

## Updates in 2023

Several new boats entered

### Foiling catamarans

The previous formula was not giving a fair rating to some designs and is updated:

A semi foiling boat (C- foils, constant radius) will get a correction factor of 0,985

A full foiling boat will get a correction factor of 0,95

### F16 class

The F16 class allows a decksweeper. this is re-calculated.

The minimum class weight was already increased,

This means that all F16's are close in dimensions and now every F16 will get the same data entered and get the same rating. The same principle as for the F18 class.

In reality, even if we would calculate individual data (some F16's are a bit heavier) the rating would still be the same for every F16 type.

## Updates in 2020

### Updates in 2019

Several new boats entered

### Updates in 2018

Several new boats entered

We have again checked the data with SCHRS and updated where possible.

The rating penalty for a screacher has been lowered, the new formula is:

$$\text{Sas} * (12/(\text{smg}/\text{sf})^{1,1}) * 0,01$$

### Updates in 2017

Some hardly used prototype are removed from the main list. The numbers still exist and are available on request.

We have again checked the data with SCHRS and updated where possible.

The weight for Formula 16 is increased according new class rules.

## Updates in 2016

### Screachers

The rating penalty for a screacher has been lowered, the new formula is:

$$0.01 \cdot (80 - 80 \cdot (\text{smg/sf})) \cdot \text{sascr}$$

If  $\text{smg/sf} < 0.5$  then 0.5 is used.

Sail area of the screacher has to be more than 75% of the mainsail area. Otherwise it will be considered a jib.

### Common data with SCHRS

Although there are differences in rating the boats, the input data should be the same between SCHRS and TexelRating.

At least for the measurements which were made in the same way.

For all the boats which were common on both systems, the data has been checked and corrected if possible.

## Updates in 2015

### Correction for curved foils

Last revision: 4-3-2015

New solutions have been introduced for dagger boards not being straight boards, but boards with a curve(s) / bend(s) i.e. curved or L / Z / J foils.

Based on the complete length of a curved board a formula calculates a factor.

The formula is as follows:

$$\text{factor} = 0,891 / (\text{length board} / \text{length hull rl}) ^ 0,06$$

If no curved board, than correction factor = 1, so no correction

If factor > 0.99 than correction factor will be 0.99

If factor < 0,95, than correction factor will be 0,95

If factor is between these values than correction factor as calculated

## Updates in 2014

Up to now screachers were rated as big jibs. That would deliver a too heavy rating penalty, in most cases.

From now there is a provision for screachers, that means:

if the shape is close to a jib, it will be rated close to a jib. If the shape is close to a spi, it will be rated close to a spi. (and everything in between)

The formula is:  $0,01 * (185-220(\text{smg}/\text{sf})) * \text{sascr}$

smg is size mid girth

sf = size foot

sascr = sail area screacher

### **Updates in 2013**

Last revision: 3-3-2013

#### **Correction for curved foils**

Daggerboards which are not straight i.e. Curved foils or L foils get a 1% faster rating compared to regular daggerboards.

The size and shape of the foils are not calculated as we think it is very hard to predict the performance of these foils and we try not to interfere with the design process of these foils.

#### **Correction for very round leeches**

It appeared that the efficiency calculation for mainsails needed a small correction.

This is only the case when max width of the mainsail is larger than the foot of the mainsail, so a very "round" leech. Typical example is a Dart 18.

A small correction is applied, depending on the difference between max sail width and foot length.

### **Updates in 2012**

Last revision: 20-2-2012

There are no rule changes for 2012, there are some boats added to the list.

### **Updates in 2011**

Last revision: 20-2-2011

There are no changes for 2011.

### **Update for 2010**

#### **New method of rating sails**

Since 1982 the aspect ratio has been used to calculate the efficiency of sails.. Modern square top mainsails are more efficient than triangular mainsails. The aspect ratio approach is not correct for 'modern' sails. In Australia a new system already has been introduced in 2008. In the OMR, (offshore multihull rule), for around 140 cabin multihulls of the multihull yacht club of Queensland. In 2008 comparable new formulas have been tested in

Holland which will be introduced in the Netherlands, Germany and Norway and other countries.

The new formula for the mainsail is a combination of two values. One is the measure of rectangularity of the main. That is sail area main divided by the rectangle p times e. (p being the height of the sail (vlm), the length of the luff, e being the dimension e, the length of the foot of the main). The other ratio is the ratio (p/e). A higher and narrower mainsail is more efficient. The product of both values gives:  $msam\_ex\_mast / (p * e) * (p / e) = msam\_ex\_mast / e^2$ .

