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Yang Fan, China: Delivery of MV "Mathilde Schulte" - 2,345 TEU Container

29 January 2015



S.M.C. is pleased to report a Delivery in Yangfan Group Co., Ltd, Zhejiang East Coast Shipyard, China: of MV "Mathilde Schulte", Hull No.: H2293, the first vessel from a series of 12 x 2,345 TEU container vessels ordered jointly by B. Schulte and J.P. Morgan.

Vessel's principal particulars: LOA = 189.00m, B = 30.4m, D = 16.9m, T d/s = 8.5/10.5m, container capacity on deck = 1,386 TEU, container capacity in holds = 959 TEU, refrigerated containers = 500 FEU, dwt d/s = 20,950/30,350t, vessel is propelled by main engine MAN B&W 6G60ME-C9.2 Tier II, 12,832kW x 97rpm.

Classification notation: LR +100A1 Container Ship, Ship Right (SDA, FDA plus (25 N/A), ACS (B), CM), LI, *IWS, ECO (IHM, EEDI-3), +LMC, UMS, NAV1, Descriptive Notes: Ship Right (SCM, SERS, (BWMP(T))).

The Naming Ceremony of MV "Mathilde Schulte" was held on 28 January 2015.

HHI- Gunsan, Korea: Delivery of MT "Densa Crocodile" - 106,000 DWT Product Tanker

05 February 2015



S.M.C. is pleased to report a Delivery Ceremony in Hyundai Heavy Industries Gunsan Shipyard, Korea: of MT "Densa Crocodile", Hull No. H2683, the last unit from the series of 2 x 106,000 DWT LR2 Product Carriers ordered by Densa Shipping, Turkey.

Vessel's principal particulars: LOA = 244.0m, B = 42.0m, D = 19.1m, T d/s = 13.6/15.0m. Propelled by MAN B&W 6G60ME-C9.2 and developing 11,439 kW x 84 rpm at NCR, the vessel will operate at the speed of 15.5 knots. The vessel is classed by American Bureau of Shipping and sailed under Marshall Island flag.

Classification notes: +A1(e), Oil Carrier ESP, POT, CSR, AB-CM, +AMS, +ACCU, VEC-L, UWILD, RW, CPS, CPP, GP, SPMA, ENVIRO, TCM, BWT, CRC, PMA.

The Vessel sailed out for her maiden voyage to Singapore on 7 February 2015.

Delivery News

Delivery News

Cargo Tank Coating Non-destructive Testing Methods

During the last 40 years, several types of coatings have been used for tank lining service in the sea trade: vinyls, polyesters, epoxies, epoxy phenolics, epoxy isocyanates, polyurethanes, alkaline zinc silicates, and ethyl zinc silicates.

Some of these coating materials have stopped being used for tank linings. Vinyls, being thermoplastic, had limited solvent resistance. Glass-reinforced polyesters, used for transportation of acid cargoes, were replaced by stainless steel tanks. Polyurethanes, loudly advertised in the 1980s for their wide resistance to different types of cargoes, showed some application problems and unsatisfactory resistance to sea water.

Today's state-of-the-art coatings basically fall into the following categories: pure epoxy, epoxy phenolic, epoxy isocyanate, alkaline zinc silicate, ethyl zinc silicate, and cyclosilicon epoxy. Typical systems, based on these coating, are shown in Table 1.

Table 1: Coating Systems for Cargo Tanks

Surface Preparation	Coating System	Typical Designed DFT	No. of Stripe Coat
ISO 8501-1 Sa 2 1/2	Epoxy Primer Epoxy Undercoat Epoxy Finish	100 microns 100 microns 100 microns	2
ISO 8501-1 Sa 2 1/2	Epoxy Phenolic Primer Epoxy Phenolic Undercoat Epoxy Phenolic Finish	100 microns 100 microns 100 microns	2
ISO 8501-1 Sa 2 1/2	Epoxy Isocyanate Primer Epoxy Isocyanate Undercoat Epoxy Isocyanate Finish	100 microns 100 microns 100 microns	2
ISO 8501-1 Sa 2 1/2	Zinc silicate	80 microns	1
ISO 8501-1 Sa 2 1/2	Cyclosilicon Epoxy Cyclosilicon Epoxy	150 microns 150 microns	1-2

