



MHI delivers hybrid car carrier EMERALD ACE to MOL



Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the roll-on/roll-off type vehicle carrier, EMERALD ACE, with a car carrying capacity of approximately 6,400 standard passenger car equivalents for Mitsui O.S.K. Lines, Ltd. (MOL) at the Kobe Shipyard & Machinery Works on June 29, 2012.

The EMERALD ACE is the most advanced and environmentally friendly car carrier equipped with a hybrid electric power supply system that combines a 160kW solar generation system and 2.2MWh lithium-ion batteries, co-developed with MOL and Panasonic. By using power from the lithium-ion batteries, the vessel at anchor emits no exhaust gas from a diesel power generator.

Development of this hybrid car carrier was supported by the Ministry of Land, Infrastructure, Transport and Tourism and Nippon Kaiji Kyokai (Class NK).

Furthermore, the vessel adopts a unique aerodynamic bow design to reduce wind pressure resistance and optimize the fuel efficiency as well as double hull fuel tanks to reduce the risk of oil spills. These improvements minimize environmental impacts as for MHI's other vessels.



EMERALD ACE and installation of 160kW solar generation system on the deck

Principal particulars

Length (o.a.):	199.99m
Length (b.p.):	192.00m
Breadth:	32.26m
Depth:	34.52m
GT:	60,154
Car carrying capacity: approximately 6,400 passenger cars (RT43 type)	
Main engine: Mitsubishi-UE 7UEC60LSII (P/U) diesel x 1 unit	
Service speed:	about 20.65kt
Complement:	32
Classification: Nippon Kaiji Kyokai NS* (Vehicles Carrier), IWS, MNS* (M0)	



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IHIMU completes 8,600TEU container vessel HOUSTON BRIDGE

IHI Marine United Inc. has delivered the 8,600TEU container vessel, HOUSTON BRIDGE (HN: 3288), to Erudite Ship Holding Limited at its Kure Shipyards.

The HOUSTON BRIDGE is one of the largest classes of container vessels, and IHIMU applied its advanced ship-building technology and experience to the vessel.

The vessel is equipped with an electronically controlled main engine for the sake of economical operation in the container trade. To achieve further optimum operation, the latest systems such as the turbo charger cut-off system and inverter-controlled cooling seawater pump are applied.

IHIMU designed this vessel with its latest technology such as CFD analysis, 3D-FEM ship-model analysis, walk-through simulation, and apparatus installation simulation uti-

lizing the CIM system "Ajisai" which IHIMU developed originally. These techniques help attain good propulsion performance and good maneuverability for vessel operation.

Principal particulars

Length (o.a.):	about 334.55m
Breadth:	about 45.60m
Depth:	24.40m

DWT:	about 97,000t
GT:	97,000
Loading capacity:	8,600TEUs
Main engine:	MAN B&W 9K98ME (Mark 6) diesel x 1 unit
MCR:	51,480kW x 94.0rpm
Classification:	NK
Completion:	June 29, 2012



Kawasaki delivers bulk carrier FURNESS VICTORIA

Kawasaki Heavy Industries, Ltd. has delivered the Furness Victoria (HN: 1702), a 58,648DWT bulk carrier, for East Blue Line S.A. at the Sakaide Works.

This 197m-long vessel is the 15th state-of-the-art bulk carrier with a capacity of 58,000DWT developed by Kawasaki.

The vessel has a flush deck with a forecastle and five cargo holds that are

designed for optimum transport of grains, coal, ore and steel products. Four 30-ton deck cranes are installed along the centerline between hatch covers to enable cargo loading and unloading at ports that lack cargo-handling facilities.

The latest technologies are employed to achieve maximum fuel economy, which include an energy-saving main diesel engine, highly ef-

ficient propellers, the Kawasaki rudder bulb system with fins (RBS-F), as well as a bow designed to reduce wave resistance. These features contribute to the enhanced propulsion performance.

The main engine and generator engine comply with Tier II NO_x emission standards set by the International Convention for the Prevention of Pollution from Ships.

