# UHAND Manufacturing Process

Precision in Every Step

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# 01

# Laser Cutting

Precision Starts Here

# Laser Cutting of Plates

## Equipment Advantages

- **High Precision**
- **High Efficiency**
- **High Flexibility**

## Equipment Capabilities

**High-Power Model**

Power: **20,000W**
Length: **30m**

**Standard Model**

Power: **6,000W**
Length: **13m**

Capable of processing various metal plates to meet different component needs.

# Laser Cutting of Profiles


## Equipment Specifications

**6000W High Power**

Ensures cutting speed and quality.

**30m Total Length Stroke**

12m Effective Cutting Range.

**20-350mm Pipe Diameter**

Meets diverse processing needs.

Stable Performance · High-Precision Cutting

Large Workpiece Adaptability · Easy Handling

Wide Coverage · Meets Diverse Needs

# 02

# Plate Rolling & CNC Bending

Shaping the Future

# Plate Rolling

## Strong Adaptability

Forms cylindrical or arc-shaped frames in one pass, precisely matching requirements.

## Superior Quality

Smooth arcs and precise dimensions ensure seamless welding foundations.

## High Flexibility

Compatible with various materials, effectively reducing rework costs.

# CNC Bending

## High Precision

Bending angle accuracy up to ±0.1°, side length tolerance ≤ ±0.2mm.

## High Efficiency

Intelligent system forms complex parts in one pass, efficiency increased by 40%.

## High Safety

Infrared gratings and emergency stops ensure operational safety.


CNC bending machines achieve high-precision metal forming.

# 03

# Welding Technology

Strength in Connections

# Auger Welding


### Custom Equipment

Intelligent welding equipment custom-built for spiral blades.

### High-Precision Positioning

360° rotation, blade pitch error **≤ 0.2mm** for smooth conveying.

### Anti-Deformation Technology

Symmetric welding reduces deformation rate by over 60%.

### Quality Assurance

Automatic inspection & X-ray option, meeting **GB/T 12470**.

# Structural Welding

### Custom Equipment

**Automatic machines** for curved and flat surfaces to meet diverse needs.

### Stable Quality

Precise program control ensures uniform welds and eliminates defects.

