

TECHNICAL DATA

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THIS CHEMICAL IS
FORMULATED FOR
WARNING INDUSTRIAL USE ONLY

Contact with skin or clothing or other improper handling or use of this product may result in bodily harm or other damage. Before using or mixing the contents with other substances, all labels applied to container, the applicable Technical Data Sheet and Material Safety Data Sheet should be read and specific instructions and precautions followed to assure correct use and personal safety.

PASSIVATOR 90

A. SUMMARY

INTRODUCTION

PASSIVATOR 90 is a non chromic acid-based, liquid passivating chemical used in either an immersion or spray final rinse to improve paint adhesion and minimise under-film corrosion and blistering, especially on iron phosphate conversion coatings.

PASSIVATOR 90 is adaptable to automatic bath control on multistage spray installations.

MAKE-UP AND OPERATION

Fresh baths are made up with between 3 - 5 litres of PASSIVATOR 90 per 1000 litre of bath.

Temperatures from ambient to 60° C are suitable. Contact time is 5-30 seconds, and spray application requires a nozzle pressure of 70 - 100 kPa.

The working bath is controlled by one titration and a pH check.

EQUIPMENT

Tanks and pipework for PASSIVATOR 90 baths may be constructed from mild steel however stainless steel tanks etc. will give longer bathlife and lower chemical consumption and is preferred.

TECHNICAL DETAILS

BATH MAKE-UP AND CONTROL

(a) Make-up of Fresh Bath

For each 1000 litres of water in the bath add with stirring:

PASSIVATOR 90: 3 – 5 LITRES

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(b) Control Points

Bath Concentration	:	3 - 5 litres / 1000 litres
Bath limits	:	0.1 – 0.5% V/V
pH	:	4.0 - 5.0
Temperature	:	Ambient - 60° C (140F)
Contact Time	:	5-30 seconds
Pressure	:	70-100 kPa (10-15psi)

(c) Bath Analysis :

100mL of the working bath
5 drops of phenolphthalein
Titrate with 0.1N Sodium Hydroxide to a pink end point
Record the titre as A

$A \times 0.143 = \% \text{ PASSIVATOR 90}$

(d) Additions

Add PASSIVATOR 90 as required to maintained correct concentration.
To lower pH add Nitric acid.
To raise pH add dilute ammonia.
Under normal operating conditions the pH will gradually increase.

OPERATIONAL RECOMMENDATIONS

- (i) PASSIVATOR 90 baths may be operated at any temperature up to 60° C, though in general, the lowest temperature which will not impede subsequent drying of the work is recommended.
- (ii) If the work has seams or pockets where PASSIVATOR 90 may be trapped, a supplementary rinse with deionised water is advisable.
- (iii) Waters exceeding 200 ppm of alkalinity (expressed as CaCO₃), 70 ppm total chlorides or sulphates, or 225 ppm combined hardness; are unsuitable for use in PASSIVATOR 90 baths, because the retention of soluble salts can lead to under paint blistering. Conductivity of the fresh water should not exceed 800 micro siemens at 55° C.

PLANT MAINTENANCE

Screens (to protect circulating pumps and nozzles) should be cleaned daily.

Nozzles should be checked for alignment and blockages, and a regular programme of removal and cleaning adhered to.