

ZOOM

FOCUS ON TECHNOLOGY



PRODUCT COMPARISON

DAILY Headlight.
Enlighten your journey.



in collaboration with  **DEKRA**

Genuine Parts
HIGH PERFORMANCE



How they are made.

The Headlight.

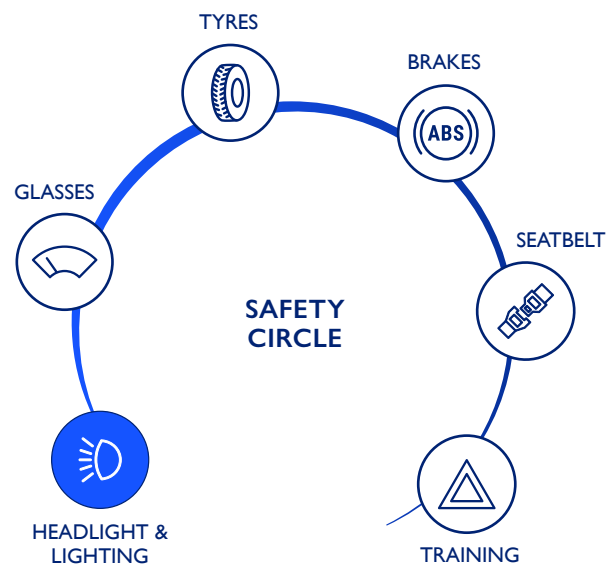
The headlight has the Duel function of increasing the visibility of the vehicle and illuminating the road ahead using light beams from the lamps.

It is composed by two parts:

- The back plastic, for the assembly on the vehicle and housing for lamps and bulbs
- The front plastic or lens, that allows the light beams to go through and illuminate ahead

On the road, the priority is to **see and to be seen** and here, the headlight plays a crucial role when it comes to road safety. With reliable and correctly set headlights the road is safer, and driving is easier and more enjoyable.

Thus, we can consider the headlight as the first crucial element in the safety cycle: **all starts with good visibility.**



IVECO Genuine Headlights guarantee **maximum quality** in terms of component materials and production processes, in scrupulous compliance with strict quality standards.

They are also characterised by their **reliability** and **precision of assembly** which ensure shorter repair times, resulting in improved cost-effectiveness of the repair.

In addition, aesthetic finishes and longevity are guaranteed by the robustness of the materials and by the optimal protection against wear and external agents (e.g. water and stone chippings).

How they are tested.

IVECO Headlights comparative tests.

The IVECO Genuine Headlight was tested together with three headlights from competitors by the independent German testing institute DEKRA.

The objective was to compare the products and their characteristics by simulating situations that occur during their life cycle. The tests determined the headlights' features on materials, water resistance and impact resistance.

All the tests were carried out by DEKRA technicians, in laboratories and workshops, and in compliance with the following tests/standards:

- Tests on water resistance (Test IPX9K) ISO 20653:2013
- IVECO 15-6023:2019 (resistance to stone chippings)
- Assembly precision, aesthetic finishes and assembly/disassembly
- Material scanning (DSC) ISO 11357-1-2-3, microscopic analysis ISO 3451-1:2019

A teardown was also performed to analyze both technical (materials, assembly quality) and functional aspects (number of components, and technical solutions adopted).



About DEKRA.

DEKRA has been active in the field of safety for more than 90 years. Founded in 1925 in Berlin as Deutscher Kraftfahrzeug-Überwachungs-Verein e.V. (German Motor Vehicle Inspection Association), today it is one of the world's leading expert organizations.



The results.

The tests show how IVECO Genuine Headlight obtained the best results in all the key areas:

