



GOVERNMENT OF KHYBER PAKHTUNKHWA
CLIMATE CHANGE, FORESTRY, ENVIRONMENT
AND WILDLIFE DEPARTMENT
(SECTION ENVIRONMENT)

NOTIFICATION

Peshawar Dated the 25/07/2025

No. SO(ENVT)/CCFE&WD/1-8/EPC-2025: In exercise of powers conferred under Clause xxii of Section 7 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, (Khyber Pakhtunkhwa Act No. XXX of 2022), the Khyber Pakhtunkhwa Environmental Protection Council (EPC) in its 3rd Meeting held on 13.05.2025 has been pleased to approve the following guidelines for General Environmental Approval (GEA);

GUIDELINES FOR POLYPROPYLENE MATES/BAGS

The environmental guidelines for the polypropylene mats/bags industry are aimed at ensuring sustainable production, minimizing environmental hazards, and complying with environmental regulations. Below are the detailed considerations:

1. Raw Material Management

1.1. Raw Material Handling

i. **Polypropylene (PP) Granules:**

- Use sealed containers for storage to prevent exposure to air and moisture.
- Ensure proper labeling and Material Safety Data Sheets (MSDS) are readily available.

ii. **Additives:**

- Store chemicals like stabilizers, pigments, and other additives in spill-proof containers.
- Ensure secondary containment systems are in place.

1.2. Storage Area Design

- i. Maintain a clean and organized storage area with proper ventilation.
- ii. Implement fire protection systems, including fire extinguishers and sprinklers, since polypropylene is flammable.

2. Manufacturing Process and Environmental Controls

2.1. Extrusion Process

- i. Ensure the extruder is fitted with dust and fume extraction systems to capture emissions.
- ii. Monitor and maintain the efficiency of heaters and extruder motors to reduce energy consumption.

2.2. Weaving Process

- i. Install noise-reducing enclosures for weaving looms.



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- ii. Ensure operators are provided with earplugs to comply with occupational safety standards.

2.3. Lamination and Coating


- i. Use low-VOC adhesives and coatings to minimize air pollution.
- ii. Install exhaust systems to capture VOCs and direct them to scrubbers or carbon filters.

2.4. Cutting and Stitching

- i. Minimize waste by optimizing cutting patterns.
- ii. Provide adequate lighting and ergonomic seating to improve worker safety and productivity.

3. Air Quality Management

3.1. Emission Sources

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- i. Identify emission points such as:
 - Extruder outlets (smoke and fumes).
 - Heating systems (NO_x, CO, and particulate matter).
 - Solvent-based coating processes (VOCs).

3.2. Emission Control Systems

- i. Install the following:
 - **Bag Filters:** For particulate matter.
 - **Scrubbers:** For removing acidic gases, if present.
 - **Activated Carbon Filters:** For VOC removal.

3.3. Regular Monitoring

- i. Conduct stack monitoring quarterly to ensure compliance with National Environmental Quality Standards (NEQS).

4. Wastewater Management

4.1. Wastewater Sources

- i. Cooling water from extrusion and lamination processes.
- ii. Equipment cleaning water.
- iii. Sanitary wastewater.

4.2. Treatment System

- i. Install an Effluent Treatment Plant (ETP) with the following stages:



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- **Oil/Grease Separator:** To remove oils.
- **Neutralization Tank:** To balance pH levels.
- **Sedimentation Tank:** For settling particulate matter.
- **Filtration Unit:** For removing fine particles.
- **Advanced Treatment (if necessary):** Reverse osmosis or advanced oxidation for high-contaminant loads.

4.3. Recycling and Reuse

- i. Reuse treated water for floor cleaning or in cooling processes.

5. Solid Waste Management

5.1. Waste Types

- i. Scrap polypropylene materials.
- ii. Packaging materials such as cardboard and plastic films.
- iii. Rejected products and defective pieces.

5.2. Waste Handling and Disposal

- i. **Recycling:**
 - Recover and reuse scrap polypropylene in production.
 - Establish contracts with recyclers for non-reusable scrap.
- ii. **Hazardous Waste:**
 - Dispose of waste additives and solvents through licensed hazardous waste handlers.
- iii. **General Waste:**
 - Implement waste segregation at the source to facilitate recycling.

6. Energy and Water Conservation

6.1. Energy Efficiency

- i. Replace outdated machinery with energy-efficient models.
- ii. Use variable-frequency drives (VFDs) on motors to optimize energy use.
- iii. Regularly maintain heating elements and motors to reduce energy loss.

6.2. Water Conservation

- i. Use closed-loop systems for cooling water.
- ii. Implement rainwater harvesting for non-potable uses.
- iii. Monitor water usage and minimize wastage through regular audits.

7. Noise Pollution Control

7.1. Sources of Noise



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- i. Extrusion and weaving machinery.
- ii. Generators or compressors.

7.2. Mitigation Measures

- i. Install acoustic enclosures for noisy equipment.
- ii. Provide personal protective equipment (PPE) like earplugs to workers.
- iii. Restrict machinery operation to designated hours to minimize community impact.

8. Occupational Health and Safety (OHS)

8.1. Personal Protective Equipment (PPE)

- i. Provide gloves, masks, and safety goggles for workers handling raw materials.
- ii. Ensure proper footwear to prevent slips and falls.

8.2. Health Monitoring

- i. Conduct regular health checkups for workers exposed to noise, dust, or chemicals.
- ii. Maintain health records for compliance audits.

8.3. Training and Awareness

- i. Train employees on emergency response and environmental best practices.
- ii. Display safety guidelines prominently across the facility.

9. Regulatory Compliance

9.1. Environmental Approvals

- i. Conduct an Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) as required by the laws.
- ii. Obtain approval or operational phase NOC for air emissions, wastewater discharge, and solid waste disposal.

9.2. Reporting

- i. Submit periodic environmental monitoring reports to EPA.
- ii. Keep detailed records of waste generation, emissions, and compliance status.

10. Emergency Preparedness and Response

- i. Develop a comprehensive Emergency Response Plan (ERP) covering:
 - Fire hazards.
 - Chemical spills.
 - Equipment failures.
- ii. Conduct periodic mock drills to ensure preparedness.



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- iii. Maintain emergency equipment like spill kits, first-aid kits, and fire extinguishers.

11. Community Engagement and Corporate Social Responsibility (CSR)

11.1. Minimizing Impacts

- i. Maintain a green buffer zone between the industry and nearby residential areas.
ii. Limit operations during off-peak hours to reduce noise and disturbance.

11.2. CSR Initiatives

- i. Organize environmental awareness campaigns in the community.
ii. Plant trees in the vicinity to improve air quality and aesthetics.

12. Continuous Improvement

- i. Regularly review and update the environmental management system (EMS).
ii. Invest in cleaner technologies and renewable energy solutions.
iii. Benchmark against industry best practices for sustainability.

This detailed framework ensures that the polypropylene mats/bags industry operates sustainably, minimizes environmental impacts, and complies with regulatory requirements.


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**Secretary to Govt. of Khyber Pakhtunkhwa
Climate Change, Forestry, Environment & Wildlife
Department**

No. SO(ENVT)/CCFE&WD/1-8/EPC-2025:

Copy for information to;

1. All members of Environmental Protection Council (EPC) Khyber Pakhtunkhwa
2. PS to Secretary Climate Change, Forestry, Environment & Wildlife Department, Khyber Pakhtunkhwa


**Muhammad Ishaq
Section Officer (Environment)**