Principal particulars

Length (o.a.):	197.00m
Length (b.p.):	194.00m
Breadth:	32.26m
Depth:	18.10m
Draught:	12.65m
DWT:	58,648t
GT:	33,084
Cargo hold capacity:	73,614m ³
Main engine:	Kawasaki-MAN B&W 6S50MC-C7 diesel x 1 unit
MCR:	8,630kW x 116rpm
Speed, service:	about 14.45kt
Complement:	25
Classification:	NK
Registry:	Panama
Completion:	May 17, 2012



MES delivers world's largest class D/H VLCC GASSAN

--11th Mitsui Malacca Doublemax--

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed the double hull VLCC GASSAN (HN: 1808) on June 26, 2012, which had been under construction at its Chiba Works and delivered it to its owner Astraea Maritime Inc., Republic of the Marshall Islands on the same day.

MES has developed VLCC "Mitsui Malacca Doublemax" with an enhanced transport efficiency. First vessel of Mitsui Malacca Doublemax was delivered in 2005 and this GASSAN is the 11th vessel of this design.

The ship has the biggest deadweight and cargo tank capacity as Malacca-max type tanker and is able to transport efficiently the crude oil with a specific gravity of high frequency use.

In view of the ocean and global environmental preservation, double hull structure is applied not only to the ship's hull but also to the fuel oil tank and the bottom of the ship's pump room. Furthermore, a newly devel-

oped fuel saving equipment is installed to improve speed and fuel oil consumption by refining the propulsion performance.

Principal particulars

Length (o.a.):	333.00m
Length (p.p.):	324.00m
Breadth:	60.00m
Depth:	28.80m
DWT:	308,209t

GT:	160,137
Cargo tank capacity (100%):	354,689m ³
Main engine:	Mitsui-MAN B&W 7S80MC-C diesel x 1 unit
MCR:	27,160kW x 76rpm
Complement:	40
Classification:	NK
Registry:	Panama
Delivery:	June 26, 2012



Imabari completes 181,303DWT bulk carrier CAPE LILY

Imabari Shipbuilding Co., Ltd. completed construction of the CAPE LILY (HN: S-8106), an 181,303DWT bulk carrier, at the Saijo Shipyard on May 31, 2012.

The vessel is an ocean-going Dunkerquemax type with a single propeller driven by a diesel engine suitable for carrying coal and ore car-

goes.

The vessel has nine cargo holds and hatches, and the No. 6 hold can be used as a ballast hold. The Nos.2, 4 and 8 holds can be applied to a port-use ballast hold to adjust the trim and draught of the vessel during loading and unloading work. The vessel is provided with side-rolling-type hatch cov-

ers, which are operated by an electric motor and chain drive system.

The vessel has an energy saving device installed at the leading edge of the rudder. The device contributes to environment-friendly and economical operation.

Principal particulars

Length (o.a.):	291.98m
Length (b.p.):	283.80m
Breadth:	45.00m
Depth:	24.70m
Draught:	18.214m
DWT:	181,303t
GT:	92,752
Cargo hold capacity:	201,243m ³
Main engine:	Mitsui-MAN B&W 6S70MC-C (Mark 7) diesel x 1 unit
MCR:	18,660kW x 91.0rpm
Speed, service:	14.95kt
Complement:	28
Classification:	NK
Delivery:	May 31, 2012



Namura completes cape size bulk carrier FRONTIER WAVE

Namura Shipbuilding Co., Ltd. delivered the FRONTIER WAVE, a 174,707 DWT bulk carrier, to Nippon Yusen Kabushiki Kaisha at its Imari Shipyard & Works on September 11, 2012.

This is the ninth vessel of the 174kDWT type Dunkerquemax bulk carriers and the first vessel that applies the "IMO Performance Standard for Protective Coatings (PSPC) for water ballast tanks" in the vessels built by Namura.

Namura has drastically reviewed and modified the specifications by improving those of previous Dunkerquemax bulk carriers. For instance, the accommodation facilities have upgraded to provide the crew with more comfortable living conditions. Hull construction is designed and constructed in accordance with the Common Structural Rules (CSR).

The Namura flow Control Fin (NCF) and rudder fin, which were developed by Namura, and high-efficiency



ciency propeller are equipped for improving propulsion performance and saving fuel oil. Electric motor driven hatch covers and a steering gear with single loop-type autopilot system are adapted. The vessel has a large capacity ballast pump for speedy operation during cargo loading.

