



Procedure instructions Nr. 6
(September 2025)

Inspection of wheels and casters for AWBs carrying the RAL Quality Mark

1. Overview

Inspections are divided into:

- Initial test
- Internal inspection
- External (independent) inspection
- Re-testing

2. Initial test

2.1. General requirements

Passing the initial test is an essential requirement for the approval of wheels/casters. Every manufacturer is subject to carrying out the initial test in order to qualify as a listed supplier for quality assured AWBs.

The wheel manufacturer shall commission an accredited testing institute according to DIN EN ISO/IEC 17025 requirements to carry out the initial test. One of the testing institutes that also carries out AWB testing for the attainment of the Quality Mark (initial test and inspection) must be commissioned.

The costs for the initial test shall be paid for by the wheel manufacturer.

2.2. Content and scope of the initial test

In the case of the initial test, the wheel supplier must prove that he/she can manufacture the wheels/casters according to RAL-GZ 951/1 und /2.

Standard wheels/casters with standard tires will be tested.

The following tests according to DIN EN 840-5: 2020-06 or RAL-GZ 951/1: 2023-08, respectively, must be carried out and passed:

Wheels for 2-wheeled containers:

- Wheel test (according to DIN EN 840-5, 4.9.3 and RAL-GZ 951/1, 3.3.17)
- “Kerb travel” fall test (according to DIN EN 840-5, 4.7.5 and RAL-GZ 951/1, 3.3.14; height of fall: 200 mm)
- Pulling test (according to DIN EN 840-5, 4.9.2)

The “kerb travel” fall test and the pulling test must be carried out using a quality approved AWB 240 or an AWB 340/360 plastic container. The weight of the load used in testing must be 144 kilograms.

Casters for 4 wheeled containers:

- Wheel test (according to DIN EN 840-5, 4.9.3 and RAL-GZ 951/1, 3.3.17)
- “Kerb travel” fall test (according to DIN EN 840-5, 4.7.5 and RAL-GZ 951/1, 3.3.14; height of fall 200 mm)
- Pulling test (according to DIN EN 840-5, 4.9.2)
- “Kerb travel” run test (according to DIN EN 840-5, 4.7.4 and RAL-GZ 951/1, 3.3.15)
- Brake test (according to DIN EN 840-5, 4.9.4 and RAL-GZ 951/1, 3.3.16)

The tests, with the exception of the wheel test, must be carried out using a quality approved AWB 1100 plastic container. Should there be a demand for testing steel containers a AWB 1100 steel container shall be used for testing purposes. The type of container tested (plastic or metal) shall be stated in the test report.

In general, a complete and informative set of drawings for the initial test shall be submitted to the external (independent) testing institute. The delivered wheels/casters must be clearly identifiable herein.

The diameter of the wheel for 200 mm wheels must be at least 195 mm.

Identification markings

Wheel parts / caster parts	2- wheeled	4- wheeled
<u>Identification markings of the plastic rim of wheel</u> - Mold number and mold cavity - Material - Date of production (month/year or quarter/year) - Manufacturer	X	X
<u>Identification markings of the metal rim of wheel (on drawing only)</u> - Gauge number - Material - Surface data		X
<u>Identification marking of the tire</u> - Date of production (year) - Manufacturer (encrypted manufacturer's code is permitted) - Only on drawing: designation, shore hardness	X	X
<u>Identification marking of the body (bracket or bracket plate)</u> - Number of the test certificate - Manufacturer - Only on drawing: Gauge number, material, surface data		X

All markings must be clearly visible and permanently applied to the series using mechanical methods such as stamping, engraving, or laser engraving. Encrypted tool markings are also permitted.

When a test is passed, the wheel manufacturer shall receive a detailed test report and a certificate. This is a requirement for becoming a certified wheel manufacturer and being listed as such by the GGAWB. Every change in construction of a certified wheel or caster leads to a new initial test.

A change in construction means a change or changes that influence the stability and/or the toughness of the wheel/caster negatively. This includes, for example, no changes in the surface treatment as long as the requirements according to EN 840-5, number 4.11.3 are adhered to.

Equivalent parts are permitted in a test or a test number, respectively. This includes, for example:

2-wheeled = the rim of a wheel stemming from all cavities of a mold. Only one cavity shall be inspected.

The rest of the mold cavities must be identifiable by means of an assembly layout and especially the particular initial situation.

4-wheeled = a caster of modular design that can be assembled from many different interchangeable parts. As long as the individual parts, with regard to their technical specification (dimensions, durability possibilities) are the same, clearly marked and individually tested and when these test results are positive, this kind of system can then be included in a test number.

3. Internal inspection

Each listed wheel supplier must continually comply with quality and test requirements by carrying out internal inspections to ensure that his/her wheels are always commiserate with the quality requirements of this quality assurance.

Since no external (independent) inspections take place in a manufacturer's works, certification according to ISO 9001 is required.

A copy of the current certification certificate including an annual update serves as valid proof.

4. External independent inspection

The GGAWB commissions one of the accredited testing institutes to carry out simple external inspections that also carries out tests on AWBs. The wheel manufacturer must provide this institute with a minimum of 2 wheels or 2 casters, respectively, for each test certificate.

The wheel test for wheels and casters according to DIN EN 840-5, 4.9.3 and RAL-GZ 951/1, 3.3.17 shall be carried out by the testing institute. The results will be reported to the wheel manufacturer as well as to the GGAWB.

An external independent inspection will be carried out every two years. The costs for the external inspection shall be paid for by the wheel manufacturer.

In the case of a positive result, the wheel manufacturer will be awarded with a current certificate.

Only certificates that are not older than two years will be accepted by AWB manufacturers.

5. Re-testing

In the case of a negative test result, wheel re-testing will take place within 6 weeks. The wheel manufacturer must send the testing institute 2 wheels / casters in such a case. The results of re-testing will be reported to the wheel manufacturer as well as to the GGAWB.

If this particular test is also not passed, then the wheel or caster is removed from the list of certified articles for quality assured AWBs.

Particular individual cases shall be decided on by the quality committee of the GGAWB.

Previous issues of the VA 6:

- December 2019
- July 2020
- March 2024

September 2025
Chairman Quality Committee for Plastics:

