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# riag PMn 920

## Activating agent for manganese phosphating processes

**riag PMn 920** is a powdery activating agent which is added to the rinsing bath before the immersion phosphating process. **riag PMn 920** has the effect to produce uniform and microcrystalline manganese phosphate coatings on iron and steel surfaces. **riag PMn 920** can also be applied with hard water.

### Properties

- Easy to operate, broad working area
- Suitable for applications in hard water
- Produces uniform microcrystalline coatings

### Make up

	Range	Optimum
<b>riag PMn 920 Additive 1</b>	1.0 – 3.0 g/L	2.0 g/L
<b>riag PMn 920 Additive 2</b>	1.0 – 3.0 g/L	2.0 g/L
Temperature	20 – 40 °C	30 °C
pH-value	7.0 – 9.0	8.0
Dip time	1 – 2 min.	as required

Fill tank with water up to  $\frac{3}{4}$  of the final volume. Add the required amounts of **riag PMn 920 Additive 1 and 2**, stir constantly and fill up with water to the final volume. Heat the activator to a working temperature of at least 20 °C.

Hint: an even easier way to make the suspension is by wetting **riag Phos Mn Additive 1** with water and diluting **riag PMn 920 Additive 2** in hot water.

## Operating parameters

Temperature	20 – 40 °C
Time	60 – 120 s, depending on concentration, temperature and agitation
Make-up	The concentration of the make-up depends on the water quality, temperature and the specific process parameters.
Water	To guarantee a longer lifetime and a trouble-free application we recommend the use of reverse osmosis, demineralised or DI water.
pH – Value	7.0 – 9.0, has to be checked frequently with a pH meter or special pH paper.
Agitation	effective agitation is absolutely necessary, also during breaks and over night.
Additives movement	Barrel: 6 – 12 rpm Rack : 1 – 2 rpm
Tank	Tank and installations: construction steel. However, we recommend the use of stainless steel, Additiveicularly when using demineralised water.
Heating	Stainless steel heaters
Cooling	not necessary
Exhaustion	according to law

## Process

**riag PMn 920** is controlled by measuring the pH-value. If microcrystalline coatings may not reached, the same quantities of **riag PMn 920 Additive 1 und 2** have to be added in quantities of approx. 1 g/L. If the replenishment doesn't influence the result of the phosphating process positively the **riag PMn 920** has to made up fresh.

## Environmental considerations and product safety

All concentrates, rinse waters and waste solution must be treated and discharged in accordance with local effluent control regulations. Information can be gleaned from the material safety data sheets. Chemicals shall not be stored below 10 °C.

## Liability

This instruction manual was compiled with reference to the state of the art and all current standards, and is based on the long-term knowledge and experience of riag. However, riag cannot monitor compliance with this instruction manual and the methods described herein at the customer/end-user's premises. Work carried out with riag products must be adapted accordingly to meet local conditions. In particular, riag cannot accept liability for damage, loss or cost incurred due to a failure to adhere to this instruction manual, improper application of the methods, unauthorised technical modifications, insufficient maintenance or the absence of maintenance in respect of the requisite technical hardware or equipment, or in the event of use by unqualified personnel. riag is not liable for damage or loss caused by riag or its employees except where intention or gross negligence can be proved. riag furthermore reserves the right to make changes in relation to products, methods and the instruction manual without prior notice.

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