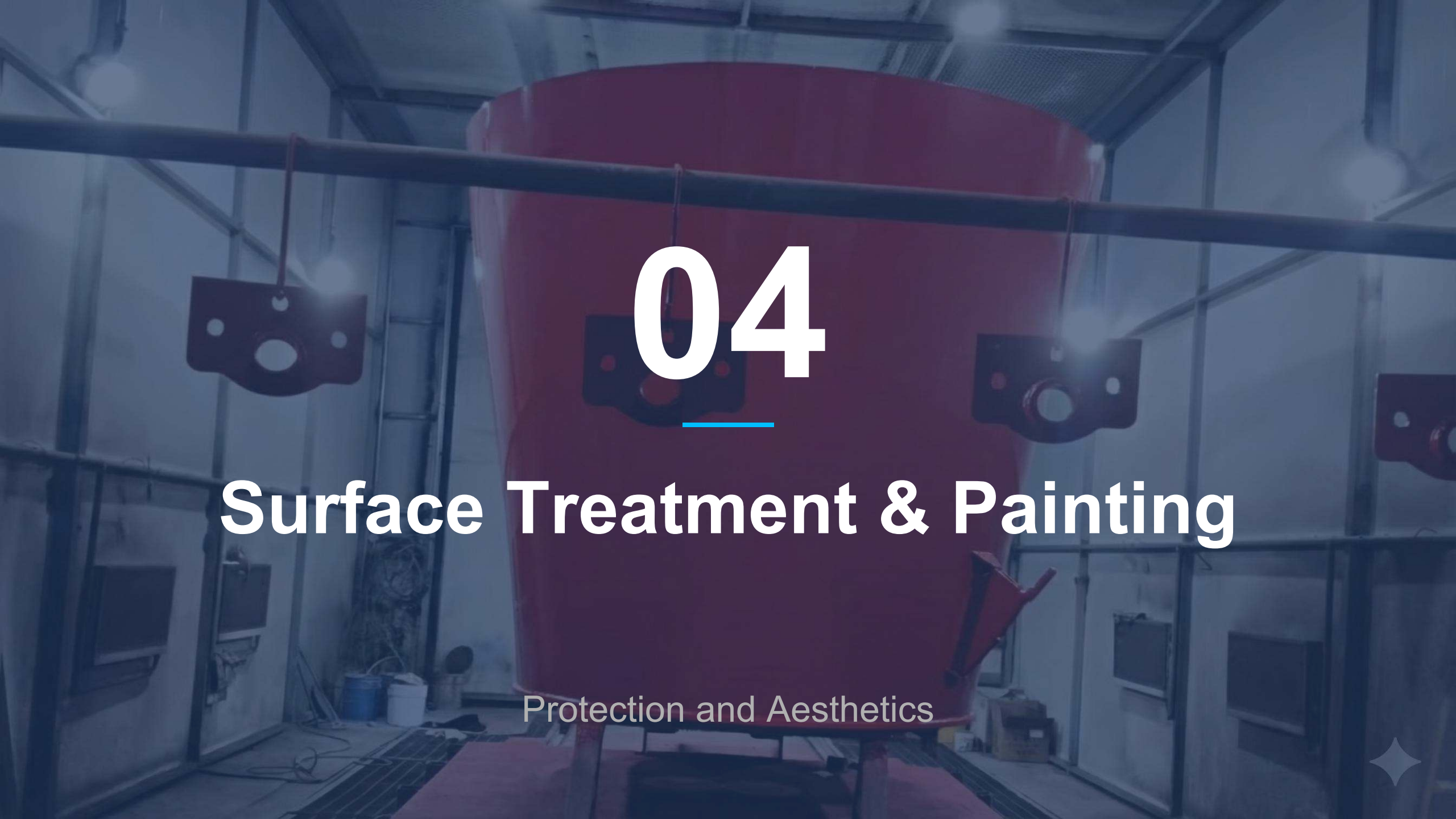
### Efficiency Improvement

24/7 operation, 2-5 times faster than manual welding.

### Cost Reduction

Lower labor and material costs through automation.

Automated Robot Welding Large Structural Components



# 04

# Surface Treatment & Painting

Protection and Aesthetics

# Surface Treatment

## 1：Automatic Sandblasting

Efficiently and uniformly removes surface rust and scale, creating a specific roughness to enhance paint adhesion.

## 2：Manual Polishing

Finely processes the sandblasted surface to ensure no impurities remain in hard-to-reach areas, achieving a perfect finish.

A rigorous process ensures a flawless product surface, laying a solid foundation for superior quality.

# Painting

### Spray Standards

Strictly controls spray distance (15-25cm), pressure, and speed to ensure uniform coating.

