Ji'nan ShengTai Painting Equipment Co.,Ltd.
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Pre-treatment Process Parameters for Car Body ST-LCP2000						
Step	Process Name	Function	Time (s)	Remarks	Temp. (°C)	Method
1	Flood Rinsing	Remove contaminants, heat body	60	Can be omitted if body is clean	–	Spray
2	Pre-degreasing	Remove oil from outer panels, heat body	60—120	Degreasing solution can be supplied from 1st rinse water	50—55	Spray
3	Degreasing	Remove oil and grease	120—180	Use cleaner containing sodium silicate, phosphate, surfactant, etc., to remove oil from entire body	55—65	Immersion
4	Rinse No.1	Remove degreaser, cool body	30—60	Tap water; replenished from Rinse No.2 via overflow or pre-rinse	Room temp. (preferably low)	Spray
5	Rinse No.2	Remove degreaser, cool body	Dip & out	Continuously replenish with tap water (outlet spray); keep body temp. below 40°C	Room temp. (preferably low)	Immersion
6	Surface Conditioning	Alkaline activation, form nucleation sites	60	Use conditioner containing titanate, phosphate, etc., to slightly alkaline steel surface	Room temp.	Immersion
7	Phosphating	Form phosphate coating	180	Use ternary zinc phosphate solution with accelerators to form crystalline	45—50	Immersion

				phosphate layer via chemical reaction		
8	Rinse No.3	Remove phosphate solution	30—60	Tap water; replenished from Rinse No.2 via overflow or pre-rinse; specially remove phosphate sludge	Room temp.	Spray
9	Rinse No.4	Remove phosphate solution	Dip & out	Tap water, or replenished from Step 11 (DI rinse) via overflow or pre-rinse	Room temp.	Immersion
10	DI Rinse	Remove ionic impurities	Dip & out	Replenish with deionized water	Room temp.	Immersion
11	Fresh DI Rinse	Final rinse	10—20	Conductivity of drip water ≤ 30 μS/cm	Room temp.	Spray

Resource Efficiency: Continuous filtration of process liquids significantly reduces the consumption of both chemicals and fresh water.
Proven Technology: Examples of our effective solutions include the efficient ShengTai® rotational dip process and our optimized anode control system.
System Design: We prioritize highly flexible, compact layouts with low operational costs from the initial planning phase.
Process Optimization: We employ cross-process strategies to unlock new improvements in energy efficiency and final coating quality.

The initial automotive painting sequence consists of two foundational stages that prepare and protect the vehicle body:
1. Stage 1: Pre-treatment
◦ This is the first step, where the body shell is thoroughly cleaned, degreased, and typically given a phosphate coating to establish an ideal surface for all

subsequent paint layers.

2. Stage 2: Electro-coating (E-Coat)

◦ Here, an anti-corrosion primer is applied by immersing the entire body into a conductive bath. This immersion method guarantees complete coverage, including all internal cavities and sections.

These processes are built on advanced, adaptable technologies designed for efficiency and performance from the ground up.

Please provide detailed information so that we can provide you with a more accurate solution:

1.What are the Maxminum and Minimum dimensions of your workpieces (L × W × H)?

2.What is the maximum weight of each workpiece? If available, please also provide product photos.

3.How many workpieces do you plan to coat per day (based on 8 or 16 working hours) or per month?

4.Which heating source do you prefer, such as electric power, diesel, fuel oil, or natural gas?

5.What are the dimensions of your workshop (L × W × H)? If possible, could you share a layout or drawing of the facility?

6.Prior to coating, do you require spray pre-treatment to prepare and clean the product surface?

7.What voltage and frequency standards are used in your country?

Please also share your WhatsApp or another instant messaging contact so we can communicate more efficiently.

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