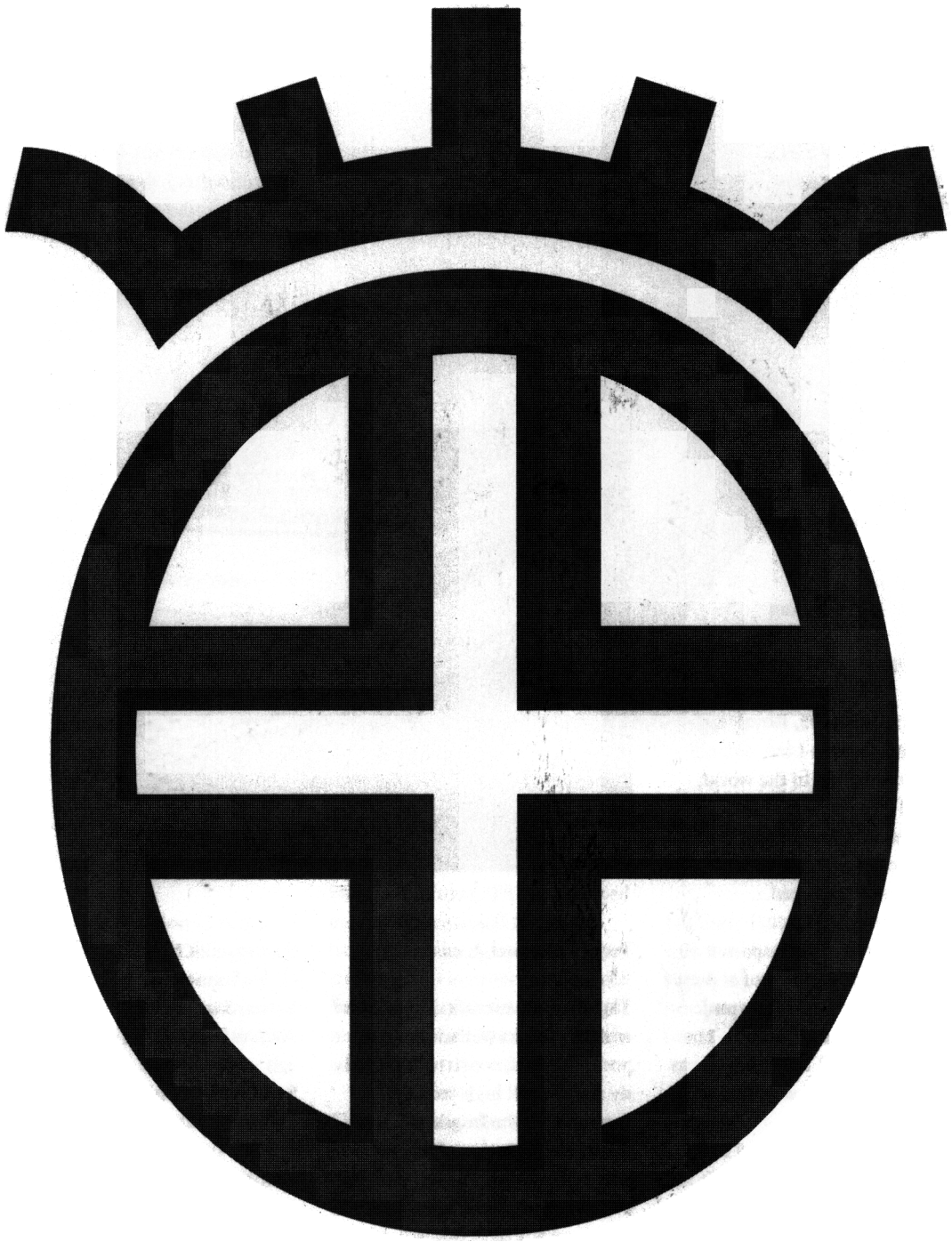


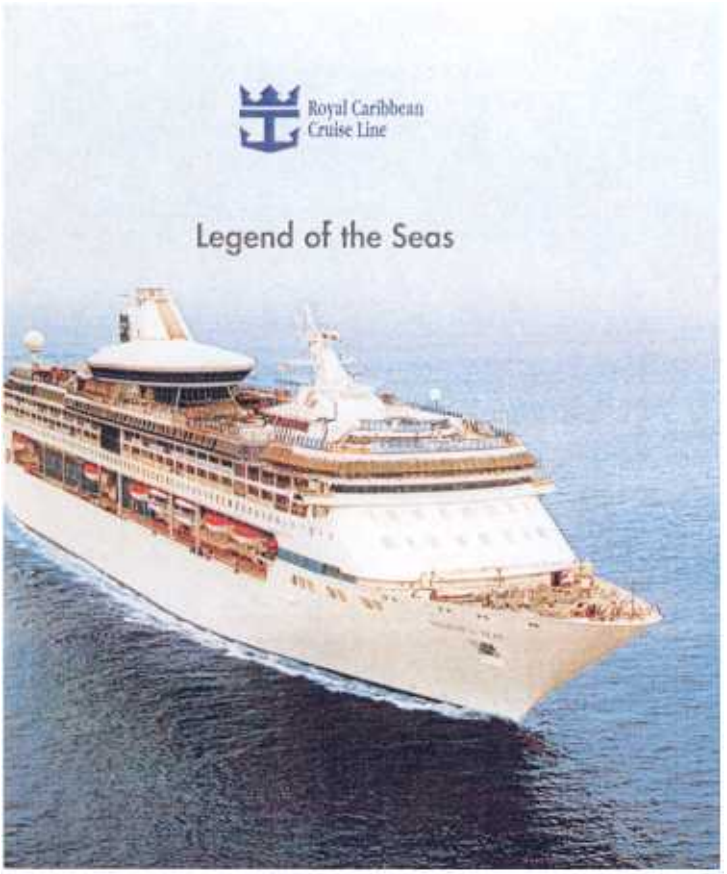
STEELS FOR SHIPBUILDING

CUSTOM MADE STEELS FOR RCCL CRUISE SHIPS

DILLINGER HÜTTE GTS

Legend of the Seas...
Splendour of the Seas...
Rhapsody of the Seas...
Vision of the Seas...

Four majestic cruise ships have been designed by our customer Chantiers de l'Atlantique (GEC Alsthom group), on behalf of the american-norwegian Royal Caribbean Cruise Line (RCCL). Built in accordance with the latest shipbuilding state-of-the-art techniques, these ships stand out as some of the finest vessels of the world fleet.



Cruise ship description

Generalities

From 1993 to 1995, Royal Caribbean Cruise Line, second largest cruise line in the world, ordered 4 cruise ships from Chantiers de l'Atlantique in the Vision series and this generic name is not misplaced...

The vessels are as transparent as lace: their sides consist of a succession of openings. Bays and balconies animate the hulls. The central atrium of each ship opens on its top with a glass dome.

Real floating palaces, they are built to cruise in the warm Caribbean seas or the tempered seas of the Alaskan coasts.

