



1.) Customer's demands & information:

Type and name of the yacht:	Catamaran, Sunshine 65			IS
A	Desired distance pier ↔ stern	70	cm	74
B	Distance stern ↔ cleat	135	cm	✓
C	Distance stern ↔ midship cleat	1.000	cm	✓
D	Max. length (in total)	2.025	cm	✓
E	Distance cleat ↔ cleat	910	cm	✓
F	Max. width (in total)	960	cm	✓
G	Distance pier ↔ highest water level (high tide)	65	cm	✓
H	Distance pier ↔ lowest water level (low tide)	100	cm	✓
I	Distance cleat ↔ water level	145	cm	✓
J	Max. weight of the yacht	25.000	kg	✓
K	Max. local wind speed	45	kn	✓
L	Max. wave hight	0,30	m	✓
M	Max. current	1,00	kn	✓
N	max. surface area exposed to wind	40,00	m²	✓
O	Pier: Material	Concrete		✓
P	Obstacle on pier or yacht?	NO		✓
Q	Permission to use DD in marina?	YES		✓
Other valuable pieces of information & demands:				✓

2.) INPUT: Identity - Number:

DD-Length: cm Wind direction: Lee:

3.) RESULTS:

L:B A-B A-S L-gravity cm L-C1-C2 cm

F Wind daN=kg Wind forces based on maximal local wind speed.

Resulting forces "WITHOUT" use of diagonal stern lines and spring lines:

1 daN ~ 1 kg	Pull / Push		Beam forces		DD-distance		Space fact
ideal angle:	1.780	daN	36%	59	daN	5%	1090 cm 1,16
medium angle:	1.743	daN	35%	365	daN	31%	1006 cm 1,07
parallel:	1.625	daN	32%	730	daN	61%	910 cm 0,97

Resulting forces "WITH" use of diagonal stern lines and spring lines:

1 daN ~ 1 kg	Pull / Push	Beam forces	theor. Cleat forces		
			longit.	lateral	[]
ideal angle:	1.178 daN	5%	1.178	59	daN
medium angle:	1.178 daN	24%	1.178	365	daN
parallel:	1.178 daN	38%	1.178	730	daN

Resulting force per anchor screw "WITH" use of securing lines:

1 daN ~ 1 kg	Lateral shear		Pull or Push load		DD - horizontal angle:		
ideal angle:	225	daN	15%	166	daN	16%	max. angle ° 19,98
medium angle:	409	daN	27%	359	daN	34%	min. angle ° 11,56
parallel:	545	daN	36%	501	daN	48%	IST max. "A" 74

Info regarding tolerable water levels (relating tu turning point of arm) :

				tolerable horiz. angle		
+ °	45	water level	0 cm	Distance to pier:	21 cm	52,15 0 Coll.
- °	45	water level	-272 cm	Distance to pier:	21 cm	47,01 15 Saft.

Calculation lines lengths:		Recommended	pay attention to the securing instructions			
Spring line:	1.270 cm	1.300 cm	Ø	16 mm	single	Yachtgröße:
Diagonal stern line:	1.136 cm	1.150 cm	Ø	16 mm	single	MEGA

LIMITS:

	Pull / Push		Beam forces		max. wind speed					
ideal angle:	3.271	daN	65%	165	daN	14%	75	kn	139	kmh
medium angle:	2.849	daN	57%	527	daN	44%	70	kn	130	kmh
parallel:	2.457	daN	49%	821	daN	69%	65	kn	120	kmh