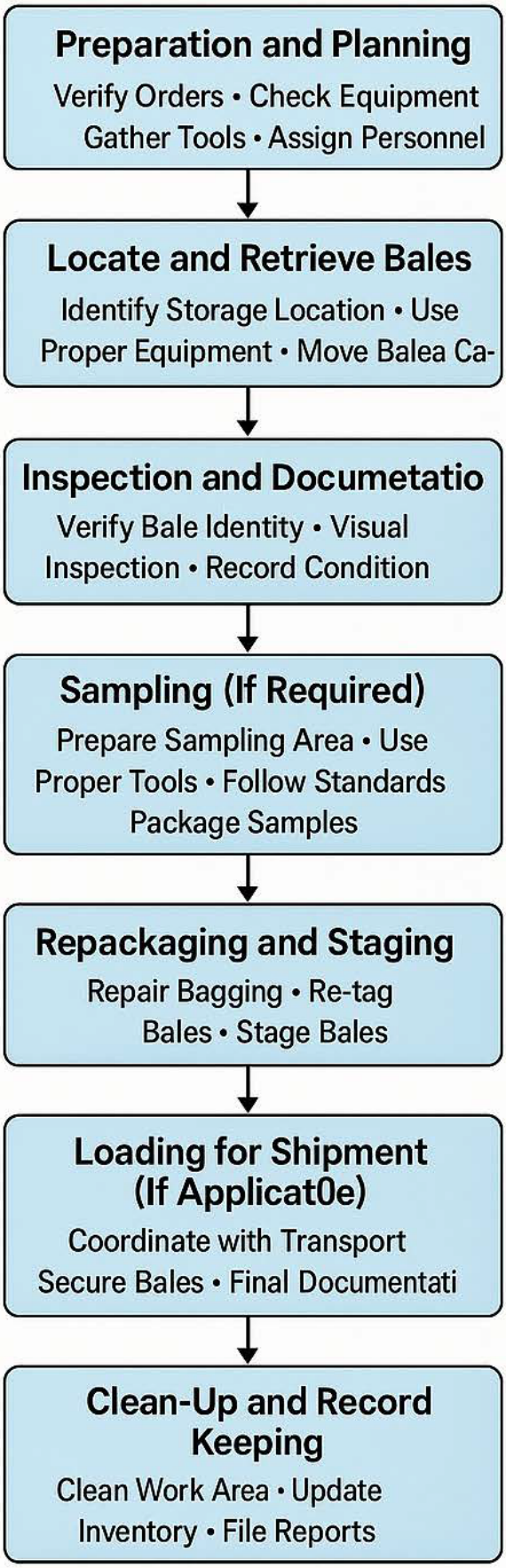
4. **Environmental Safety**
    - **Ventilation**: Ensure adequate ventilation in the warehouse to minimize exposure to cotton dust, which can cause respiratory issues (e.g., byssinosis).
    - **Fire Prevention**: Cotton is highly flammable. Prohibit smoking, open flames, or sparks near bales. Keep fire extinguishers accessible and ensure workers are trained in their use.
    - **Slip and Trip Hazards**: Keep floors clean of loose cotton, water, or other hazards. Use non-slip mats in breakout areas if needed.
5. **Stacking and Storage Safety**
    - **Stable Stacking**: Stack bales no higher than recommended (typically 3–4 bales high, depending on warehouse guidelines) to prevent collapse.
    - **Secure Stacks**: Use bracing or strapping for temporary stacks in the breakout area to avoid bales falling.
    - **Clear Signage**: Mark restricted areas around stacks to prevent unauthorized access or pedestrian traffic.
6. **Emergency Preparedness**
    - **Emergency Exits**: Ensure all exits are clearly marked and unobstructed.
    - **First Aid**: Maintain a stocked first aid kit in the warehouse and train workers in basic first aid.
    - **Emergency Drills**: Conduct regular drills for fire, chemical spills, or other emergencies to ensure workers know evacuation procedures.
7. **Health and Hygiene**
    - **Cotton Dust Exposure**: Monitor workers for symptoms of respiratory issues and provide regular breaks in dust-free areas.
    - **Hydration and Rest**: Provide access to water and schedule breaks to prevent fatigue, especially in hot or humid conditions.
    - **Contamination Control**: Ensure workers wash hands and avoid eating in breakout areas to prevent contamination of cotton or exposure to dust.

Additional Considerations

- **Regulatory Compliance**: Follow USDA, OSHA, and local regulations for cotton handling, workplace safety, and environmental standards.
- **Training**: All employees should receive regular training on bale breakout procedures, equipment uses, and safety protocols.
- **Quality Control**: Ensure bales are handled to minimize contamination or damage and maintain cotton grade and value.
- **Technology**: Utilize barcode scanners, RFID tags, or WMS software to improve accuracy and efficiency in tracking bales.

By following these procedures and safety precautions, a cotton warehouseman can ensure efficient bale breakout operations while protecting workers and maintaining the quality of the cotton. If you need further details or have specific scenarios (e.g., handling compressed bales or export procedures), let me know!

Step-by-Step Procedures



Safety Precautions

- Personal Protective Equipment (PPE)
- Equipment Safety
- Manual Handling
- Environmental Safety
- Stacking and Storage Safety
- Emergency Preparedness
- Health and Hygiene