Built in 26 months, at Chantiers de l'Atlantique, and delivered to RCCL in the spring of 1995, 1996, 1997 and 1998, the four ships are vessels of all achievement: a dazzingly association of luxury and technology.

Technical aspect & modernity

The ships are remarkably safe and reliable, thanks to their contemporary shapes, construction quality and overall high-tech design. Concern for the fragile environment around us is an integral part of the vessels which have one of the world's most advanced waste treatment systems.

Luxury & comfort

These ships provide the passenger with every possible amenity. Performing ascetic as well as technical achievements, architects left nothing to chance in these floating palaces (Casino, Shops, Bars, Restaurants, Mini-golf, Sportrooms, Solarium, Nightclubs, Gamerooms, Cabins, Royal Suites, Swimmingpool, etc....). All has been ideally designed.

Steel plates delivered by Dillinger Hütte GTS

Deliveries:
48 060 t
Delivery period:
Aug.'93 to Oct.'96
Grades:
NV-A/B/D/A36/D36/E36
Thicknesses:
5 to 40 mm
Width:
1.3 to 3 m
Standard Length:
14 m

Dillinger Hütte GTS has provided technical and human help to the Chantiers de l'Atlantique in order to find the best solution adapted to their needs: technical assistance, delivery time, sizes, dimensional tolerance, optimised weight, surface quality for platings.