The formula to find the right efficiency factor is:

Efficiency factor main =  $c_1 * (msam\_ex\_mast / e^2)^{p_1}$ . For beach multihulls

The constant  $c_1 = 0.67$ , the power  $p_1 = 0.3$

The efficiency of jibs is based on the ratio:  $msag / lpg^2$ .

Lpg is the perpendicular from tack to luff. The formula being used is:

Efficiency factor jib =  $c_2 * (msag / lpg^2)^{p_1}$

The constant  $c_2 = 0.72$ , the power  $p_1 = 0.3$

For cabin multihulls the formulas are the same as the one for the beach multihulls., The rated areas will be:

$rsam = \text{eff. factor main} * msam\_ex\_mast + \text{area mast (if a swivelling mast)}$ . For open cats msam always includes the area of a swivelling mast if that is the case. No separate adding of the mast area.

$rsag = \text{eff. factor jib} * msag$ .

### **Basic TR formula**

To harmonize the basic Texel Rating formula with the ones used since 1997 in Australia for a group of around 170 cabin multihulls and in France for a group of around 120 multihulls, the decision is made to return for the open cats to the formula used here before 2002, resulting in  $TR = 100 / (1.15 * RL^{0.3} * RSA^{0.4} / RW^{0.325})$ . For all cabin multihulls the constant 1.15 is lowered to 1, like in both foreign countries. That changes the absolute values of the rating numbers, but not their relative positions..

### **Correction for no dagger board(s) or centre board(s)**

The correction factor for designs without efficient dagger board or centre board is changed from 1.03 in 1.04

### **Update in 2009**

#### **Spinnaker boom**

The rule regarding the maximum length of the spinnaker boom has been deleted.

### **Updates in 2008**

Last revision: 22-6-2007

There are no changes for 2008.

### **Updates in 2007**

Last revision: 4-2-2007

It is a fact that one crew designs provided with a spinnaker generally experience extra problems handling the boat.

Considering all aspects, the rating committee decided to correct the TR numbers in 2007 for these catamarans, by adding 1 % to the calculated number including spinnaker, before rounding.

## **Updates in 2006**

Last revision: 26-2-06

The rating committee ended the text about the updates for 2005 with the sentence:

“The service to give a higher TR number to designs like the A class and some other single handed cats, is available now. It is up to racing committees to use them or not”.

Race organizers did not like this service. Only the basic numbers have been used.

On the other hand, in 2005 happened also, what was written in the updates 2005

Many crews asked the committee again, to include in the TR rule some allowance, for narrow catamarans and one-man designs and others, in stronger winds.

Say Beaufort force 4 and higher.

This is what has been done for 2006.

TR numbers were given new average values, using the stability of the designs, when this stability is a factor that limits their performance.

### **New way to rate spinnakers.**

In 2006 for all designs, 15 % of the allowed spinnaker area has been included in the “Rated” sail Area. This rated area is in average a little more than last year.

The areas allowed are the maximum areas mentioned in the text of the TR rule, for cats with various lengths. But when maximum areas are given in the class rules, (websites or other publications), then these areas have been used.

Anyone who wants to know how everything was done, and for which classes, only has to download the Excel lists with all the details used and study the formulas.

As in years before 2006, the more simple lists, with all rating numbers and the main data for every design only, is available as a pdf file.

On the website an easy calculator is available, for you to experiment.

## **Updates in 2005**

Last revision: 16-3-05

### **The weight of spinnakers and equipment**

In the past no spinnakers have been used on trampoline catamaran designs.

In later years, the use of a spinnaker became an option. No extra weight has been added to WS, though the boats certainly become heavier if they use a spinnaker.

In order to treat all designs in the same way, the weight of all catamarans has always been determined, without the weight of the spinnaker and all equipment.

In the rules of nearly all new catamaran classes a spinnaker is standard included. Weighing them, without spinnaker and all equipment, proves to be not practical.

For that reason the method of weighing new designs has been changed. From now on the weight of new boats with spinnaker, will be determined with spinnaker etc. included.

In the website lists there will be found two columns with the weights of boats. One without spinnaker (generally older designs) and one with spinnaker included (generally the new designs, as well as some classes already produced, including spinnaker, like the Formula designs and other ones).

