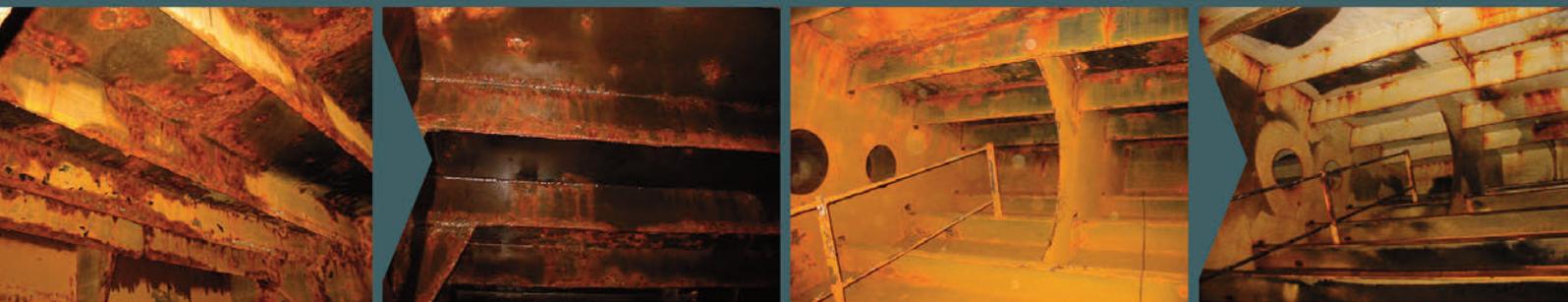


# TRUSTPER AIS



## BALLAST TANK MAINTENANCE

A Cost Effective Treatment



# TRUSTPER AIS

Presents...

## 'THE NEW WORK METHOD'

### CONCEPT FOR THE MARITIME INDUSTRY

THIS CONCEPT IS 'GREEN'. DEvised IN A COST-EFFICIENT WAY TO PRIMARILY PRESERVE BALLAST TANKS AND VOID SPACE USING A 3-STEP WORK AND PROGRESS PROCEDURE.

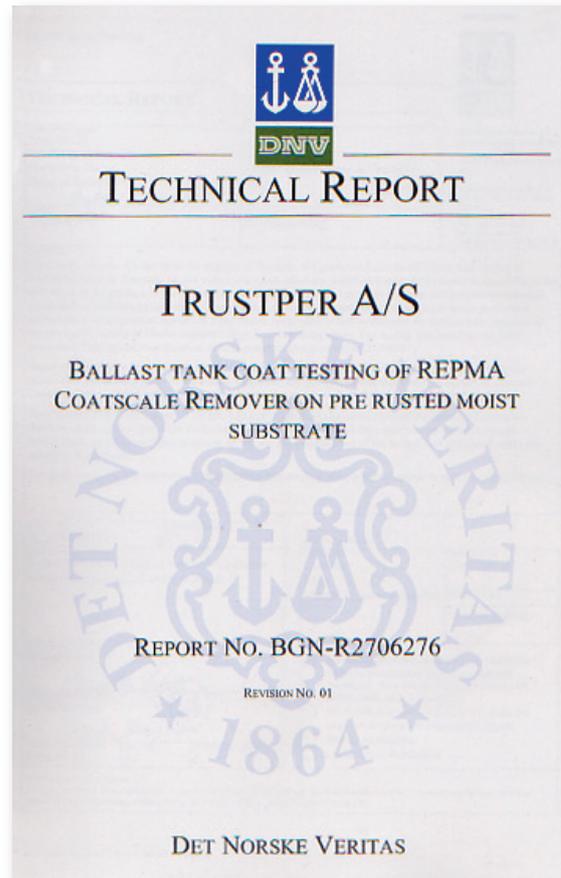
**Unique in comparison** to traditional methods involving grit blasters and ultrahigh water pressure systems our Concept is unique. It's not an understatement to say that the cost involved in using conventional heavy and specialised equipment techniques is dramatic and a very big concern for ship owners.

**Concept products to apply:** CoatscaleRemovers (CSR) – a soya oil based recipe, and CSR II – a linseed oil recipe, work both in combination, or separately depending on what the end-user requires. CSR's coatings however, are easy to apply, saving days in the dry dock. CSR's are user friendly, inexpensive and environmentally satisfactory. We recommend Aquatuff High Foam for the cleaning process (Step 3).

**Cost saving** compared to grit blasting, can be as much as 90 per cent. Time saved is also a vital point to consider.

**Det Norske Veritas** conducted exhaustive pre-launch trials during 2006. Results achieved were equal to/or better than the required standard prior to the pre-cleaning specification/surface tolerant Epoxy paint (with reference to ISO 8501-1 C Sa 2). The preservation ability test of CSR was impressive considering that this special coating is, after all, an extremely penetrative product, with no hard/epoxy paint, acting as a 'barrier' coating.

**Vessel trials and achievements.** During the practical trial time onboard several vessels, treatment results at the end (up to two years)



*DNV Report*

proved out satisfactory pre-cleaning by removal of multiple scale and rust layers to be followed by temporary protection on top of cleaned sound, but oxidized steel. (Oxidized steel is always exposed to corrosion by presence of Oxygen). Achievements vs. the progress seen in STEP I and STEP II had proved satisfactory, resulting in TRIAL vessel's survey reports being sent to the owners.

**CoatscaleRemover (CSR)** contains a blend of vegetable oil, driers, wetting agents, and corrosion inhibitors. Its primary goal is to act as a rust and scale remover combined with the ability of temporary surface protection caused

## Foam Treatment on surface section after Air Ventilation



*CSR II test panel result*

by the corrosion inhibitor acting on the coating surface within seawater ballast tanks. CSR can also be used for other purposes, for example, as a semi-hard coating for the protection of steel and metal surfaces against atmospheric corrosion. The film expands and 'pushes off' rust in flakes. CSR dries to a soft non-sticky but fingertip dry coating, this gives a temporary corrosion protection against seawater and humidity.

**Application** is to be carried out by low-pressure spraygun, or by flotation if the tank is too narrow to access.

CSR penetrates the porous rust to reach the fresh steel surface underneath, where it spreads out making a thin oily film that loosens the rust. The CSR's coating film stays transparent when the curing has been completed.

**Application rate by Spray.** Using low pressure (no atomization) the estimated spray rate within a ballast tank when providing free access is 600m<sup>2</sup> per hour, consuming 90lt (Adjustable Multi Nozzle w/5 orifice outlet). Product consumption is seen as a general guideline: 1lt/6.6m<sup>2</sup> or 150µm/m<sup>2</sup>

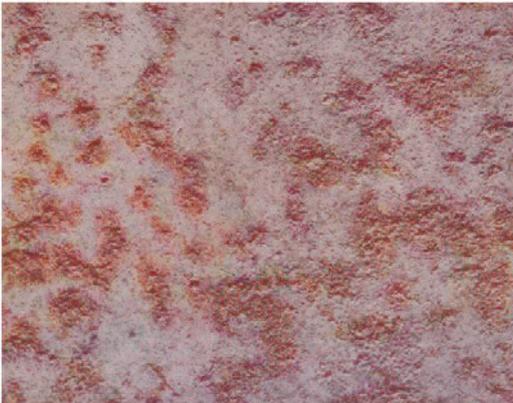
**Curing Guideline** advice is provided and is of vital importance for an optimised end-result. We recommended you to study this carefully prior to commencing any application. Curing Guidelines are available and can be requested along with Material Safety Data Sheets (MSDS's) for all products.

**CoatscaleRemover II (CSR II)** contains linseed oil and dries twice as quickly in comparison to its sister product. This means tanks can be ballasted the following day, or even the same day of application. CSR II has also been successfully applied to the cargo spaces on merchant vessels, proving highly resilient for the transportation of cargo such as limestone. Furthermore, CSR II's exceptional heat resistance properties make it suitable for the surface treatment of steam pipes and similar applications, and widens the opportunities for other onboard uses. In general there are only minor technical differences in the way to apply and handle pumps and equipment in use, estimated product consumption is similar to its sister product. The product properties should be studied through each product's MSDS.

**Safely applied,** both products are ISO 14001 certified and can be safely applied by a vessel's



D Sa 1



D Sa 2

#### *ISO 8501-1 D Sa 1+2*

crew using common shipboard spray paint equipment at low pressure, and coverage rates of 600 m<sup>2</sup> per hour can be achieved. The flotation method could particularly be applied in deep tanks and narrow double bottoms linked to similar confined spaces. Fresh water washing prior to application is not required. Tank surfaces can be treated once moderately dry (not soaking) after de-ballasting, but mud and water residues must first be removed from the tank.

**Preservation period.** Used by itself, CSR can offer protection for mild steel surfaces for up to 18 months or more (depending on the frequencies of tank operation). Empty tanks can stay protected for several years! For frequent use, touch up is recommended after 18 months. This time gap is doubled to 36 months or more when used in conjunction with CSR II as part of a two-stage process. This can be extended even further, to up to 60 months or more if a hard paint system has been applied (based on completed STEP III process).

**Current Vessel/Owner base.** To date Trustper's products have been successfully used on a wide range of vessels, notably: handymax; panamax; and capsizes bulk carriers – one owner alone treated all the following vessels in his fleet: tankers; box carriers; offshore supply vessels; a cable layer; research vessel, FPSO's and barges. During last year we also supplied products for an offshore rig outside West Africa, and for South American rigs based out from Peru.

**Who we are and where we are.** TRUSTPER A/S is a Norwegian company. Via a growing network of sales, distribution agents and contractors, we covers all parts of Europe and Asia, with Taiwan being a major stronghold (and where the funder Mr. Schaanning lives for most of the year). Our key supplier is Wilhelmsen Chemicals A/S in Norway. (formerly Unitor Chemicals A/S)

**Trustper** is still considered as small start-up company. We still rely on word-of-mouth and face-to-face contact at exhibitions and trade fairs to get our message across in the marketplace. We are however, attracting growing interest from ship owners across the world and are already winning a lot of repeat orders.

Concept's launch in 2007 was promising, but since then we have faced consecutive WW crises one after the other creating very tough times for the entire shipping industry – particularly for Tankers.

It is our hope that when times are improving, we will together improve on the maintenance business in the time to come.

**Reduced cost over time** is a key success factor for repeat orders from owners who have learned how to play the 'preservation game'.

**Trustper is unique** – there is no other company in the world today offering the same service.

**Supplies** are distributed from warehouses in Norway, Spain, Dubai, Taiwan, China and Singapore.

# EXAMPLES

BEFORE

AFTER TREATMENT

BEFORE

AFTER TREATMENT



CSR Appearance, Oxygen is still sealed off after 14 months of exposure to old steel



Temporary protection and preservation for existing paint scheme



CSR (soya oil base)



Panel section 2B ready



Aquatuff HF/Clean off



CSR and Fe oxide in foam



Rinsed with fresh water



CSR is re-applied



Multi Nozzle in action



CSR 'application'



Finished product

## STEP II

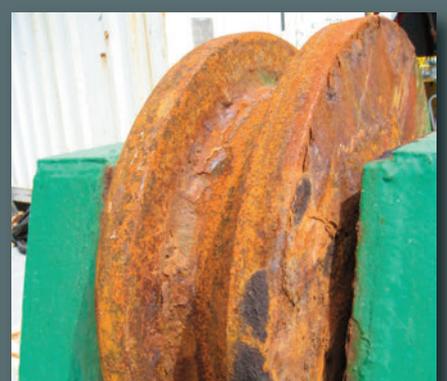
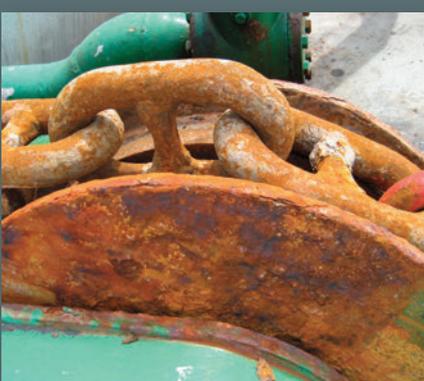
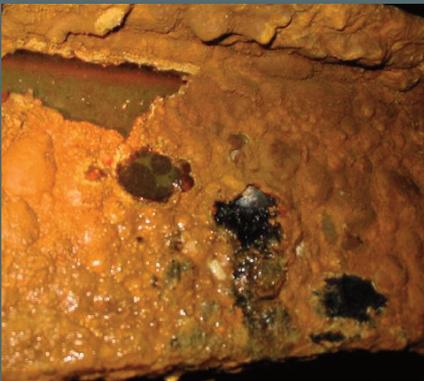
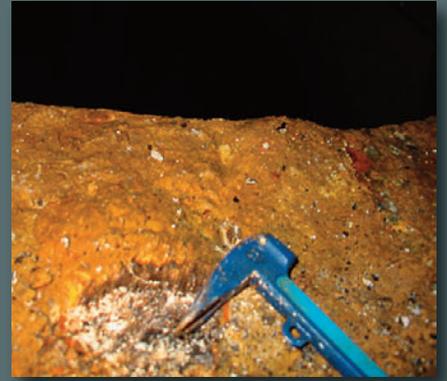
Steel Preservation completed

CSR dries as a semi-hard transparent coating



# 'THE NEW WORK METHOD'

SOLVING SEVERE RUST AND SURFACE SCALE



# TRUSTPER AIS

ORG. NO. 985227667. MVA/NORWAY

## VISUAL TREATMENT COATSCALEREMOVER -

TREATMENT AND OPTIONS LINK  
AND VOID SPACE AS MAINTENANCE

	Product supplied	Condition	Step I	Curing	Condition
1	MULTI NOZZLE 5 – HP plus CSR + CSRII	Ballast tank w/rust and scale due for removal	Apply CSR by spray or flotation	Time is dependent on temperature and ventilation	Scale is now detached from the steel and removed from tank by hand or mucking pump
2	MULTI NOZZLE 5 – HP plus CSR + CSR	Ballast tank w/rust and scale due for removal	Apply CSR by spray or flotation	Time is dependent on temperature and ventilation	Scale is now detached from the steel and removed from tank by hand or mucking pump
3	MULTI NOZZLE 5 – HP plus CSR + CSR plus AQUATUFF HIGH FOAM	Ballast tank w/rust and scale due for removal	Apply CSR by spray or flotation	Time is dependent on temperature and ventilation	Scale is now detached from the steel and removed from tank by hand or mucking pump

**COATSCALEREMOVER – CSR and CSRII are environmentally friendly**

For detailed information and documentation visit our website: [www.trustper.com](http://www.trustper.com)

For all other inquiries email: [per@trustper.com](mailto:per@trustper.com)

# TREATMENT GUIDELINE

## - CSR and CSRII

APPLIED TO A VESSEL'S SEA WATER BALLAST TANKS  
MAINTENANCE PROGRAM

Step II	Curing	Step III	Condition	Life
Apply CSRII by spray or floatation onto FE-Oxide left on exposed surface	Time is dependent on temperature and ventilation		After curing Sea Ballast Tank(s) have a long-term protection. No hard coat required	Estimated 36++ months before touch-up is required
Apply CSR by spray or floatation onto FE-Oxide left on exposed surface	Time is dependent on temperature and ventilation		After curing Sea Ballast Tank(s) have a temporary protection.	Estimated 18++ months before touch-up is required
Apply CSR by spray or floatation onto FE-Oxide left on exposed surface	Time is dependent on temperature and ventilation	Aquatuff High Foam removes CSR and FE-Oxide. Rinse surface with fresh water	Sea Ballast Tank(s) are prepared according to specification. Tolerant Epoxy Paint can be applied	Estimated 60++ months

and ISO 14001 Certified



**TRUSTPER AIS**

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