Principal particulars

Length (o.a.):	289.98m
Breadth (mld.):	45.00m

Depth (mld.):	24.70m
Draught (mld.):	18.00m
DWT:	174,707t
GT:	91,424
Main engine:MAN B&W 6S70MC-C (Mark 7) diesel x 1 set	
Complement:	25
Classification:	NK
Flag:	Japan
Completion:	September 11, 2012

Universal completes Panamax bulk carrier AZALEA SKY

Universal Shipbuilding Corporation delivered the 80,000DWT bulk carrier, AZALEA SKY, to Diamond Camellia S.A. at the Maizuru Shipyard on June 19, 2012.

This 18th vessel of the newly designed Panamax-type bulk carrier series has the largest deadweight and cargo hold capacity within the restric-

tion of the length overall for the Panamax type bulk carrier based on various independent technologies.

The bow shape, called LEADGE-Bow, reduces the added wave resistance under not only the laden condition but also the ballast condition. The LEADGE-bow is newly developed and has superior performance at sea com-

pared to the Ax-Bow, which had been adopted for more than 90 vessels.

The vessel has high propulsion efficiency and energy saving devices, equipped with the Surf-Bulb (Rudder Fin with Bulb) after the propeller and Super Stream Duct (SSD) in front of the propeller.

Principal particulars

Length (o.a.):	225m
Length (b.p.):	222m
Breadth:	32.26m
Depth:	20.00m
Draught:	14.38m
DWT:	80,594t
GT:	42,605
Cargo hold capacity:	95,980m ³
Main engine:MAN B&W 7S50MC-C diesel x 1 unit	
Speed, service:	14.6kt
Complement:	25
Classification:	LR
Completion:	June 19, 2012



Naikai completes 38,494DWT cargo ship TAKESHIO

Naikai Zosen Corporation completed construction of the general cargo ship TAKESHIO for Peony Shipholding S.A. at the Setoda Works on June 28, 2012. This dry cargo vessel has been constructed by employing double side shells for every cargo hold and will demonstrate stronger structural performance and better stability against external damage than the conventional cargo ship.

Should external damage occur, the inner shell of the vessel can prevent loss or outflow of cargoes and ensure the quality of cargoes. The double side shells complying with the international regulations also protect the fuel oil tanks for environmental conservation.

The vessel has broad beam and shallow draught, which permit entering shallow ports and navigating rivers, channels, and lakes. An adequate rudder area gives course-keeping stability to the vessel despite the broad beam. Of the total five cargo holds, the Nos. 2 through four holds are the box-shaped type. Four 30t deck cranes are installed, and wide hatch openings facilitate cargo handling including



lengthy cargoes. The vessel can load grains, coal, ore, sulfur, cement, limestone, steel products, and lumbers. Lengthy cargoes can be loaded in a cargo hold or on the upper deck.

The vessel is an eco-ship that uses an economical low-speed main engine combined with a large-diameter propeller, and the Super Stream Duct (SSD) and Surf-Bulb (Rudder Fin with Bulb) for increased fuel efficiency. Moreover, the Ax-Bow is employed to improve sea-keeping performance.

Principal particulars

Length (o.a.):	184.75m
Length (b.p.):	177.00m

Breadth, mld.:	30.60m
Depth, mld.:	14.50m
Draught, mld.:	9.55m
DWT:	38,494t
GT:	23,855
Cargo hold capacity: (grain)	47,235.9m ³
Main engine:	Hitachi-MAN B&W 6S46MC-C (Mark 7) diesel x 1 unit
NCR:	6,100kW x 107.2 min ⁻¹
Speed, service:	14.3kt
Complement:	25
Classification:	NK
Registry:	Panama
Completion:	June 28, 2012

Niigata delivers two tugboats to Nihonkai Eisen

Niigata Shipbuilding & Repair, Inc. has delivered two tugboats, 4,200ps BANDAI MARU and 3,600ps NAEBA MARU, to Nihonkai Eisen Co., Ltd. in succession at its Niigata Shipyard. These tugboats are equipped with a pair of Niigata Z propellers that allow the vessels to turn 360 degrees on the spot in either di-

rection.

