

ZOOM

FOCUS ON TECHNOLOGY



PRODUCT COMPARISON

STRALIS Bumpers.

Your safety, our priority.



in collaboration with  DEKRA

Genuine Parts
HIGH PERFORMANCE

How They are made.

The Bumper.

IVECO bumper prevents, limits and absorbs the impact of a collision, which is why safety is a fundamental feature. High-quality raw materials and precise monitored manufacturing processes ensure the maximum standards for our Genuine bumpers. IVECO products are tested beyond the requirements of regulatory standards to provide greater **quality** assurance.

In addition, IVECO Genuine bumpers ensure maximum energy efficiency thanks to their lightweight and aerodynamics properties.

IVECO Genuine bumpers can absorb the energy generated in an accident, transmitting it to the whole bodywork. Considering the excellent resistance to deformation and impact, **maximum protection** is always provided not only for the driver but also for all the components located in the front part of the vehicle.

An IVECO Genuine bumper is specifically designed for the vehicle and identical to the “first fit” part it will replace. This perfect compatibility also ensures the proper aerodynamic flow and demands for shorter repair times, resulting in improved cost-effectiveness of the repair.



How they are tested.

The original IVECO Genuine Bumper was tested together with three other bumpers from competitors by the independent German testing institute DEKRA.

The goal was to compare the four bumpers and their features by simulating events that occur throughout their life cycle.

The tests carried out by DEKRA technicians determined that the bumpers' features on materials and their resistance are in compliance with the following standards:

- Material scanning (DSC) UNI EN ISO 11357-3:2018, microscopic analysis UNI EN ISO 3451-1:2019
- Bending test UNI EN ISO 178:2019
- IZOD resilience test UNI EN ISO 180/1A:2020
- VICAT softening point UNI EN ISO 306:2015

A teardown was also performed to analyze both the technical (materials, assembly quality) and functional aspects (included subcomponents – bolts, screws and plastic plugs).



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 bumper performed the best results in all the following key areas:

Quality

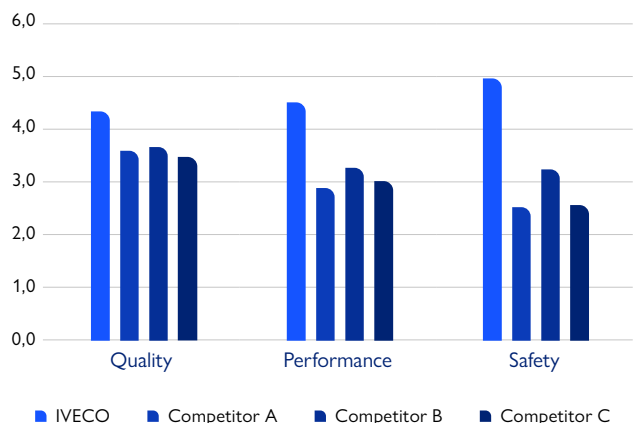
Perceived quality and packaging

Performance

Quality and material elasticity, mechanical resistance and flexibility

Safety

Elasticity and resistance to deformation and hot/cold impacts



Quality and Reliability.

In addition to securing maximum quality in terms of material and manufacturing procedures, IVECO bumpers are also distinguished by their reliability and assembly precision which guarantees optimal strength of the structure. Aesthetic finishes and longevity are guaranteed by the robustness of the materials and optimal protection against wear and tear.

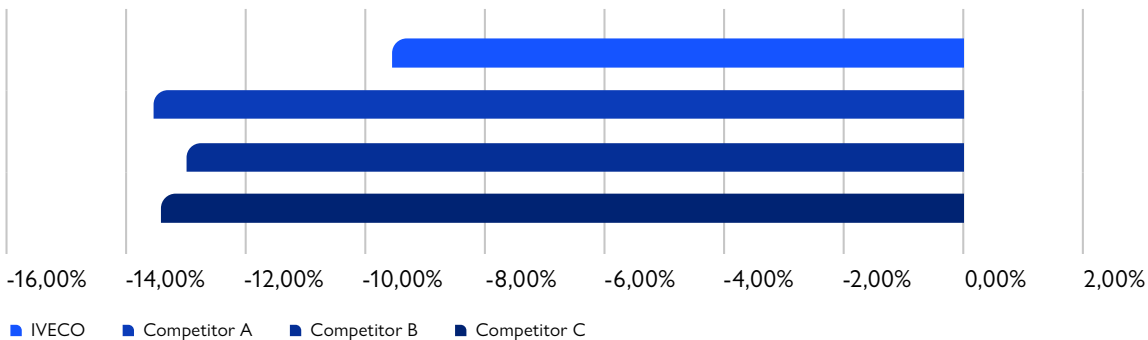
Characteristics of the raw material.

