Spot repair

Introduction

Localised damaged may occur to a coating system otherwise in good condition. This can be due to e.g. transportation damage, welding or mechanical impact. Such areas may require spot repair to bring them back in good condition and reinstate the protective layer offered by the original coating.

Scope

The purpose of this Guideline is to provide advice on the specific issues to pay attention to for minor spot repair and touch-up. For general advise on the coating system see relevant Guidelines for surface preparation and application as well as Product Data Sheets.

This guideline is intended to supplement the general knowledge of the skilled professional as well as the relevant Product Data Sheets & safety datasheets.

Safety

Use adequate personal safety equipment and follow sound procedures. Apply only in well-ventilated areas. Observe safety labels on packaging and paint containers and consult Hempel's Safety Data Sheets for the products to be applied.

Surface preparation

Oil and grease must be removed with suitable detergent, salts and other contaminants by high pressure fresh water hosing. Areas to be repaired by application of touch-up coating to be cleaned by a suitable method. Abrasive sandblasting to Sa2½ is the preferred method. Where this is not possible other methods can be used. The aim should be to provide a surface

- clean and free of any contamination such as soluble salts, oil & grease, corrosion products, damaged coating and dust
- with a sharp dense roughness profile surface profile corresponding to ISO Comparator Rough Medium (G) or Rugotest No.3 equivalent to BN10a.

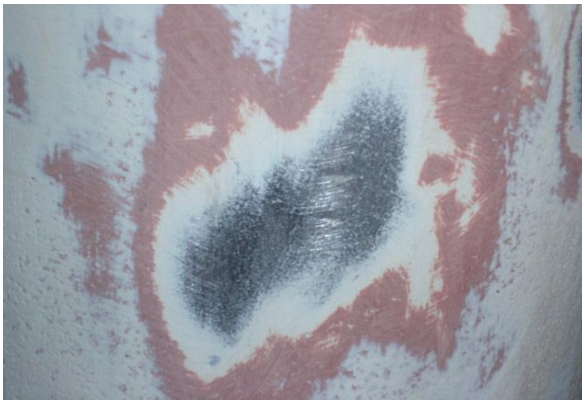
Failure to achieve this may still provide a satisfactory result (depending on the expectation) but some reduction in durability should be anticipated.

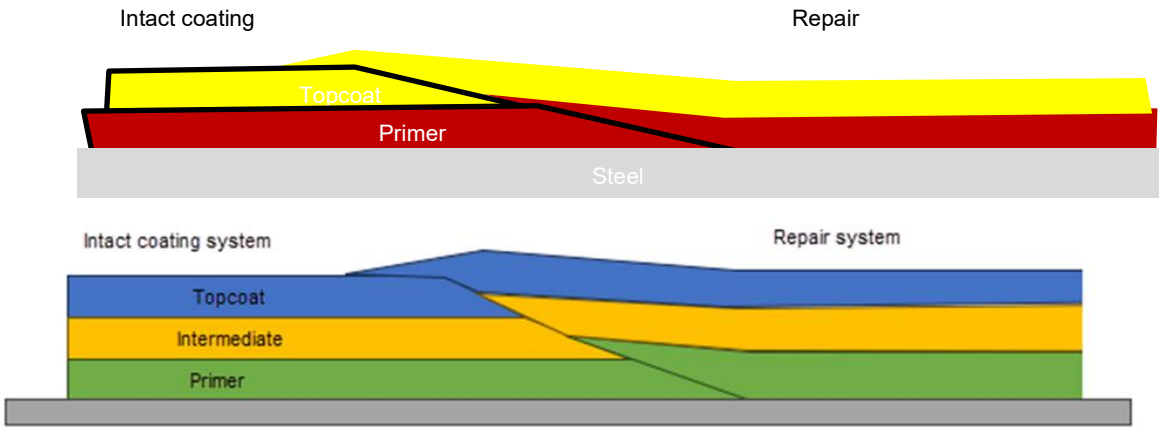
Alternative methods include

- Water jetting to Wa2-2½ according to ISO 8501-4. Please note that water jetting will not create any roughness in the steel. However it can be a very good method on intact coating or recently damaged coating without corrosion. Water jetting can remove damaged coating and expose the roughness profile created by the original abrasive blasting. Flash rusting should be controlled and not exceed grade Medium.
- Power tool preparation (disc grinding, bristle blasting etc) to a cleanliness degree equivalent to St3 according to ISO 8501-1:2007. Care should be taken to achieve best possible roughness and avoid polishing
- Manual sanding

Overlap onto intact existing coating

Intact coating surrounding the area to be repaired must be feathered and adjacent surface must be sanded in order to ensure good adhesion of the newly applied coating system. See illustrations below.





Application process

In case of extensive pit corrosion (old tank bottoms) it is advisable to apply the first coat by brush. The coating must be worked well into all pits facilitating a good wetting of the steel and closing the porosities. The following coat(s) can be applied by brush as well as by airless spray (as per above) securing full covering of the uneven/rough surface. Edges, corners, manual welds, and places difficult to cover properly by spray application should be stripe coated (touched up) either before or after the spray application.
One or two stripe coats will usually be necessary depending on actual conditions.

This document is intended for professional use and provides generic advice in respect of the subject matter only. It is not intended to be used as a comprehensive guide. The buyer/applicator should always read the relevant Product Data Sheet ("**PDS**") and Safety Data Sheet ("**SDS**") relating to the Products ordered which are available for download on www.hempel.com. If in doubt, please contact your local Hempel representative for further advice. To the extent relevant, the disclaimer set out in the relevant PDS(s) applies to this document.