
DM Consulting

Average Block Loading

A_KB = 0.0
n_KB = 0.0
A_SB = 0.0
A_SB = 0.0
disp = 3510
S_SA = 0.0

Total Keel Block Bearing Area
A_KBt = A_KB * n_KB
0.0

Total Side Block Bearing Area
A_SBt = A_SB * n_SB
0.0

Total Block Bearing Area
A_Bt = A_KBt + A_SBt
0.0

Block Stress
S_B = (disp * CF_W) / A_Bt
S_B is inf

Block Stress Check
S_B < S_SA
Fail

Capacity

disp = 3510
disp_max = 0.0

Maximum Displacement Check
disp < disp_max
Fail

Dock Section Loading

LL_a = 18.89
LL_f = 7.35
m = 0.043
SternToSill = 1.0

LK Bearing Lengths

	Sections	Bearing Lengths
0	A	0
1	B	0
2	C	0
3	D	0
4	E	0
5	F	0
6	G	0
7	H	0

Section Differentials = m x LK Bearing Lengths

	Sections	Bearing Lengths
0	A	0.0
1	B	0.0
2	C	0.0
3	D	0.0
4	E	0.0
5	F	0.0
6	G	0.0
7	H	0.0

Bulkhead Line Loads

	Bulkheads	Line Loads
0	A/Sill	0.00
1	B/A	0.00
2	C/B	0.00
3	D/C	18.89
4	E/D	0.00
5	F/E	0.00
6	G/F	0.00
7	H/G	0.00
8	End/H	0.00

Averaged Bulkhead Line Loads

	Bulkheads	Line Loads
0	A	0.0

1	B	0.0
2	C	0.0
3	D	0.0
4	E	0.0
5	F	0.0
6	G	0.0
7	H	0.0

Section Loading = Averaged Bulkhead Line Loads x LK Bearing Lengths

Bulkheads	Line Loads	
0	A	0.0
1	B	0.0
2	C	0.0
3	D	0.0
4	E	0.0
5	F	0.0
6	G	0.0
7	H	0.0

Draft At Landing

T_m = 14.5
R_Kn = 178.1
Im = 32.5

T_Ld = T_m - (R_Kn/ (Im * CF_L))
14.043333333333333

Initial Stability

KM = 22.5
KG = 0.0

GM = KM - KG
22.5
Stability Check
GM_Ld >= 1 ft (Hauling)
Pass
Knuckle Reaction

t_r = 2
d_AP = 0.0
LBP = 0.0
LCF = 23.65
OHA = 0.0
LK = 0.0
D = 0.0
MCT = 740

A_KB = 0.0
S_SA = 0.0

Knuckle Reaction Lever Arm

t_r > 0
Aft Knuckle: d_AP + LBP/2 - LCF - OHA
-23.65
Safety Factor
OHA >= 1.5 * D
Large Overhang: 0.94

Knuckle Reaction
R_Kn = (t_r x MCT x CF_L)/ k x X_Kn
-446834.0425531915

Knuckle Reaction Stress
S_Kn = (R_Kn x CF_W)/ A_KB
S_Kn = inf

Knuckle Reaction Stress Check
S_Kn < S_SA
1000000000

Pass

Maximum Allowable Trim
LBP = 0.0
t = 2
t_max = LBP/100

Maximum Trim Check
|t| < t_max
Fail

Max Draft

T_a = 0.0
T_f = 0.0

T_max = max(T_a, T_f)
0.0

Mean Draft

T_a = 0.0
T_f = 0.0

(T_a + T_f)/2
0.0

Offset for List

l_T = 0.0
depth = 0.0
B_T = 0.0

O_l = (l_T * depth * CF_L)/ B_T
O_l = inf

Offset for Trim

LBP = 0.0
t_r = 2
depth = 0.0

O_t = (t_r * depth * CF_L)/ LBP
O_t = inf

Operational Window

h_E = 34.59
D_D = 0.0
h_MLLW = 0.0
h_Clr = 0.0

(h_E + D_D + h_Clr) - h_MLLW
34.59

Relative Trim

t = 2
t_B = 0

t_r = t-t_B
2

Seismic Block Loading

disp = 3510
KG = 0.0
EAF = 0.0
SBPL = 0.0
HB_SB = 0.0
n_SB = 0.0
A_SB = 0.0

S_MC = 0.0

Earthquake Overturning Movement
M_E = EAF x disp x KG
0.0

Dead Load
L_D = disp * SBPL/(2*100)
0.0

Applied Load onto Side Blocks
L_A = M_E/HB_SB + L_D
100000000000.0

Side Block Stress
S_SB = (L_A * CF_W)/(n_SB/2*A_SB)
2.24e+25

Side Block Stress Check
S_SB < S_MC
Fail

Trapezoidal Loading Approximation

disp = 3510
LK = 0.0
OHA = 0.0
d_AP = 0.0
LBP = 0.0
LCG = 0.0
LL_max = 0.0

Average Line Load
LL_avg = disp/LK
10000000000
Center of Gravity Eccentricity
e = OHA + LK/2 - d_AP - LBP/2 + LCG
0.0

Differential Line Load
LL_dif = 6*disp*e/LK^2
100000000

Line Load Aft
LL_a = LL_avg + LL_dif
10100000000

Line Load Forward

LL_f = LL_avg - LL_dif
9900000000

Line Load Check
LL_max > LL_f & LL_a
Fail

Trapezoidal Slope
m = (LL_a - LL_f)/ LK
10000000000

Trim

T_a = 0.0
T_f = 0.0

t = T_a - T_f
0.0

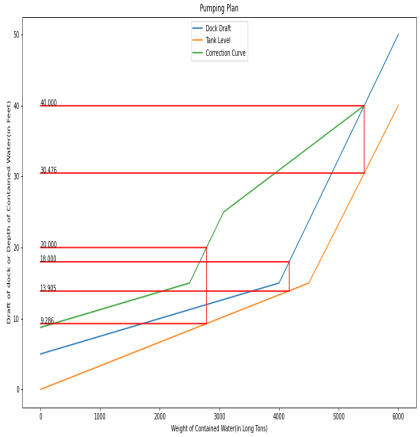
Trim of the Blocks
LBP = 0.0
t_Bagl = 0

t_B = LBP*tan(t_Bagl)
0.0

Vertical Clearance

T_max = 15.5
h_Prj = 0.0
h_Clr = 0.0
h_SB = 0.0
h_BL = 0.0

h_E = T_max + h_Prj + h_Clr + h_SB + h_BL
15.5



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