



PARCOLENE® Z CONDITIONING AGENT

1. INTRODUCTION

PARCOLENE® Z is especially formulated to prepare iron, steel, aluminium, zinc and zinc-alloy surfaces for subsequent crystalline phosphate coating applications.

These surfaces may be treated singly or in mixed production by either spray or immersion processing.

The titanium-containing conditioning chemical promotes the formation of a dense, fine grained phosphate coating which is preferred as a paint base because it promotes superior adhesion and durability in corrosive environments.

2. OPERATING SUMMARY

Chemical	Bath Preparation per 1,000 Litres
PARCOLENE® Z	1.2 kg
Operation and Control	
Concentration	Titanium Test Kit
Time	10 – 60 seconds
Temperature	60°C maximum

3. THE PROCESS

All metal to be treated with the **PARCOLENE® Z** conditioning bath must be properly cleaned before the treatment.

3. THE PROCESS Cont.

The complete process for surface preparation normally consists of the following steps:

- i. Cleaning
- ii. Water rinsing
- iii. Treating with **PARCOLENE® Z** conditioning bath
- iv. Zinc phosphating
- v. Water rinsing
- vi. Sealing

4. MATERIALS

PARCOLENE® Z (conditioning agent)

5. EQUIPMENT

The process tank, housing, pumps and piping for use with this solution may be constructed of mild steel. In spray applications, maintenance will be simplified if nozzles are fabricated from 300 series stainless steel. The heat exchanger plates should be polished 316 stainless steel. If gas fired burner tubes are used, they should be made of schedule 80 mild steel pipe or equivalent. All process circulating pump seals, valve seats, door seals, and other elastomers which come in contact with the working process solution may be Buna-N , EPDM, Viton™, Teflon™. Note that while Hypalon™ is compatible with the process solution, it is not compatible with acid equipment cleaners which may be used.

Automatic process control equipment, which promotes consistent quality and controlled costs, is available for automatically controlling this process. Auxiliary equipment, which is engineered and specified for this process, include air operated chemical transfer pumps, chemical metering pumps, reliable level controls, solenoid valve assemblies and bulk storage tanks. CHEMIXERS are available in three sizes for preparing solutions of powdered products which then may be metered into the process at a controlled rate. All chemical pumps seals, valve seats and other elastomers which come in contact with the concentrated solution can be Buna-N, EPDM, Viton, Teflon or Hypalon.

6. SURFACE PREPARATION

Cleaning

All metal to be treated must be free from grease, oil and other foreign matter before the conditioning. A complete line of cleaners is available and our representative will recommend the proper one for each installation.

Water Rinsing

After cleaning, the metal must be thoroughly rinsed with water. The rinse should be warm, however the temperature should not exceed 49°C to avoid affecting the conditioning chemical. The rinse should be overflowed continuously at a rate which will keep it clean and free from scum and contamination.

7. CONDITIONING WITH PARCOLENE® Z

Buildup

Fill the tank to the working level with water and heat to 49° Centigrade. Shortly before the line is ready to commence processing metal, slowly add 1.2 kg of **PARCOLENE® Z** for each 1,000 litres of solution volume with thorough mixing.

Sometimes lower or higher concentrations may be more desirable. The bath is ready for use as soon as it is thoroughly mixed.

Operation

The cleaned metal is treated with the conditioning bath immediately before the conversion coating stage. The conditioned metal is not rinsed before conversion coating.

Time: 10 to 60 seconds
Temperature: Ambient to 60° C

8. TESTING AND CONTROL

The preferred method of controlling the conditioning operation is to continuously feed a slurry of the chemical into the rinse stage just prior to the conversion coating treatment stage. After this stage has been charged to the specific concentration, the slurry is fed directly into the tank or preferably into the main header with a chemical metering pump while using an AUTODRAINER control to continuously discard a portion of the bath during line operation. For optimum operation a discard rate of 2 to 4 litres per minute should be maintained on lines with more than one rinse stage after the cleaner. For single rinse stage, see the following paragraphs. The continuous addition of the chemical from the slurry tank should be sufficient to maintain the processing bath at the specified concentration.

Since the conditioning chemical loses its effectiveness with bath and slurry aging, the slurry should be made fresh each day and the conditioning stage should be made fresh or recharged if the line is down for an appreciable length of time. In order to prevent excessive reduction of activity of the conditioning chemical, the temperature of the conditioning bath should not be allowed to rise above 60°C.

Since some processing lines have only one rinse stage between the cleaner and the conversion coating stage, it is necessary to use this stage as combination rinse and conditioning stage. Under this operating mode, it is especially critical to have sufficient autodrainage to maintain low alkalinity and to feed the slurry into the main header in order to obtain proper conditioning of the metal before conversion coating.

Due to the varying line configurations and mechanical characteristics of the equipment, the operating parameters must be established for each processing line. Our representative will assist in establishing the optimum operation parameters for each line.

9. AFTER TREATMENT

The surface is now ready for application of the conversion coating solution. No further surface preparation treatment is needed.

10. STORAGE REQUIREMENTS

PARCOLENE® Z is a powdered product and does not require special protection except storage in a dry area. Opened containers should be kept closed when not in use.

11. WASTE DISPOSAL INFORMATION

Application regulations covering disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemical, in the form as supplied, is given on the Material Safety Data Sheet.

The processing bath is slightly alkaline and contains phosphate and heavy metal based on the chemicals as supplied. Waste treatment and neutralisation may be required prior to discharge.

The processing bath can contain ingredients other than those present in the chemical and analysis of the solution may be required prior to disposal.

12. PRECAUTIONARY INFORMATION

When handling the chemicals in the form as supplied, the precautionary, first aid and handling recommendations on the Material Safety Data Sheet for the product should be read, understood and followed.

The bath is very slightly alkaline and not considered hazardous. However, contamination with cleaning bath solution can cause the conditioning agent solution to be irritating to eyes and possibly skin. Avoid contact with the solution. In case of contact, flush eyes or skin as directed in the Material Safety Data Sheet for the cleaning product. If irritation occurs and persists, get medical assistance.

DISCLAIMER

Any information given is, to the best of our knowledge, the best currently available, with respect to our products and their use, but it subject to revision as additional knowledge and experience is gained. Such information is offered as a guideline for experimentation only and is not to be construed as a representation that the material is suitable for any particular purpose or use. Customers are encouraged to make their own enquiries as to the material's characteristics and, where appropriate, to conduct their own tests in the specific context of the material's intended use. This information is not a license to operate under nor is it intended to suggest infringement of any patent. We guarantee a uniform quality standard for this product. The only conditions and warranties accepted by Henkel in relation to this product or process are those implied by either Commonwealth or State statutes.