ISO 8501-1, Preparation of Steel Substrates before Application of Paints and Related Products- Visual Assessment of Surface Cleanliness

Cargo oil tank coating, in crude oil tankers, is governed by IMO resolution MSC 288 (87) adopted on May 2010 - PERFORMANCE STANDARD FOR PROTECTIVE COATINGS FOR CARGO OIL TANKS OF CRUDE OIL TANKERS. However, in product and chemical tankers, this resolution is not applicable since stringent and higher standards are followed for coating application.

Successful in service performance of cargo tank coating systems depends not only on the correct choice of coating but also on the designed DFT, procedures adopted for surface preparation, paint application process, and testing methods governed by future environmental conditions (service life and cargo compatibility) which applied coating have to withstand without premature breakdown.

Despite adhering to coating specifications and following the correct application procedure at every stage, the final testing of the cargo oil tank coating continuity is extremely important.

There are various test methods adopted by the industry to identify coating discontinuity (void, crack, thin spot, foreign inclusion or contamination in the coating film that significantly lowers the dielectric strength of the coating film, may also be identified as holiday or pinhole).

As per ASTM D5162-91 – Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective coating on Metallic Substrates, two methods are adopted:

Test method A – Low Voltage Wet Sponge Test

Test method B – High Voltage Spark Test

Significance and Use of Each Test

The Low Voltage Wet Sponge Test is generally used in coating films having thickness of 500 microns or less, as coatings are susceptible to damage if tested with high voltage spark testing equipment. The High voltage spark test is generally applied on coatings with 500 microns thickness or more.

To avoid damage the coating when using high voltage spark test, the DFT (Dry Film Thickness) and dielectric strength in the coating system shall be considered in selecting the appropriate voltage for detection of discontinuities. Atmospheric conditions shall also be considered since the voltage required for the spark to gap a given distance in air varies with the conductivity of the air at the time as testing.

Praveen Singh Tomar
Site Manager
Sungdong Site Office



Suggested voltages are provided in Table 2. It is also necessary to consult the paint maker/ technical data sheet of the applied coating. This is, to confirm if the coating contains electrically conductive fillers or pigments that may affect the normal dielectric properties of the coating and effective coating curing time prior to testing, (dissolved solvents retained in uncured coating film may form an electrically conductive path through the film to the substrate).

Table 2: Suggested Voltages for High Voltage Spark Testing

Apparatus used:

Total Dry Film Thickness (Microns)	Suggested Inspection Voltage (V)
200 - 329	1,500
330 - 459	2,000
460 - 759	2,500
760 - 1015	4,000
1016 - 1525	5,000
1526 - 2029	7,500
2030 - 2540	10,000

- Low Voltage Wet Sponge Testing:
 - Low Voltage Holiday Tester
 - Low Voltage Wet Sponge Tester
 - Lightweight, Self-contained, Wet Sponge, Portable Tester
- High Voltage Spark Testing:
 - High Voltage Detector (in excess of 800V)
 - Exploring Electrode Type Detector
 - High Voltage Electrical Detector

Apart from these test, once the coating is cured for seawater immersion, there are 2 ways to test the coating continuity:

- Cargo tank ballasted fully with sea water and retained for 24 hours.
- Partial filling of the cargo tank with seawater and followed by butterworth the ullage space of the tank to create condensation in the tank, and maintaining the water for 48 hours.