Durability

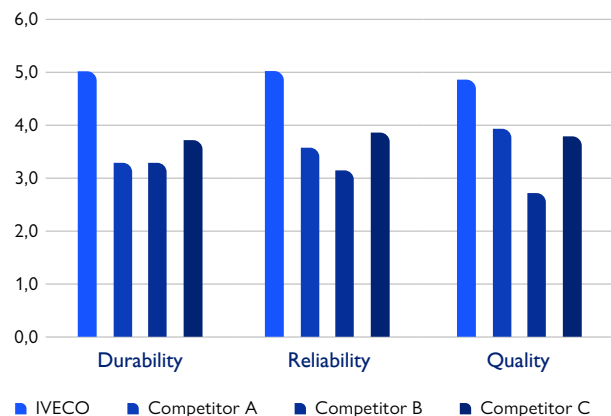
Water and impact resistance

Reliability

Ease of fitment and safety during assembly/disassembly

Quality

Characteristics of raw materials and teardown

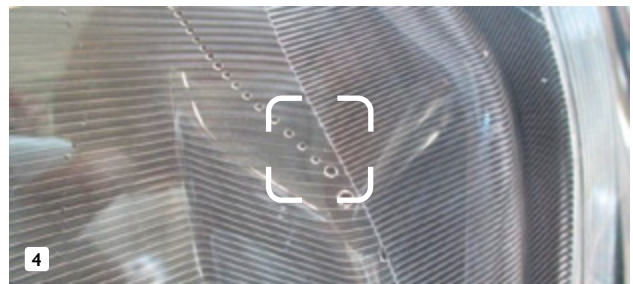
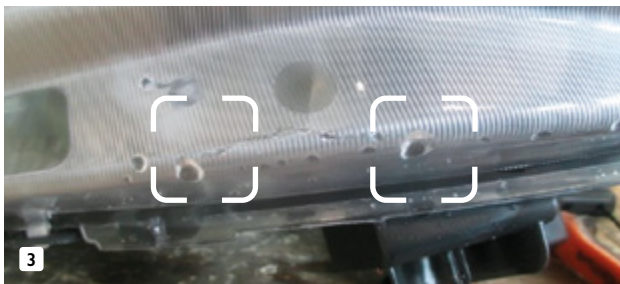
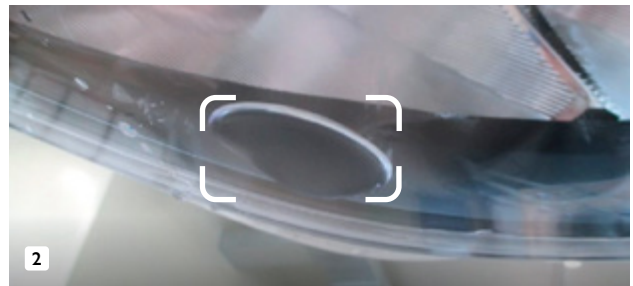


Durability and resistance.

Resistance to water.

The test for water resistance (Test IPX9K) was carried out with the objective to understand if the materials and the assembly of the different headlights were able to keep internal components dry. The aim is to check the headlights in the conditions they may face daily on the road: splash, showers, and heavy rain.

For each headlight, the test lasted 2 minutes: 30 sec per headlight part (lens, housing, and lateral parts). Tests are carried out in a controlled environment where conditions are: 50% relative humidity, water temperature between 80-85°, and distance between headlight and the water pump between 100-150 mm.



IVECO Genuine Headlight is the only one that passed the test.

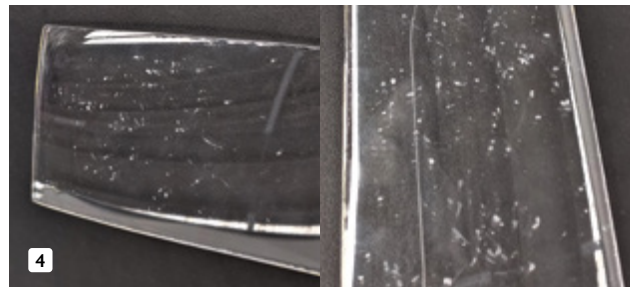
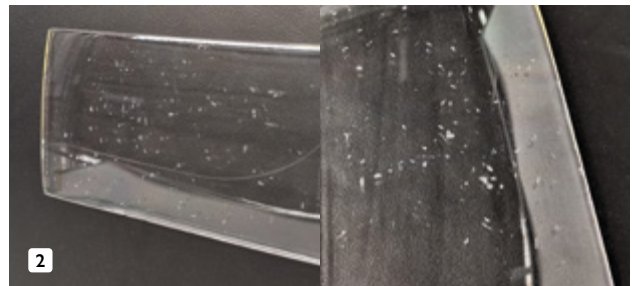
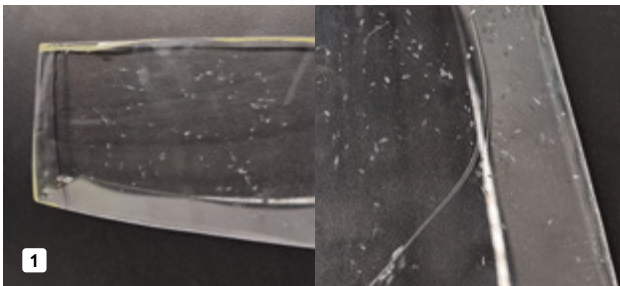
All other headlights from competitors did not pass the test as in all of them water ingress was present. Water resistance is an important characteristic which is vital to guarantee a longer life to the headlight. After time water ingress causes internal humidity that in turn could make the plastic opaque and in need of substitution.

- 1** IVECO
- 2** COMPETITOR A
- 3** COMPETITOR B
- 4** COMPETITOR C



Resistance to impacts.

In the test for resistance to impacts it is important to understand how the headlight's lenses react to the daily conditions they face while on the road. Indeed, the goal of this test is to recreate these conditions in a controlled environment.



IVECO Genuine Headlight shows less impacts.

