



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 3<sup>rd</sup> 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.



**GOVERNMENT OF KHYBER PAKHTUNKHWA  
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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**

1. Identify emission points such as:

- Extruder outlets (smoke and fumes).
- Heating systems (NOx, 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:



**GOVERNMENT OF KHYBER PAKHTUNKHWA  
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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**



**GOVERNMENT OF KHYBER PAKHTUNKHWA  
CLIMATE CHANGE, FORESTRY, ENVIRONMENT  
AND WILDLIFE DEPARTMENT  
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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.



**GOVERNMENT OF KHYBER PAKHTUNKHWA  
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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)**