Seawater full immersion is an effective way of testing coating continuity, as the salt water penetrates the discontinuity, which were not visible to naked eyes, and exposed to the substrate forming a galvanic cell that results in the development of corrosion. Full immersion holds an advantage over the voltage test, during sea trials of the vessel, the hull deflection can aggravate the coating to crack, which can eventually be visible with full immersion test rather than voltage test (carried out during scaffolding removal on coating application completion). However, to cut short the process of proper testing, shipyards tend to insist that the butterworth process is equally effective (to reduce man-hours and fuel consumption operating the cargo pumps). Nevertheless, experience shows that the butterworth test is not equally effective when compared to the full immersion test, as can be seen in the below photographs.

To conclude, for crude oil tankers, where secondary members are located inside the tank and it is difficult to locate the discontinuity on the faceplate of the transverse, voltage tests are preferred. Whereas on product and chemical tankers, as secondary members are located outside the tanks and surfaces are flattened and no hidden areas for the visibility, use of powerful flashlights can assist an inspector to locate the defect easily when tested with sea water full immersion process.



Tank Coating Tested with Butterworth Method



Same Tank Coating Tested with Full Immersion Method

Introduction of Site Office - Taizhou Kouan Site Office



Taizhou Kouan Shipbuilding Co. Ltd, situated on the bank of Yangtze River, has over 40 years of shipbuilding experience and has built a wide range of ships, including bulk carriers, container ships and multi-purpose ships.

Interlink, Bermuda has ordered 15 x 38,500 DWT fuel efficient, eco-friendly bulk carriers with Taizhou Kouan Shipyard. Delivery of the first ship is scheduled by end March 2015, and all ships will be completed by July 2017. Presently, 2 ships are launched, and 8 ships are under different stages of construction, all supervised by S.M.C..

As selected and controlled by S.M.C., our site office in Taizhou Kouan Shipyard is the epitome of professionalism and harmony. Presently we have 17 personnel in the site office, with one more scheduled to join, so that 18 supervisors will be here to control project realization. The dedicated supervisors, who are respectful but astute, knowledgeable, experienced, and focused on requirements. Being professional includes being courteous, although there may be cultural differences. There is a business-like approach here for anyone to see and emulate, with a total control over the project. Very few people can maintain this demeanour, but that is what separates S.M.C. from others in the race.



- Prepared by Zhou Jianying/ Secretary

Supervisors of Site Office - Taizhou Kouan Site Office



I.S. Sreekumar
Site Manager



Fan Zukun
Paint Supervisor



Feng Shengming
Paint Supervisor



Fu Jian
Hull Supervisor



Gu Houqin
Hull Supervisor



Ioan Goia
Electrical Supervisor



Xu Ou
Hull Supervisor



Ye Huazhong
Hull Supervisor



Jin Lingyun
Paint Supervisor



Mao Jianqing
Hull Supervisor



Navneet Kumar
Machinery Supervisor



Peng Kaibao
Paint Supervisor



Song Zezheng
Paint Supervisor



Wang Zhenbao
Machinery Supervisor



Zhang Chaouxu
Machinery Supervisor



Zhou Wei
Paint Supervisor

Adinarayana Moka joins S.M.C. as Project Manager



Hello to all of my new S.M.C. and BSM colleagues. I joined S.M.C. team in February 2015.

I am Adinarayana Moka, a Naval Architect from India. I have been working for about 25 years, out of which 17 years were primarily in newbuilding. It has been a professionally interesting journey so far, during which I had the opportunity to experience shipbuilding in countries such as South Korea, Singapore and China.

I started my professional life, like most Naval Architects, by joining one of the major shipyards in India and soon moved to Shipping Corporation of India (SCI) as a part of their Technical services division that looked after newbuildings.

Since 1997, I have worked with companies exclusively on various newbuilding projects in different yards in the Far East. This provided a variety of new-building experience, from dry cargo vessels to VLGC, and

helped me to understand shipbuilding not only from a technical point of view but also commercially and contractually. I also had the unique opportunity to head and manage a marine design organization (Smart Engineering and Design Solutions Ltd, Kochi, India, consisting of about 80 designers) for about 4 years, giving me adequate experience to not only the construction of ships but their design as well.