### Coating Structure

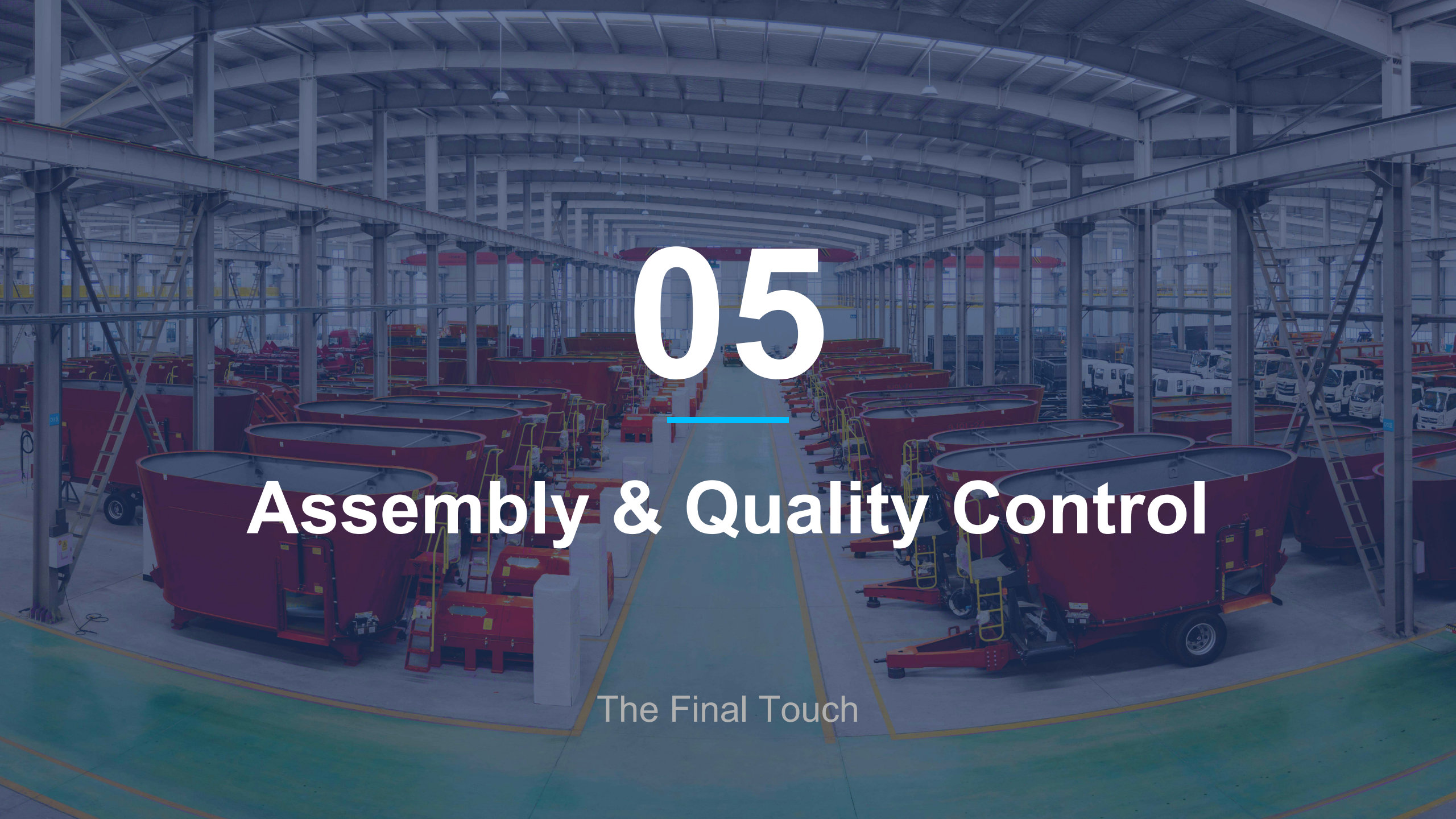
**4 layers** (2 primer + 2 topcoat) with sufficient drying time between layers.

### Baking Method

Optional high-temp baking (50-80℃) or air drying at room temperature.

### Optional Enhancement

Add a clear coat layer for improved wear resistance and gloss.



# 05

# Assembly & Quality Control

The Final Touch

# Assembly

## Transmission System Assembly

Ensure coaxiality **≤ 0.1mm**, clearance 2-3mm, and proper belt/chain tension.

## Weighing and Control System

Uniform force on sensors, calibration error **≤ ±0.5%**.

## Safety and Commissioning

Complete protective covers, grounding resistance **≤ 4Ω**, & passes 30-minute trial run.

Strictly follow standards to ensure precise and reliable equipment.

# Quality Control

## Incoming Quality Control (IQC)

Control quality from the source to ensure all incoming materials meet strict standards.

## In-Process Quality Control (IPQC)

Conduct sampling inspections and monitoring at every production step to prevent batch defects.

## Final Quality Control (FQC)

Conduct comprehensive functional and performance tests on finished products to ensure excellence.

## Outgoing Quality Control (OQC)

Ensure the final products delivered to customers are flawless, enhancing customer satisfaction.

# THANK YOU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