Through a gravelometer, 0,5 kg of stone chippings (9,5-16,5 mm Ø) are thrown at the lenses to evaluate their surface resistance to impacts. Although there are no visible differences at first glance, the IVECO Genuine Headlight shows less scratches Competitors B and C only Competitor A shows similar impacts.

- 1** IVECO
- 2** COMPETITOR A
- 3** COMPETITOR B
- 4** COMPETITOR C

THE COMBINATION OF MATERIAL AND ASSEMBLY QUALITY ALLOWS THE IVECO GENUINE TO GUARANTEE THE BEST PERFORMANCE AND LONGER LIFECYCLE IN EVERY CONDITION.

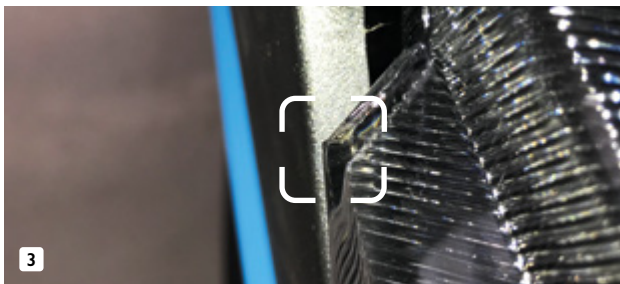
Reliability and safety.

Reliability, along with safety, at the core of every IVECO component.
In addition to the water and impact resistance, there is another crucial point to take into account when evaluating the characteristics for a headlight: ease of fitment and safe assembly.

A well-assembled headlight ensures quick and ease of fitment and safe assembly, prevents annoying vibrations and enhances the vehicle aesthetic.

The main elements which determine a quality replacement are:

- **Assembly time and ease of fitment**
- **Correct positioning** no bulging parts
- **No interferences** with bumper and bonnet which can lead to breakage due to vibrations



- 1 IVECO** Perfect fit on the vehicle
- 2 COMPETITOR A** The headlight interferes with the bumper
- 3 COMPETITOR B** Bulging parts, risk of cutting
- 4 COMPETITOR C** Bulging parts, risk of cutting

AN IVECO GENUINE HEADLIGHT IS DESIGNED SPECIFICALLY FOR THE VEHICLE AND IS EXACTLY THE SAME AS THE "FIRST FIT" COMPONENT IT WILL REPLACE. IT ALLOWS A PRECISE ROAD ILLUMINATION INCREASING SAFETY AND REDUCING COSTS.

Quality and finishing.

Aesthetic finishes.

In addition to signaling the vehicle's presence and illuminating the road ahead, the headlight is an important element in the aesthetics of the vehicle itself.

An excellent quality finish also reduces any extra costs for corrective actions.

The main characteristics that ensure an excellent **aesthetic finish** are:

- **Quality of the material** (colour, graininess, deformation)
- **Finishing of the production process** (stain rings, missing paint and dirt on plastics)

At quality level no major issue or damage has been observed. However, Competitor B presents some fixing clips on the side of the housing to solve a manufacturing error. This adds negatively to the quality and durability of the product as its features are already altered.

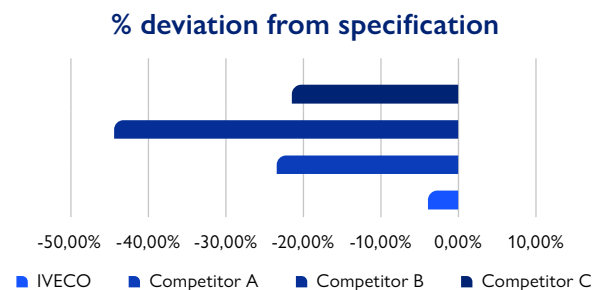
After the checks, DEKRA technicians assigned an overall score between 0 and 5:

IVECO	★★★★★
Competitor A	★★★★☆
Competitor B	★★★☆☆
Competitor C	★★★☆☆

Characteristics of the raw materials.

Dekra carried out the DSC (differential scanning calorimetry) test according to ISO 11357-1-2-3 and a material scanning through microscopic analysis according to ISO 3451-1:2019. At first glance, both housing and lens have a similar composition to the genuine IVECO headlight. However, the difference is clear when analyzing the housing through the microscope. The samples show that the components contain a certain amount of talc. However, the better competitor headlight contains lower talc content compared to the IVECO Genuine.

To the related specification for Polypropylene - related specification, the talc content in the headlight should reach 40%. Deviations from this amount lead to a decrease in mechanical performances. Specifically, a low percentage of talc could decrease elastic properties of the product; higher percentages make the headlight more fragile in case of impact and vibrations.



IVECO GENUINE HEADLIGHT IS THE ONLY ONE IN LINE WITH THE SPECIFICATION. THIS ENHANCED QUALITY WILL ENSURE THE DURABILITY OF YOUR HEADLIGHT.

IVECO

Drive the road of change

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