

## CASE STUDY Trelleborg Viking AS



Date:	11.01.2006		
Site:	Trelleborg Viking facilities - Mjøndalen, Norway		
Key Persons present:	Trelleborg Viking: Ole Brekkenes RPR Technologies: Tom Arne Baann (contact: tab@rprtech.com)		
Materials treated:	Seven duplex steel pipes that are used as risers for offshore oil platforms (vertical pipe shaft connects the undersea wellhead the above-sea oil platform). Each pipe was 5.5 meters in length.		
Surface description:	16" duplex steel pipes coated with exterior coating of 12mm vulcanized rubber (manufactured by Trelleborg). 7 pipes @ 5.5 meters long = 56m <sup>2</sup> total surface		
Contract requirement:	Remove the rubber as clean as possible before reblasting as quickly as possible.  Historically the company has required 8-9 hours per pipe to remove this sort of coating (using cutting knives). Additionally 2-4 hours per pipe were required for surface sandblasting. Two men are used for entire process resulting in a total of 18-22 man hours per pipe.		
Equipment:	Single RPR-1650 unit. Power source - generator, 400V. Industrial lathe (for turning pipes). Sand blasting unit (for final cleaning and profile).		
Process description:	The RPR induction (handheld) unit was mounted on a moveable platform which was positioned next to the turning lathe. A standard RPR flat (20cm wide) induction head was used. One of the pipes was placed on the lathe and with the RPR machine engaged, the pipe was rotated 360 degrees. Disbonding at the surface level left the rubber loose so that it could be easily unwrapped and removed. Several sections of the pipe was disbonded before the rubber was removed.		
Achieved results:	The pipes were cleaned to Sa 2,0 with the RPR machine.		
Time required:	Each pipe required under 2 hours with the induction machine to remove 99,9% of the vulcanized rubber. An additional 20 minutes of abrasive blasting were used per pipe for final cleaning. Total time for 7 pipes was 15.4 hours (30.8 manhours).		
Comparison:	<u>Old Method</u>	<u>Using Induction</u>	<u>Savings (Reduction)</u>
Removal of surface	20-22 manhours/pipe	4 manhours/pipe	80%
Sandblasting	4 manhours/pipe	0.4 manhours/pipe	90%
Total (7 pipes)	140 manhours	30.8	78%

Photos from Trelleborg removal of vulcanized rubber coating



Completed (cleaned ) pipe on rotating lathe bed



RPR Inductor mounted on platform



12mm thick vulcanized rubber coating



Close-up of steel after RPR induction



Vulcanized coating is easily removed



RPR induction unit in action