

## New European bike standards come into effect

On the 1.2.2006, new European bike standards came into effect for the following bikes:

- City and trekking bikes (EN 14764)
- Children's bikes (EN 14765)
- Mountain bikes (EN 14766)
- Racing bikes (EN 14788)

At the end of this calendar year DIN 79100 loses its validity.

For the first time, special standards now also exist for mountain and racing bikes. Various positive aspects of DIN 79100, such as the riding out-of-saddle fatigue test for frames have been adopted. The increased demands on fatigue tests for aluminium constructions of ISO 4210 have finally been abolished. The required load cycle numbers are now almost all uniformly 100 000.

The DIN test bench trial run for brake tests is now more precise. Instead of using the fixed value of 100 kg, as specified in DIN 79100, the maximum permissible weight is now taken into consideration. The relation between the wet and dry brake values is now measured using the same applied manual force – a principally sensible solution.

Unfortunately, details in the new standards contain a number of deficits. For example, alternating loads are now compulsory for racing bike seat posts. This by no means corresponds to the actual loads present when the bike is in operation. In addition, the new testing loads are so heavy that even renowned seat posts models are prone to failure. The levels of demands for various other fatigue tests also seem inappropriate.

For brake tests, both the DIN method and the (slightly more problematic) ISO braking distance measurement technique can be used.

The DIN braking forces are then converted using, from a physics point of view, entirely unacceptable “constants” into ISO braking distances.

**Caution!** The tolerance range of the testing loads for EN tests has unilaterally been set at 0/+5%. The target value is therefore 2.5% higher than the nominal value, i.e. a nominal testing load of 1000 N equals a target value of 1025 N.

## New website www.efbe.de now online

Under the category SERVICE you can now simply download test order forms for the most common tests as pdf files. Information on the testing process and an overview of the various performance levels can also be found there.



Why not have a look at our new database with the first completed FULL TESTS under the category TEST RESULTS.

## First FULL TEST results

The performance levels for frames have not changed, however in the FULL TEST the damage effects of three fatigue tests are added together. FULL TEST performance levels are therefore generally more demanding than the out-of-saddle performance levels. 77% of MTB and 56% of racing bike frames in the TOP PERFORMANCE class did not successfully pass the FULL TEST (dated Jan. 2006). TOP PERFORMANCE frame tests are only sensible if the bike is expected to withstand extremely harsh operating conditions and high-end performance stats.

Some of our renowned partners have meanwhile confirmed that cracks around the head tube, reported by means of customer complaints, have been simulated in our third test (jumps test) – even in the HIGH or STANDARD PERFORMANCE levels.

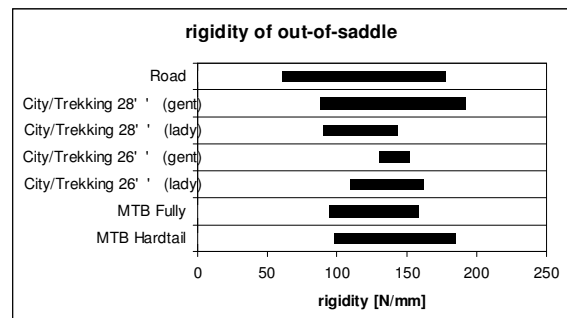
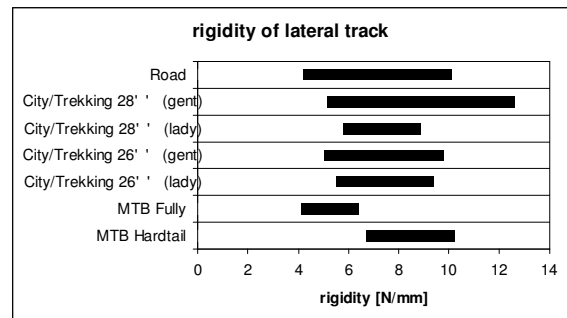
## Evaluation of frame rigidity

The level of participation in the frame rigidity project exceeded our expectations (and at times, also our capacities). A total of 81 frames were tested. All participants have since received the test results of their models.

After analysing the results, it is possible to see that our temporary evaluations of the frame rigidities (of all frame types) have fundamentally been confirmed. The evaluation values have only been altered slightly:

| Evaluation   | Lateral track rigidity (N/mm) | Out-of-saddle rigidity (N/mm) |
|--------------|-------------------------------|-------------------------------|
| Excellent    | > 10                          | > 150                         |
| Good         | > 8                           | > 120                         |
| Satisfactory | > 6,5                         | > 100                         |
| Sufficient   | > 5                           | > 80                          |
| Poor         | ≤ 5                           | ≤ 80                          |

Interesting results can be seen if you view the various frame types:



The diagrams clearly show how the various frame types all have different ranges of rigidity values.

## Shorter processing times

Due to the strong demand for our new FULL TEST for frames, we would like to apologise for any prolonged testing times, which occurred last summer and autumn. As we were temporarily able to operate a third frame

test bench, we are now once again able to offer you our familiar short processing times. Please however note that a FULL TEST consists of three separate tests; it can therefore take approx. 2 days longer than a single test.

## **Internet publication and certificate**

If FULL TEST results are to be published on the EFBe website, the test samples must be delivered to the test as finished frames.

For certificates and testing seals, please deliver a medium-sized frame. Upon successful completion of a test, the test sample is archived by EFBe until the end of the achieved validity period.

## **Alterations to the EFBe performance levels**

Testing standards are not there to be changed, however after 10 years, the out-of-saddle demands for city/trekking frames had to be adjusted to the developments in today's frame manufacturing technology. Instead of 850 / 950 / 1050 N, the testing loads for Standard / High / Top Performance are now 950 / 1050 / 1150 N. All other performance levels remain unchanged.