

Split casing Pump refurbishment and corrosion protection

Job executing contractor: CustomCraft (M) SDN. BHD. Malaysia

Contractors Representative: Allan Wong & Kevin Lee.

Customer representative: Pahang-Selangor Raw Water Transfer, Malaysia.

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Job Scoop: Refurbishment and corrosion protection

Products used: Wencon Cream, and Wencon Coating



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Service description:

One of the largest Pump Stations in Malaysia, a part of the Pahang-Selangor Raw Water Transfer, comprises 12 sets of 300MLD verticalized split casing pumps coupled to a vertical 2500kW HT slip ring induction motor.

Originally such Pumps are installed by the manufacturer or contractor, and then disconnect complete from the production line for service and replacement of mechanical wear parts.




The Pump Stations have an "extra" pump which is already overhauled at the workshop, ready to replace another pump.

By recycling the pumps these are continuously replaced with one of the 12 pumps on the line. The ongoing maintenance and circular replacement mean that there is no downtime, and the pump station is thus continuously maintained.

Due to insufficient quality of the manufacturer's original coating used for corrosion protection, customer's experience has shown that it is crucial to extend the lifetime of pump casings with a long-term sustainable solution to achieve savings on the maintenance budget.

Lifetime Extension is easily achieved by applying Wencon once the Casings are in the workshop anyway, and has hereby become a part of the maintenance procedure.




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	<p>1.</p>	<ul style="list-style-type: none"> • Pump Casing in the workshop, disassembled from all mechanical wear parts. • Prior grit blasting, cut-outs, rat holes and welds has been rounded to a radius of at least 2mm. • Pump Casing ready for Surface preparation.
	<p>2.</p>	<ul style="list-style-type: none"> • Surfaces prepared by Abrasive blasting to near-white metal (Sa 2½ /SP10) followed by removal of all abrasive residues. • Standards comply with ISO 8501-1: Preparation of Steel Substrates before Application of Coatings and Related Products.
	<p>3.</p>	<ul style="list-style-type: none"> • The purity of the sandblasting is visually inspected. • Bresle Sample test for measuring soluble salts / chlorides in the steel surface (ISO 8502-6) limit value <20 mg / m². • Distance to Dew Point of minimum 3°C throughout the application process.

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	<p>4.</p> <ul style="list-style-type: none"> • To reconstruct corrosion damages and hereby recover the original surface shape and superstructure, Wencon Cream is applied using a spatula. • This procedure ensures a smooth surface, restores the original dimensions and further optimizing the surface profile for following application of the protective coatings.
	<p>5.</p> <ul style="list-style-type: none"> • Casing after application of Wencon Cream, ready for applying a double layer Wencon Protective Coatings. • The Wencon Protective Coatings is liquid viscosity and is subsequently applied by brush, in <i>minimum</i> 2 x 300µ layers (total 600µ DFT) in accordance to in this job scope definition.
	<p>6.</p> <ul style="list-style-type: none"> • Wencon Protective Coatings is a double coat system. The overcoating time can vary from 1 to 3 hours depending on temperature. • First layer of protective coating applied. • The second coat to be applied when the first coat is still tacky.

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	<p>7.</p> <ul style="list-style-type: none"> • Second and final Coat of Wencon Protective Coatings applied using brushes. • To ensure layer thickness is obtained, a wet film comb is used throughout the application process. • Curing will take place in 10-24 hours at 20°C (68°F) and faster by higher temperatures
	<p>8.</p> <ul style="list-style-type: none"> • QC - Measurement of Dry Film Coating Thickness using Magnetic Gages according to the most commonly used Guideline is SSPC-PA2. • Job Scope requirements minimum 600µm to meet QC demands of High voltage testing using 2400 volts.
	<p>9.</p> <ul style="list-style-type: none"> • QC- Porosity / Holiday testing, coating checked and comply with NACE RP-01-88: "Discontinuity (Holiday) Testing of Protective Coatings". 'Holidays' shall not be permitted. • Wencon Coatings over 500µ should be tested using a high voltage tester. Commonly the high voltage tester should be set at 100 volts per 25µ of coating as a standard test method – here 2400 volts in accordance to QC requirements.

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Finished result – ready for assembling and many years of service.

