

# CASE STUDY



**A ROYAL SOLUTION**

**DOC. REF:** CS/RC/001102020/BRN

**CASE STUDY Ref:** REDUCED DRYING TIME WITH WATER BASED COATING REPLACEMENT IN OCTG PIPES

**DATE STARTED:** 8<sup>th</sup> October 2020

**RESTRICTED DISTRIBUTION:** Reference to part of this report which may lead to misinterpretation is not permissible

## THE CLIENT

Name: SC Tubular Solutions (B) Sdn Bhd

Location: Salambigar Industrial Park, Brunei-Muara District, Brunei Darussalam

Shareholders: Sumitomo Corporation Group: 100%

No. of employees: About 50

Investment amount: Approx. 16 million US dollars

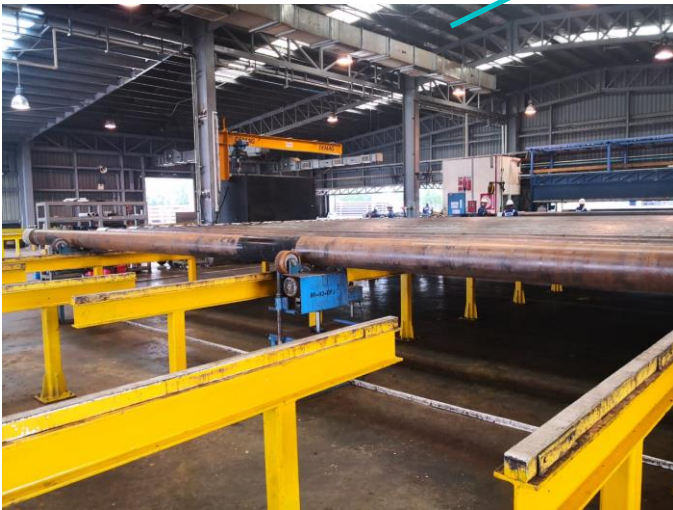
Main facilities: Stockyard, warehouse, OCTG pipes inspection facility



**THE PROBLEM**

External and Internal anti corrosion OCTG pipe coating is waxy and makes handling drill pipes difficult on Rigs. Safety concerns have been raised which needs to be addressed and mitigated. The current product, **SYNERGEN 501 TR**, manufactured by AGMA is a partly saponified hydrocarbon wax.

Shop Floor where OCTG Pipes are cleaned and inspected. Pipe external coating is also applied after surface preparation to a minimum surface standard of SSPC SP2



After Application of Synergen 501 TR, a saponified hydrocarbon wax. Surface remains waxy

Jig for coating internal wall of OCTG pipes

## THE SOLUTION

RC 12 is a custom designed, durable coating that offers 12-month field corrosion resistance. RC-12 cures within 1 hour to form a hard-durable coating. Royal RC-12's Chemistry is engineered to completely dissolve downhole into a flowable liquid that does not interfere with any pump operations or any other downhole operations that have downhole equipment in direct contact with drilling fluids. RC-12 offers excellent corrosion protection before and after drilling operations

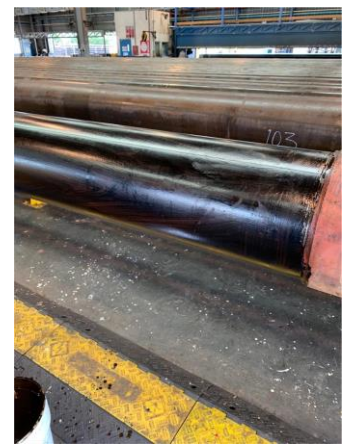
## THE TECHNOLOGY

### Flash Dry Technology.

Simply put, in competing technologies, resin molecules land on substrate in an unorganized pattern. This labyrinth on the surface of the substrate results in a long and slow ascent of evaporating solvent. In Royal's **Flash Dry Technology** system, polymer molecules are packed tightly on surface of substrate, accelerating the release of water during the curing process. **This results in the fastest drying coatings in the industry**



RC-12 soon after application on OGTC Pipe.



RC-12 was touch dry within 30 minutes and fully cured to a hard coat within 1 hour.



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**THE RESULTS**

The section of OCTG pipe coated with **SYNERGEN 501 TR** remained soft and greasy, 4 weeks after application, making gripping the pipe manually a challenge. The section of OCTG pipe coated with **RC 12** had cured to a hard coat and was much easier to grip and handle manually.

**THE BENEFITS**

- 1) **SAFER HANDLING** of OCTG pipes at Rig location. RC 12 cured to a hard coat.
- 2) **INCREASED PRODUCTIVITY** in painting process with reduction of turnaround time due to rapid drying time of RC 12. Cured within 1 hour



RC-12 after 29 days exposed to the elements. No visible signs of corrosion. Hard cured and NON-GREASY surface.



Synergen 501 TR after 29 days exposed to the elements. Remained greasy with minor rust breakout observed



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RC-12 after 60 days exposed to the elements. No visible signs of corrosion. Hard cured and NON-GREASY surface.

## THE BENEFITS

- 1) **SAFER HANDLING** of OCTG pipes at Rig location. RC 12/AQ457 cured to a hard coat.
- 2) **INCREASED PRODUCTIVITY** in painting process with reduction of turnaround time due to rapid drying time of RC 12. Cured within 1 hour



OCTG pipe foreground, coated with **AQ 457** the water based clear coat version of RC 12 **after 30 days** after application and exposed to the elements. AQ457 remained glossy and cured to a hard coat with **no** rust break out.

OCTG pipe background, coated with SYNERGEN 501 TR remained waxy and hard to handle. Rust break out observed

**ROYAL COATINGS**  
ENGINEERED CHEMISTRY  
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