Spot repair

Scope

This guideline describes how to perform spot repair and touch-ups and gives advice on specific issues for attention.

The guideline provides general recommendations only, hence the information should be supplemented with more details regarding the actual product as outlined in the Product Data Sheet and/or in the Hempel specification.

Safety precautions

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.

Introduction

An otherwise sound coating system in good condition can get local damages due to transport, welding, mechanical impact, etc.

Such areas should be spot-repaired to restore the paint system and reinstate the protective layer offered by the original coating.

Surface preparation

Oil and grease must be removed with a suitable detergent, salts and other contaminants by high pressure fresh water hosing. The sound area surrounding the damage, where the new coating will overlap, must also be cleaned.

Areas to be applied with touch-up paint, must to be further cleaned - abrasive sandblasting to Sa2½ is the preferred method. When this is not possible, other methods can be used. The aim is to provide a surface with the following properties:

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

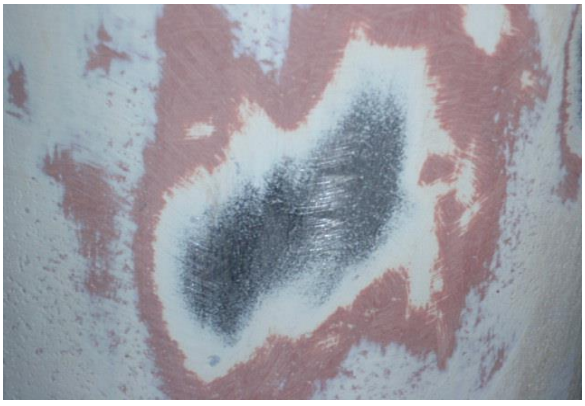
Failure to achieve the above may still provide a satisfactory result, but some reduction in durability should be anticipated.

Alternative methods include:

- Water jetting to Wa2-2½ according to ISO 8501-4. Please note that water jetting will not create any roughness to the steel. However, the method is often good for 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 rust should be controlled and not exceed grade Medium.
- Manual power tool preparation (disc grinding, bristle blaster, etc.) to a cleanliness degree equivalent to St3 according to ISO 8501-1:2007. Care should be taken to achieve the best possible roughness and avoid polishing.

For more details, please refer to Hempel's technical guideline for surface preparation, maintenance and repair.

Overlap with intact existing coating
Intact coating surrounding the area to be repaired must be feathered and adjacent surface sanded to ensure good adhesion of the newly applied coating system. See photo below and illustration on next page.



Application

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 to achieve good wetting of the steel and close porosities. The subsequent coat(s) can be applied by brush as well as by airless spray securing full covering of the uneven/rough surface.

Edges, corners, manual welds and areas 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. Please refer to Hempel's technical guideline on stripe coating.

Illustration of damage repaired with the original coating system