Dillinger Hütte GTS has supplied custom made steels on request that are tailored to meet the specific needs of Chantiers de l'Atlantique.

Short & reliable delivery time

Dillinger Hütte GTS has contributed to meet the constructions very tight schedule by supplying the plates in 1 200 t train on a weekly basis with very short and highly reliable delivery periods.

Standardised sizes

A size standardisation (3 m wide x 14 m long), taking Dillinger Hütte GTS and Chantiers de l'Atlantique constraints into consideration has led to optimise the production time and therefore the delivery and transport times.

Moreover, Dillinger Hütte GTS has supplied long plates (17.8 m) which have allowed Chantiers de l'Atlantique to minimize both the welding cost and duration.

Dimensional tolerances

Dillinger Hütte GTS has supplied narrow dimensional tolerances (width, length, squareness, straightness) in order to allow the fitting of the plates without edge preparation or reduced edge trimmings.

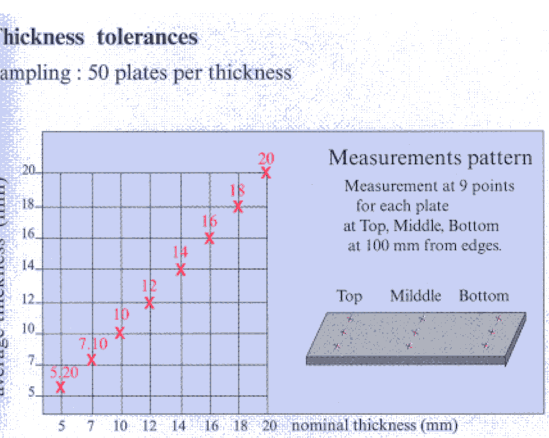
Tight thickness tolerance requirement to avoid overweight problems

Looking for a minimum hull weight, for understandable reasons, can lead to the usage of plates with very tight thickness tolerances and reduced overweight. The utilisation of such plates can allow the transport of more passengers, fuel, etc. by using the dead weight reduction normally originating from the rolling overthicknesses (estimated at 0.5% of ship weight), to reduce the propulsion power, to reduce the fuel consumption, to get a better compromise weight/ stability as well as a cost reduction.

Dillinger Hütte GTS complied with the above requirement by supplying plates with thickness as near as possible to the admissible minimum thickness.

An excellent surface quality for platings

For platings (visible by the passengers), it is not allowed, on one face at least, to have surface discontinuities or grinding repairs. Therefore, Dillinger Hütte GTS and Chantiers de l'Atlantique have agreed on a particular technical specification defining enhanced aspect criteria for platings. These plates have been shot-blasted and pre-painted, then checked on both faces in accordance with the most severe criteria from this particular specification and the NF EN 10163 standard.



The features of the cruise ships

Steel plates supplier :	Dillinger Hütte GTS (Dunkerque mill - France)
Shipyard :	GEC Alsthom Chantiers de l'Atlantique (St Nazaire - France)
Shipowner :	Royal Caribbean Cruise Line (USA/Norway)
Length :	262 m to 279 m
Width :	32 m
Max. draught :	7.3 m to 7.5 m
Tonnage :	70 000 to 76 000 UMS
Cruise speed :	22.3 to 24 knots
Propulsion power :	57 500 kW
Number of decks:	11 to 12
Number of crew :	732 to 787
Number of cabins :	902 to 1 007
Number of passengers :	2 064 to 2 416

DILLINGER HÜTTE GTS

AG der Dillinger Hüttenwerke
Marketing
D - 66748 Dillingen/Saar
P.O. Box 15 80
Telephone: + (49) 6831 / 47 - 3463, 3454
Telefax: + (49) 6831 / 47 - 3089

GTS Industries
Marketing
F - 59379 Dunkerque Cedex
P.O. Box 63 17
Telephone: + (33) 3 28 29 31 56
Telefax: + (33) 3 28 29 69 28