版本 REV.	描　述 Description		修改 Drawn	校对 Checked	日期 Date
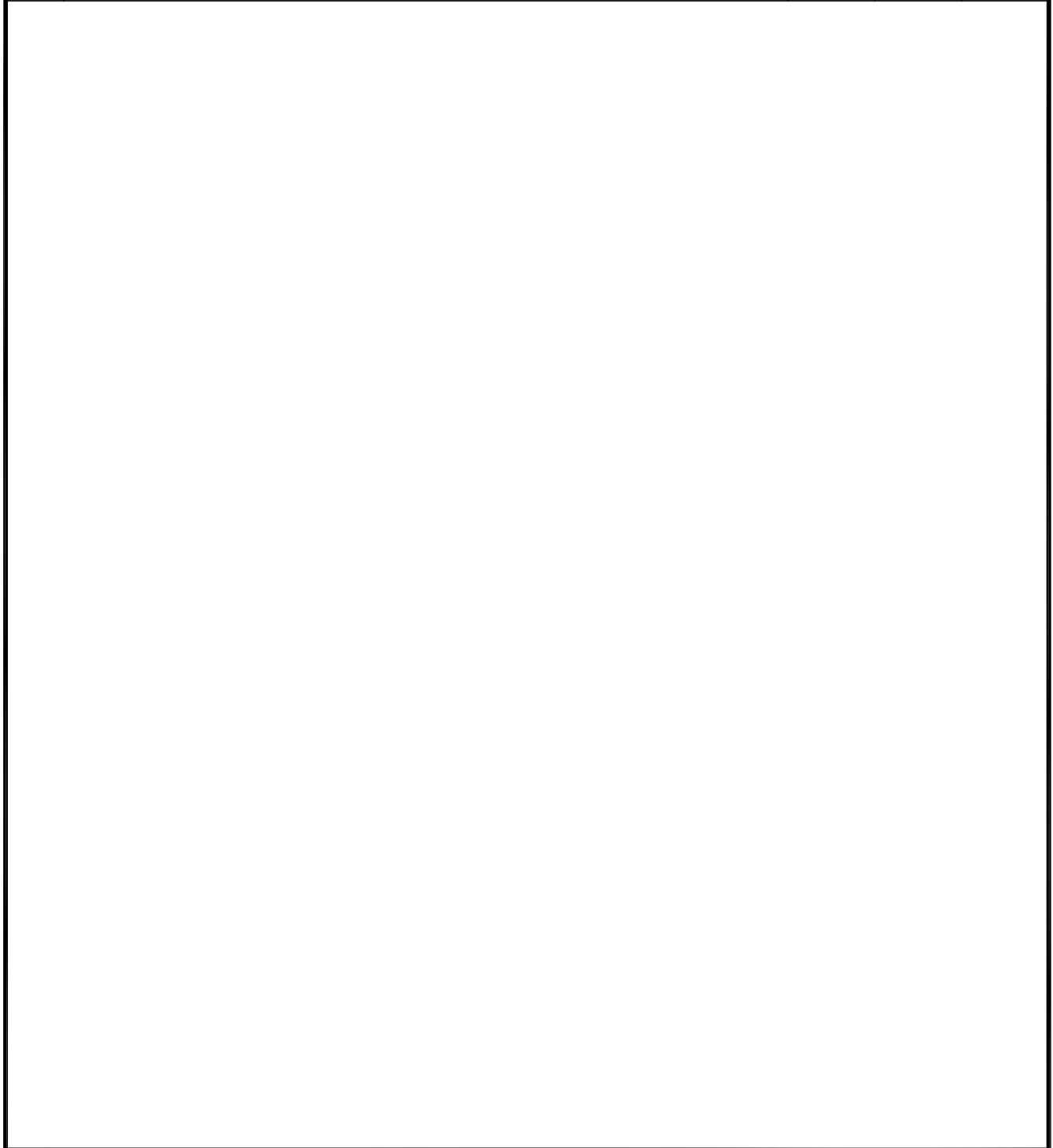
DETAIL DESIGN　详细设计	63600MT DWT PANAMAX BULKER WITH TRAINING PURPOSE	SC4622(WH)-210-01JS

