

Custom Tofu Clumping Cat Litter

Manufacturing Process

1. Raw Material Preparation

- **Materials Used:**
 - **Soybean Residue:** Obtained from tofu or soy milk production.
 - **Corn Starch:** Acts as a natural binder.
 - **Other Additives:** Fragrances (optional), colorants (optional).
- **Ratios:**
 - **Soybean Residue:** 70%
 - **Corn Starch:** 30%
 - **Additives:** Up to 2% (if used)

2. Mixing

- **Process:**
 - Raw materials are loaded into industrial mixers.
- **Mixing Time:**
 - 15-20 minutes to ensure a homogeneous mixture.
- **Mixing Temperature:**
 - Room temperature (20° C to 25° C).

3. Extrusion

- **Extruder Settings:**
 - **Temperature:** 150° C to 200° C
 - **Pressure:** High pressure to form pellets.
- **Output Rate:**
 - 500 kg/hour.
- **Pellet Size:**
 - **Diameter:** 2 mm to 3 mm.
 - **Length:** 5 mm to 10 mm.

4. Drying

- **Drying Method:**
 - Hot air drying.
- **Drying Temperature:**

- 80° C to 100° C.
- **Drying Time:**
 - 4 to 6 hours.
- **Moisture Content Post-Drying:**
 - Less than 10%.

5. Cooling

- **Cooling Method:**
 - Air-cooled conveyors.
- **Cooling Time:**
 - 1 to 2 hours to reach ambient temperature.
- **Cooling Temperature:**
 - Ambient temperature (20° C to 25° C).

6. Screening

- **Screen Mesh Size:**
 - 2 mm to 3 mm.
- **Purpose:**
 - To remove fines and ensure uniform particle size.
- **Screening Rate:**
 - 600 kg/hour.

7. Fragrance and Additive Application (Optional)

- **Application Method:**
 - Spraying system for uniform distribution.
- **Additive Quantity:**
 - 1% to 2% of the total batch weight.
- **Fragrance Types:**
 - Green tea, lavender, charcoal (if used).

8. Packaging

- **Packaging Types:**
 - Plastic bags, paper bags, custom packaging.
- **Bag Sizes:**
 - 2 kg, 6 kg, 10 kg, or customized weights.
- **Packaging Speed:**
 - 30 bags per minute.
- **Packaging Environment:**
 - Clean, dry area to maintain product quality.

9. Quality Control

- **Tests Conducted:**
 - Absorption rate, clumping ability, dust level, and scent strength (if applicable).
- **Testing Frequency:**
 - Every batch.
- **Acceptance Criteria:**
 - Absorption rate > 300%, strong clumping, dust level < 1%.

10. Storage and Distribution

- **Storage Conditions:**
 - Cool, dry warehouse.
- **Shelf Life:**
 - 2 years.
- **Distribution Method:**
 - Packed on pallets, shrink-wrapped for stability, and ready for shipping.

Key Data Summary

Parameter	Value
Soybean Residue Ratio	70%
Corn Starch Ratio	30%
Additives	Up to 2%
Mixing Time	15-20 minutes
Extruder Temperature	150° C to 200° C
Extrusion Rate	500 kg/hour
Pellet Size	Diameter: 2 mm to 3 mm, Length: 5 mm to 10 mm
Drying Temperature	80° C to 100° C
Drying Time	4 to 6 hours
Moisture Content	Less than 10%
Cooling Time	1 to 2 hours
Screening Rate	600 kg/hour
Packaging Speed	30 bags per minute
Storage Conditions	Cool, dry place
Shelf Life	2 years
Absorption Rate	> 300%
Dust Level	< 1%

This process ensures the production of high-quality, custom tofu clumping cat litter that meets specific customer requirements while maintaining excellent performance characteristics.