In the columns giving TR numbers with and without spinnaker, to the weight of all older designs 6 kg. has been added, before calculating the TR number with spinnaker. For new designs 6 kg. has been deducted before calculating the TR number without spinnaker. In that way old and new designs have been treated in the same way. The formulas in the various columns show how this has been done.

### **Efficiency of jibs when using a spinnaker**

A jib is only completely efficient when the spinnaker is not used

In order to correct for less efficiency when a spinnaker is used, the rated area of the jib (RSAG) is reduced with a percentage before calculating RSA and the TR number.

Partly caused by these corrections, the rating committee decided, starting in 2005, to lower the calculated TR number with 6 points when a spinnaker is used. For a spinnaker with an area higher than allowed in the rule, 15 % is added to rated sail area (RSA).

### **Stability and the influence on performance**

Many years crews have been asking to include in the TR rule some allowance for narrow catamarans in stronger winds. (Beaufort force 4 and higher).

Such an allowance requires the calculation of the heeling and righting moments.

The basic idea behind such an allowance is the calculation of a smaller RSA, if the righting moment is less than the heeling moment. If that is the case, a smaller RSA has to be calculated, by deducting a band at the bottom of the sails, like reefing, in order to make the heeling forces equal again to the righting forces. A (higher) TR number will be calculated then with the new smaller RSA.

These calculations have been added in columns at the right end side of the website list that can be downloaded. The TR values given, can be used by racing committees when a race has to be sailed in wind speeds of 14 knot and more (7.21 m/s). That is a bit above the middle of BF. 4. Such a decision may be rather difficult, for how strong will the wind be or has been and for whom? The slower designs may find less, or more wind, in the second half of the race, than the fast ones, who finished earlier.

Let's recapitulate. The service to give a higher TR number to designs like the A class and some other single handed designs, is available now. It is up to racing committees to use them or not.

### **Updates in 2002**

Texel Rating Rule 2002, version 3, Nico Boon

(Valid from March 1 2002)

The basic Texel Rating formula was developed in 1984. In 1993 the formula has been updated (version 2). After nine years, the rating committee in Holland decided to give the formula another update. This is done to lessen a slight disadvantage given to very lightweight multi-hulls by the existing formula. These very light boats now get higher TR numbers. As a consequence heavier craft get lower TR numbers. All numbers are relative. By this process, the total range of numbers given has been narrowed a bit

The basic formula now becomes:

$$\text{TR number} = 100 / (0.99 * \text{RL}^{0.3} * \text{RSA}^{0.4} / \text{RW}^{0.3})$$

The power for RW has been lowered from 0.325 to 0.3. The constant factor from 1.15 to 0.99.

Another change in the rule is a change in the way to handle with spinnakers for the beach catamarans with a LOA <= 22 ft.

For these catamarans, if a spinnaker is to be used, the calculated TR number will be deducted with 4 points.

For catamarans who use spinnakers larger than the stated limits, the spinnaker sail area will be rated at 11% effective, and added to the total sail area. This means that the deduction will always be more than for spinnakers which are within the limits. The deduction depends on the size of the spinnaker.

If possible, dimensions as listed in class rules are used as input.

## Updates in 2001

Individual F18 and F20 types recalculated.

The individual F18 and F20 boats are also on the list, and as it was, calculated according real measurements. After checking it appeared that for some types the weight of the spinnaker and equipment was also included, while all other boats are measured excluding spi (even if a spi is used). So to keep everything equal, the spinnaker weights were deducted, and these boats were recalculated.

2 Added classes.

2.1 The Formula 18 and the Formula 20 are included in the list.  
They are calculated according the dimensions listed in the class rules.

2.1 Why this decision?

This is done because the sailors appreciated the possibility to be able to start as a Formula 18/20 boat, and not as Dart Hawk, Hobie Tiger, Nacra inter18, Hobie Fox, Nacra inter 20 etc.

Another point is that we prevent some protest's again F- boats; just the class rules have to be checked, and not a (possible different) dimension according the Texel rating list. If we did not take the class rules as limit, but our measurements, than it is possible that someone with a "legal" F-boat, including F-measurement certificate could be disqualified.

Consequence of this decision

The consequence is that regatta sailors in "handicap" regattas can start as Formula 18/20, in regattas where this is desired.

2.2 Other classes (types)

In the list are included several one-off types, which have been measured and calculated.

More details can be found on the website [www.texelrating.org](http://www.texelrating.org) about the beach catamarans and on the website [www.ctcnederland.nl](http://www.ctcnederland.nl) about all cabin multihulls, catamarans and trimarans.

The Texel Rating Committee