CURRENT REVISION 当前版本	A	CURRENT STATUS 当前状态	S	EQUIPMENT NUMBER CALCULATION 舾装数计算书	HULL NO.:AVIC398/AVIC399

DESIGNED 设 绘	石光伟	DATE 日 期			WEIGHT 重 量	kg	SCALE 比 例	1:1
CHECKED 校 对	徐德涛	DATE 日 期			PAGE 页 数	1/4	TOT. AREA 总面积	0.249 m²
VERIFIED 审 核	陆利平	DATE 日 期						
APPROVED 批 准	陆利平	DATE 日 期						

SHANGHAI MERCHANT SHIP
DESIGN & RESEARCH INSTITUTE
上海船舶研究设计院

旧 底 图 总 号

底 图 总 号

面积 AREA: 0.06 m²

1 . Principal particular:

Length	(o.a)	*199.90*	m
Length	(p.p)	*194.50*	m
Rules Length		*192.060*	m
Breadth	(mld)	*32.26*	m
Depth	(mld)	*18.50*	m
Draft	(scantling)	*13.30*	m
Draft	(Designed)	*11.30*	m

2 Calculation of equipment number:
According to Rules and Regulations for the Classification of ships
(CSR).Equipment Number is the value obtained from the following formula.

$$EN = \Delta^{2/3} + 2hB + 0.1A$$

Where:

Δ=moulded displacement of the ship,in (t), (in sea water having a density of 1,025t/m³) to the summer load waterline.

Δ= 62770.5t   (at Designed draft)

Δ= 75197.1t   (at Scantling draft)

$h = a + \Sigma hn$

h_0:effective height, in m, from the summer load waterline to the top of the uppermost house;when calculating h_0, camber and sheer are disregarded.

a=18.5-11.3=7.2[m]   (at designed draft)
a=18.5-13.3=5.2[m]   (at scantling draft)
h1--height from the centreline of the Upper deck to A deck.
$h1 = 3.35$ (m)
h2--height from A deck to B deck.
$h2 = 2.9$ (m)
h3--height from B deck to C deck.
$h3 = 2.9$ (m)
h4--height from C deck to D deck.
$h4 = 2.9$ (m)
h5--height from D deck to Bridge deck.
$h5 = 2.9$ (m)
h6--height from Bridge deck to Compass deck.
$h6 = 2.80$ (m)

h=a+hi=7.2+3.35+2.90+2.90+2.90+2.90+2.80=24.95(m)   (at designed draft)
h=a+hi=5.2+3.35+2.90+2.90+2.90+2.90+2.80=22.95(m)   (at scantling draft)
B-the greatest moulded breadth of the ship
B= 32.26   (m)

$$A = aL + \sum_{n=1}^{5} h^{"}l^{"}$$

L=rule length
L=192.06(m)

A-area in [m^2], in profile view of the hull, superstructures and houses,having a breadth greater than 0.25B, above the summer load waterline within the length L .Fixed screens and bulwarks 1.5m or more in height is to be regarded as parts of houses when determining h and A.

The calculation as follows:

aL=7.2x192.06=1382.832[m^2]   (at designed draft)
aL=5.2x192.06=998.712[m^2]   (at scantling draft)

A=1382.932+338=1720.832[m^2]   (at designed draft)
A=998.712+338=1336.712[m^2]   (at scantling draft)
Equipment numeral:

EN=$\triangle^{2/3}$ + 2hB + 0.1A

  = 62770.5$^{2/3}$+2x24.95x32.26+0.1x1720.832
  = 3361.3   (at designed draft)

  = 75197.1$^{2/3}$+2x22.95x32.26+0.1x1336.712   (at scantling draft)
  = 3396

3   Determination of equipment number

.   The anchor, chain cable and mooring line are determined based on the requirements of rule , equipment number EN greater than 3210,less than 3400.

3 .1   Anchor

Number of stockless bower anchors: 2
Mass of each anchor 9900kg

3 .2   Chain cable

Electrical welded studlink chain cable
Grade: Q3
Diameter: 78mm
Total length: 660m

3 .3 Mooring line

8 lines: Polyamide Fibre (Multifilament) Eight-strand Rope   >6 lines (rule require)

Diameter: Φ64mm

Length of each line: 220m>200m (rule require)

Min. breaking strength: 706KN>554KN (rule require)

3 .4 Towline

Number of towline:1

Length of towline:280m

Type of towline:Φ54 6x37S+FC 1570   GB/T8918-96

Min. breaking strength: 1510KN>1471KN (Rule require)