



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:	803	daN	40%	36	daN	8%	965 cm	1,25
medium angle:	782	daN	39%	183	daN	38%	874 cm	1,13
parallel:	716	daN	36%	365	daN	76%	765 cm	0,99

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:	558	daN	33%	36	daN	8%	558	36	daN
medium angle:	558	daN	33%	122	daN	26%	558	183	daN
parallel:	558	daN	33%	196	daN	41%	558	365	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:	239	daN	24%	168	daN	24%	max. angle °	19,98
medium angle:	407	daN	41%	238	daN	34%	min. angle °	11,56
parallel:	552	daN	55%	298	daN	43%	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:	1.020	cm	1.000	cm	Ø 12	mm	single	Yachtgröße:
Diagonal stern line:	996	cm	1.000	cm	Ø 14	mm	single	big

LIMITS :	Pull / Push		Beam forces		max. wind speed					
ideal angle:	1.350	daN	67%	88	daN	18%	70	kn	130	kmh
medium angle:	1.164	daN	58%	202	daN	42%	65	kn	120	kmh
parallel:	992	daN	50%	311	daN	65%	60	kn	111	kmh

## 1.) Customer's demands & information:

Type and name of the yacht:	Catamaran, Sunrise 50			IS
A	Desired distance pier ↔ stern	70	cm	74
B	Distance stern ↔ cleat	135	cm	✓
C	Distance stern ↔ midship cleat	750	cm	✓
D	Max. length (in total)	1.500	cm	✓
E	Distance cleat ↔ cleat	765	cm	✓
F	Max. width (in total)	795	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	13.500	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	20,00	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:				✓