To evaluate the features and the quality of the raw material, DEKRA carried out the DSC (differential scanning calorimetry) test according to ISO 11357-3:2018 and a scanning through microscopic analysis according to ISO 3451-1:2019.

The DSC analysis conducted demonstrated excellent performances of Genuine bumper in terms of hardness, stiffness, chemical resistance, toughness, and temperature resilience. Genuine part confirms to be Polypropylene. While differences have been identified on competition parts where a presence of an inorganic matrix has been found in a percentage between 26% and 30%.

By means of microscope observation, DEKRA verified the talc content: Deviation from the original talc specification leads to a decrease in mechanical performances; more specifically, low talc percentages show a worsening of elastic properties.

% Deviation from specification



Packaging and general product appearance.

To define the overall quality of the four samples, DEKRA also evaluated the packaging.

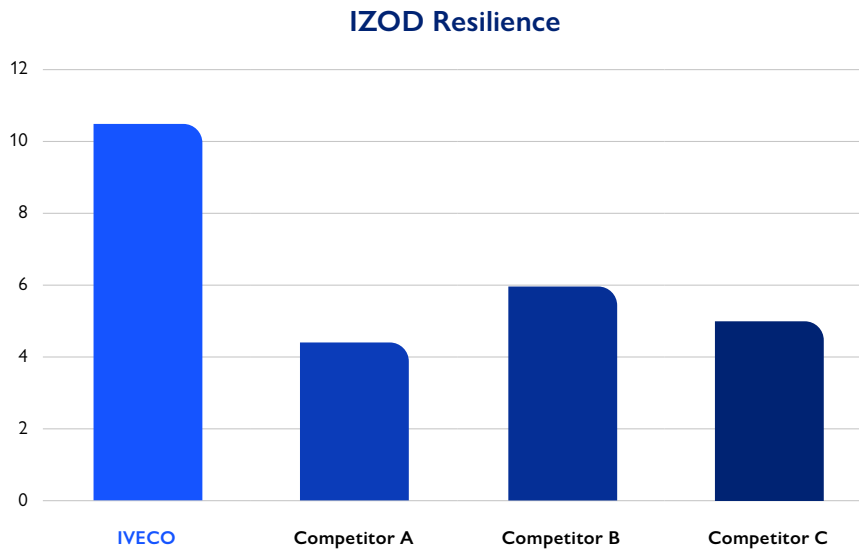
Compared to the competition, IVECO delivers the part with plastic plugs and screws already assembled allowing the user to save time. IVECO Genuine bumper is the only one delivered in a horizontally oriented package with full instructions for recycling and storage (including placement verses), the sample is further protected by bubble wrap packaging.

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

IVECO GENUINE BUMPER SCORED SUPERIOR PERFORMANCES IN TERMS OF RESISTANCE, HARDNESS, STIFFNESS AND TEMPERATURE RESILIENCE

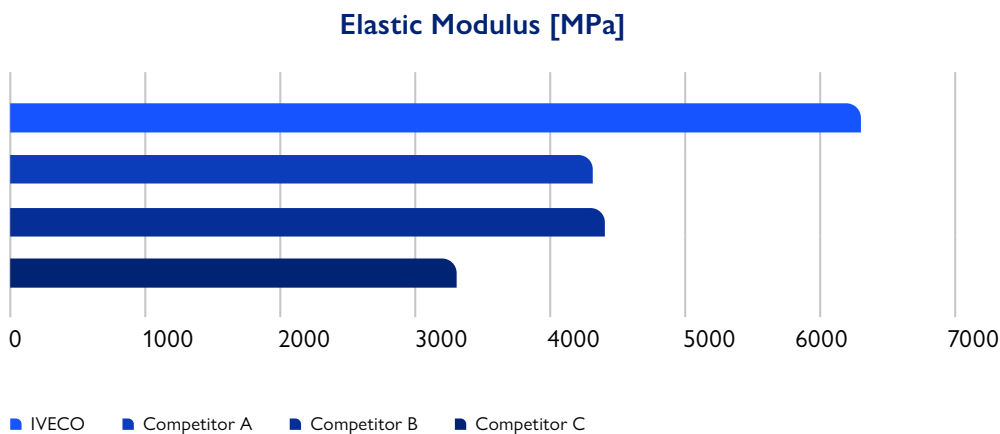
Performance.