These vessels, as qualified firefighting ships, have fire-extinguishing equipment that uses foam or powder agents. The equipment can remotely be controlled from the wheelhouse. Spilt oil recovery equipment is also installed. Thus, these vessels are provided with versatile functions to

secure the safety of the port. The NAEBA MARU, particularly, has an extensible nozzle pipe at the top of the mast, which can spout powder agent at the height of 23 meters.

Both tugboats are designed to have adequate maneuverability, stability, and seaworthiness against the strong northwesterly seasonal winds of the Sea of Japan. Such ship performance are bolstered by the higher engine power of 4,200ps and 3,600ps than the standard engines (4,000ps and 3,200ps).

Principal particulars of the BANDAI MARU

Length (o.a.):	34.55m
Breadth (mld.):	9.70m
GT:	196
Towing force (Max.):	56.7t
Ship speed (Max.):	14.6kt



KING MILO

Owner: Compania Flor de Vapores, S.A.
 Builder: Oshima Shipbuilding Co., Ltd.
 Hull No.: 10692
 Ship type: Bulk carrier
 L (o.a.) x B x D x d (ext.): 225.00m x 32.26m x 19.79m x 14.427m
 DWT/GT: 77,198t/40,850
 Main engine: MAN B&W 5S60MC-C diesel x 1 unit
 Speed, service: 14.7kt
 Registry: Panama
 Classification: NK
 Completion: August 1, 2012

***FORTE DE SAO FELIPE***

Owner: Empresa de Navegacao Elcano, S. A.
 Builder: Sanoyas Shipbuilding Corp.
 Hull No.: 1304
 Ship type: Bulk carrier
 L (o.a.) x B x D x d (ext.): 229.00m x 32.24m x 20.20m x 14.598m
 DWT/GT: 83,486t/44,367
 Cargo hold capacity: 96,121m³ (grain)
 Main engine: MAN B&W 6S60MC-C diesel x 1 unit
 MCR: 10,740kW
 Speed, service: about 14.0kt
 Complement: 24
 Registry: Panama
 Classification: NK
 Delivery: July 12, 2012

***OCEAN HOPE***

Owner: Lua Line S.A.
 Builder: Kanda Shipbuilding Co., Ltd.
 Hull No.: 529
 Ship type: Open hatch cargo ship
 L (o.a.) x B x D x d (ext.): 177.00m x 28.60m x 14.35m x 10.034m
 DWT/GT: 32,876t/20,992
 Main engine: Mitsubishi 6UEC45LSE diesel x 1 unit
 Speed, service: 14.15kt
 Registry: Panama
 Classification: NK
 Completion: June 29, 2012

***NORD MONTREAL***

Owner: Norden Shipping (Singapore) Pte. Ltd.
 Builder: Onomichi Dockyard Co., Ltd.
 Hull No.: 590
 Ship type: Bulker
 L (o.a.) x B x D x d (ext.): 177.85m x 28.60m x 15.00m x 10.87m
 DWT/GT: 36,600t/22,850
 Main engine: MAN B&W 6S46MC-C8.1 diesel x 1 unit
 Speed, service: 14.9kt
 Registry: Singapore
 Classification: ABS
 Completion: June 22, 2012

***SPICA LEADER***

Builder: Shin Kurushima Dockyard Co., Ltd.
 Hull No.: 5673
 Ship type: Car carrier
 L (o.a.) x B x D x d (ext.): 190.03m x 28.20m x 28.74m x 9.326m
 DWT/GT: 14,378t/41,886
 Main engine: 7UEC52LSE diesel x 1 unit
 Speed, service: 19.5kt
 Registration: Panama
 Classification: NK
 Completion: May 2012

***LEO SPIRIT***

Builder: Shin Kurushima Toyohashi Shipbuilding Co., Ltd.
 Hull No.: S-3652
 Ship type: Car carrier
 L (o.a.) x B x D x d (ext.): 199.99m x 32.26m x 34.51m x 9.725m
 DWT/GT: 16,758t/60,825
 Main engine: B&W 7S60MC-C (Mark 8) diesel x 1 unit
 Speed, service: 20.65kt
 Registry: Panama
 Classification: NK
 Completion: June 2012