My job has required relentless relocations. My wife Prasanna, who holds a Masters in Geography with experience in teaching and editorial works, took a break from her professional life and moved about with me to keep our family together.

My son, Suhaas who is now eight years old is doing class III and loves swimming and basketball, though I could not exactly agree that he is old enough for it.

There could not have been a better opportunity for me than to work with S.M.C., which offers a very professional working environment with the right blend of personal approach. I am looking forward to professionally rewarding experience with S.M.C..



Bernhard Schulte Shipmanagement – Profile

Bernhard Schulte Shipmanagement is a solution-centric organization led by a unified executive management.

Through a network of service infrastructure in over 25 countries, Bernhard Schulte Shipmanagement provides offshore and ship-based maritime and engineering expertise:

- our clients world-class service using large-scale and proximate resources
- structured and promising careers
- vessel type-specific expertise, including offshore and ship-based maritime and engineering expertise
- specialized and innovative value-added services.

The global operations and capabilities of Bernhard Schulte Shipmanagement are illustrated by our Organisational Structure and World Company Map.

Bernhard Schulte Shipmanagement – Services

🌀 Crew Management

🌀 Technical Management

- 🌀 Chartering Services
- 🌀 Maritime Catering Services

🌀 Newbuilding & Conversion Supervision

- 🌀 Port Services
- 🌀 Travel Services
- 🌀 Technology Solutions

🌀 Service – Crew Management

The onboard crew is at the forefront of all activities and the key to a vessel's safe and smooth day-to-day operation. At Bernhard Schulte Shipmanagement we understand that crew management is one of the most important factors in running the vessels we manage and we are fully aware that safeguarding these vessels' and their owners' interests requires the highly efficient utilization of the crew. We maintain one of the world's largest pools of highly qualified, motivated and dedicated seafarers who fulfil the demanding requirements of this rapidly expanding market.

Bernhard Schulte Shipmanagement offers crew supply services on a lump sum basis for any type of vessel.

Our wholly-owned network of Crew Service Centres around the world permits us to stay close to the seafarers, to control the manning process and puts us in a position to meet any crew requirements.

We use modern search and selection methods to ensure that our employees not only have the required professional qualifications, but also the required personality. In addition, we are fully committed to the professional development and education of all staff.

Bernhard Schulte Shipmanagement is constantly investing in upgrading and expanding its training facilities. This approach and our network of Crew Service Centres and Marine Training Centres in several major seafaring countries, give us a real competitive edge in the market.



🌀 Service – Technical Management

It is the policy of Bernhard Schulte Shipmanagement to operate all managed vessels in the safest and most proper manner possible, ensuring that all managed vessels operate in accordance with:

- shipowners' requirements
- design requirements
- flag state and class requirements
- charterers' requirements and most importantly the International Safety Management Code.

Technical Superintendents are each allocated a group of four to five vessels.

The Superintendent is responsible for monitoring the vessels' condition and all aspects of their performance and operation, including:

- safe and efficient cargo handling and cargo conditioning
- planned and project maintenance
- regular condition assessment
- dry dock planning and supervision
- budget control
- certification and vetting.

Owners will be able to access reports and data regarding the running of their vessels through a dedicated website. Bernhard Schulte Shipmanagement is thus in the position to provide shipowners with up-to-date information regarding their respective vessel under our management. The aim is to provide the most transparent management system possible for shipowners requiring the very latest information about their vessels - be it of a technical, crew, accounting or other

related nature. All clients are provided with a secure password to gain access to information on their respective vessels from their own PC.

Our solid relationships with first-class suppliers, workshops and marine service providers ensure that our principals consistently receive reliable and high-quality service at the lowest possible price.

Our highly qualified and capable Marine Commercial Operations teams closely monitor the commercial performance of managed vessels and manage the commercial risks faced by our Principals during the course of employment of their vessels.

Further management support is provided by staff specializing in:

- loss prevention, safety and quality, marine and cargo operations
- cryogenic systems
- commercial Marine insurances
- purchasing
- information technology, including communication and planned maintenance systems.