With the IZOD resilience test, DEKRA technicians have measured the maximum effort that every sample was able to support before breaking in equal and defined environmental conditions ($T = (23 \pm 2)^{\circ}\text{C}$).



IVECO Genuine bumper proved a better resistance, while the three competitors were found to be more fragile and therefore less efficient in absorbing impacts.

To further evaluate the overall performance of the bumper, DEKRA measured the elasticity through the elastic modulus test. Elasticity is a property that allows the bumper to deform when subjected to an external force and restore to its original shape when the stressing cause is removed. IVECO Genuine bumper results revealed to be more resistant and elastic.



The second characteristic to define performance is **flexibility**: the quality of bending easily without breaking and it is a property useful to get the overview of the overall performance. When it comes to flexibility Competitors B and C obtained better results while Iveco Genuine resulted the best performer in terms of maximum resistance (MPa).

WHILE THE THREE COMPETITORS SCORED BETTER RESULTS IN TERMS OF DEFORMATION AND FLEXIBILITY UNDER STRENGTH, IVECO GENUINE HAS A HIGHER BREAKING STRAIN



Safety.

The function of the bumper is to prevent, limit and absorb the impact of a collision, which is why **safety** is considered as a key element.

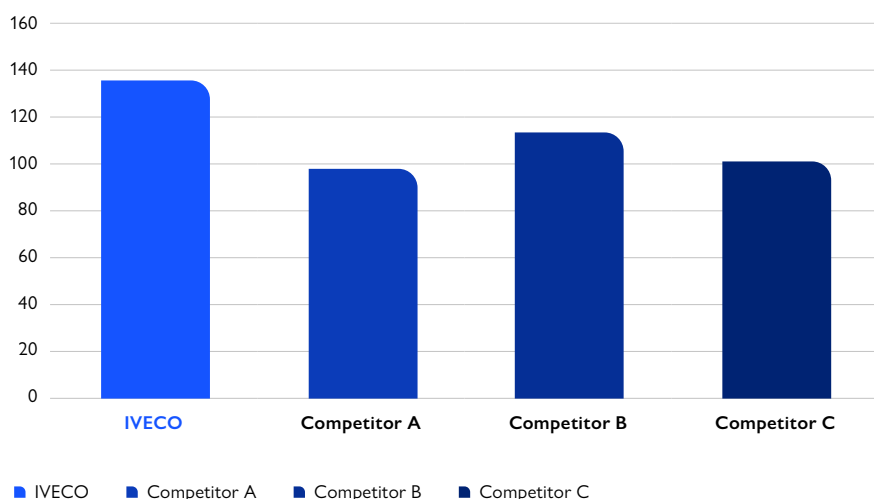
IVECO Genuine bumpers can convey the energy of an impact to the entire bodywork. IVECO offers the highest level of protection not only to the driver, but also to all the components found in the vehicle hood thanks to their remarkable resistance to deformation and impacts.

To evaluate safety, DEKRA technicians carried out two main tests:

- VICAT softening test
- Resistance test (average between **maximum resistance test and tension at break test**)

VICAT softening point measures the temperature at which the bumper starts to melt from a solid to a fluid condition. IVECO Genuine Bumper showed higher resistance to hot temperature compared to competitors, which have resulted in a lower and almost equivalent results between them.

VICAT softening point



The second point to be considered is the assessment of the **resistance**: a combination between the tests obtained the maximum rate with 5/5 points overall.

SAMPLE	RESISTANCE
IVECO	🛡️🛡️🛡️🛡️🛡️
Competitor A	🛡️🛡️
Competitor B	🛡️🛡️🛡️
Competitor C	🛡️🛡️

DEKRA CONDUCTED TWO TESTS THAT DEMONSTRATED THE PERFORMANCE OF THE BUMPERS IN TERMS OF RESISTANCE TO HIGH TEMPERATURES AND TENSILE STRENGTH: IVECO BUMPER ENSURES TOP-CLASS SAFETY FOR BOTH DRIVER AND VEHICLE COMPONENTS

IVECO

Drive the road of change

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