

OHS in Textile Industries



Dr. Malay Kumar Pradhan

General Manager (F&B)

Chemical Disaster Management Division

OSDMA, Govt. of Odisha

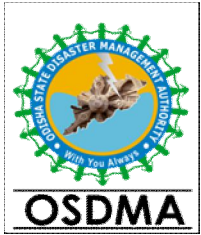
Mob – 9439210915, Email – malay.pradhan@yahoo.com



Facts of Indian Textile Industry



- ☐ Largest industry in the World.
- ☐ India's textile industry is one of the largest economy.
- ☐ Indian Textile Industries contribute about 14% to the industrial production.
- ☐ Shares 4% to country's gross domestic product.
- ☐ Contributes 17% to country's export earnings.
- ☐ Provides direct employment to over 35 million people.
- ☐ In western Odisha, the weavers in the villages are engaged in tie-and-dye work for about 10 hours/ day to manufacture Sambalpuri sarees.
- ☐ Major occupational risk factors are
 - Awkward postures,
 - Repetitive tasks,
 - Stress,
 - Poor lighting,
 - Poor ambient conditions,
 - Poor air quality &
 - Lack of work-rest regime.
- ☐ 89% workers suffer from musculoskeletal pain in the neck, shoulder and elbows.
- ☐ 76% of the weavers reported experiencing pain in the knees and ankles.

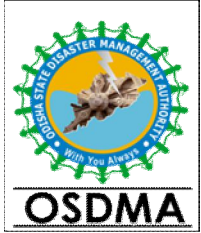


Textile industry includes five major sectors ;

- ☐ Ginning Industry
- ☐ Spinning Industry
- ☐ Weaving Industry
- ☐ Dyeing Industry
- ☐ Garment Industry

Ginning Industry -

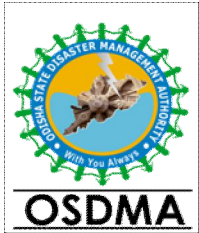
- ☐ Separates the cotton fiber from the seeds and sends to the textile for making yarn.
- ☐ Major hazard in ginning industry is fire.
- ☐ Causes of fire are
 - Electrical,
 - Manmade Behavior,
 - Spark from the Machine and
 - Stored raw cotton in sunlight .



Statutory provisions of Law



- **Working and Living Condition of Workers**
 - ✓ (Sec 51 - No worker shall work more than 48 hours in a week and compensatory holiday must be given for extra working days);
- **Unprotected Working Condition**
 - ✓ Dust issues. Inhalation of cotton fiber leads to Byssinosis. Use of Mask is compulsory;
 - ✓ Sec 27 - Employment of women and children near cotton opener is prohibited;
 - ✓ Protection from Noise.
 - ✓ Repeated motion.
 - ✓ Safe use of chemicals.
- **Periodical Health Check up of workers.**

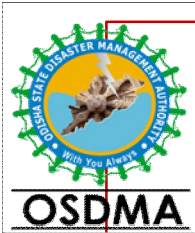


Hazards involved in Ginning & Spinning industries



Physical hazards

- a) **Noise**
 - May cause “**Noise induced hearing loss**”, Tinnitus
 - Isolation of the machine and **silencer** must be kept.
 - **Inverted drive** control noise in ring frame.
 - Proper **maintenance** & lubricating controls noise.
- b) **Dust**
 - Causes respiratory problems and causes **Byssinosis**.
 - Install **dust collector**, ensure proper **house keeping** & use of need-based **PPE**.
- c) **Light**
 - Cause **eye strain and glaring**.
 - Ensure proper lighting condition.
- d) **Lifting Heavy weight** - Muscular-Skeletal Disorders
 - keep backbone straight while lifting load.
 - Pull the load as close to the body.
 - Lift and carry loads with straight arms.

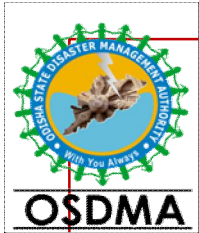


Fire Hazards

- a) **Welding operation**
 - Spark ignition is very dangerous.
 - Restrict unauthorized welding.
- b) **Electrical short circuit**
 - If no trip occurs its get sparks and get fire.
 - Install ACB (Air circuit breaker), MCB (Miniature circuit breaker).
- c) **Smoking**
 - Cause fire.
 - Display safety signs.
 - Workers shall be aware of not using any ignitable product.

Electrical hazards

- a) **Improper Earthing**
 - Trip occurs.
 - Ensure proper earthing.
 - Avoid loose connection.
- b) **Improper isolation**
 - Electric shock
 - All circuits shall be enclosed in the circuit.
- c) **Moisture**
 - Ensure proper wiring.
 - Ensure moisture under control.
- d) **Over-speed of motor due to high voltage**
 - Causes problem to the machine.
 - Install individual circuit breaker.
- e) **Usage of old wire**
 - Current flow shall not be proper.
 - Electrical wires as per standard shall be used.



Ergonomic Hazards

- a) **Improper work station** - Pain in hand and legs.
- Improper work procedure shall lead repetitive strain injuries in wrist, neck, shoulder, knee & ankle.

Physiological hazards

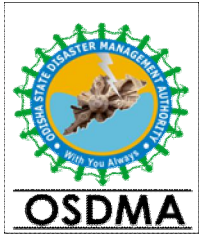
- a) **No interest in work** - Give counseling
b) **Production target** - Develops work stress; Achievable targets be set.

Hazards involved in Weaving industries

- ☐ Weaving is a technique of textile manufacture in which two separate sets of yarns or threads are interweaved at right positions to form a fabric or cloth.

Physical hazards

- a) **Falls** – Hit with engine parts, slip due to oil, lubricants, water on working floor.
b) **Injury from machinery** - Engine laid harnesses and other parts that need be frequently retrieved by weavers are moderately bounded and can be dangerous.
c) **Fires and ignition** - Lint, dust and fibers can lead to fire hazards.
d) **Noise** – Noise levels surpass 90 dBA and can go up to 100 dBA.

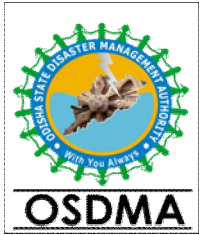


e) Fiber dust – May cause irritation of eyes, nose and skin, dermatitis, disruptive lung illness (e.g. asthma, bronchitis), Other chronic effect (cough, dyspnoea, loss of lung function), Interstitial lung disease etc.

Hazards in dyeing

a) Fire and explosion - Combustible solvents may lead to fire.

b) Chemical hazards - Hypochlorite solution/gassy chlorine or bleaching powder used for bleaching pose allergic responses like eczema, urticaria and asthma.

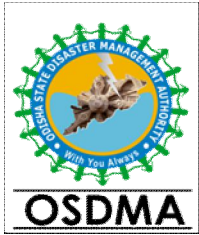


Measures to be taken



Hazards can be controlled by

- (1) Safety Audit
- (2) Safety survey
- (3) Identifying Hazards
- (4) Risk Analysis
- (5) Risk estimation
- (6) Job safety analysis
- (7) Safety promotion
- (8) Emergency preparedness
- (9) Safety sample
- (10) Safety committee
- (11) Safety inspection.



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Second chances are rare,
Use your first wisely.

"Today is the first day of the rest
of our life"

