

Informal document **GRB-57-26**
(57th GRB, 5-7 February 2013,
agenda item 12)

The Russian Federation
Proposal for Amendment 2
to the Consolidated
Resolution on the
Construction of Vehicles
(R.E.3)

The proposal concerns:

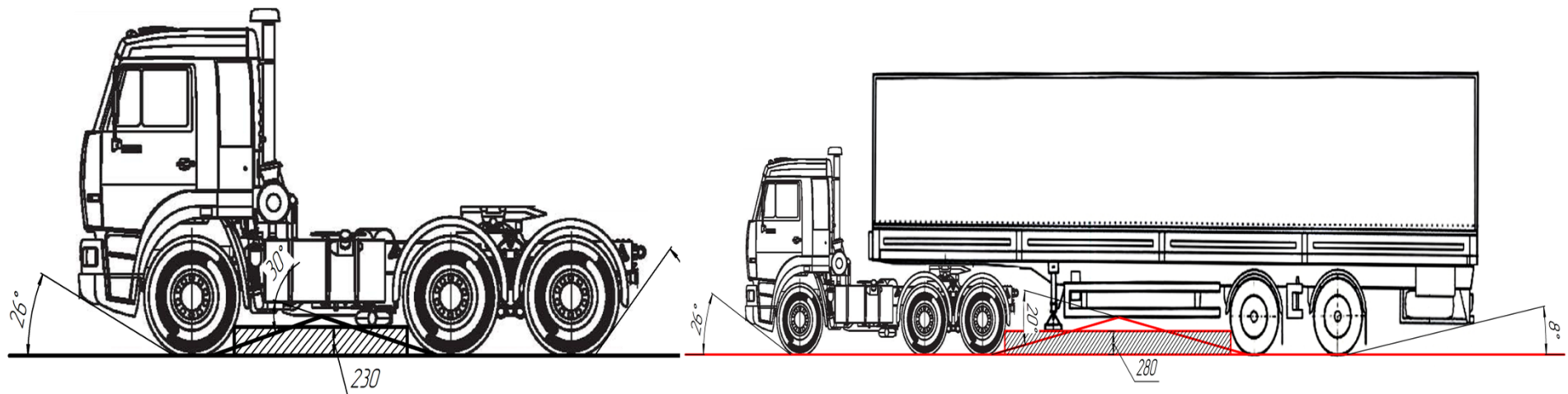
- ***Specifications on category G for road tractors***
- ***Specifications on the formulation of requirements on noise***
- ***Modification of the method of measuring vehicle internal noise***
- ***Recommended permissible levels of vehicle internal noise***

Background

- At the 55th and 56th GRB sessions the proposals of the Russian Federation concerning the Consolidated Resolution on the Construction of Vehicles R.E.3 (ECE/TRANS/WP.29/78/Rev.2) had been considered. The Russian expert introduced document ECE/TRANS/WP.29/GRB/2012/12. GRB decided to resume discussion on this subject at its February 2013 session, awaiting revised proposals by the Russian Federation and reproducing separately the different subjects of the said document.

Specifications on category G for road tractors

Parameter	Road Tractor	Tractor-lorry-trailer combination
At least half the wheels are driven	Two axles from three	Two axles from five (Two axles from six)
At least one differential mechanism	Yes	Yes
Climb a 25 per cent gradient	Yes	???
Approach angle must be at least 25 °	26 °	26 °
The departure angle must be at least 25 °	48 °	8 °
At ramp angle must be at least 25 °	30 °	20 °
The ground clearance under the front axle must be at least 250 mm	More than 250 mm	More than 250 mm
The ground clearance under the rear axle must be at least 250 mm	More than 250 mm	More than 250 mm
The ground clearance between the axles must be at least 300 mm	230	230 or 280 ???



- *Paragraph 2.8.2.2.:* The text of the UN R.E.3 does not specify, how to test the road tractor for towage semitrailers (with or without semitrailer) in order to refer them to G category vehicles. It may be possible to test a single tractor, which in practical conditions practically is not used on roads, and erroneously refer it to G category, although the basic designation of a trailer is to tow semitrailers on public roads. The proposed modification excludes possible reference of tractors to G category vehicles.

Specifications on the formulation of requirements on noise

- *Paragraph 3.:* The proposal specifies that the column "Tractors" concerns T category vehicles and corrects the heading of the UN Regulation No. 117.
- *Paragraph 4.:* The proposal gives more details of the scopes of UN Regulations concerning vehicle noise.
- *Paragraph 8.4, 8.4.4., 8.8.1.2., 8.8.2.1.1., 8.8.2.1.3., 8.8.2.1.4.:* Editorial corrections providing for uniformity of the provisions.
- *Paragraph 8.8.2.1.2.* The specification applies to noise emitted by three-wheeled vehicles in use. Also it is proposed to specify vehicle categories as established by the R.E.3.

Modification of the method of measuring vehicle internal noise

This informal document includes the amendments concerning:

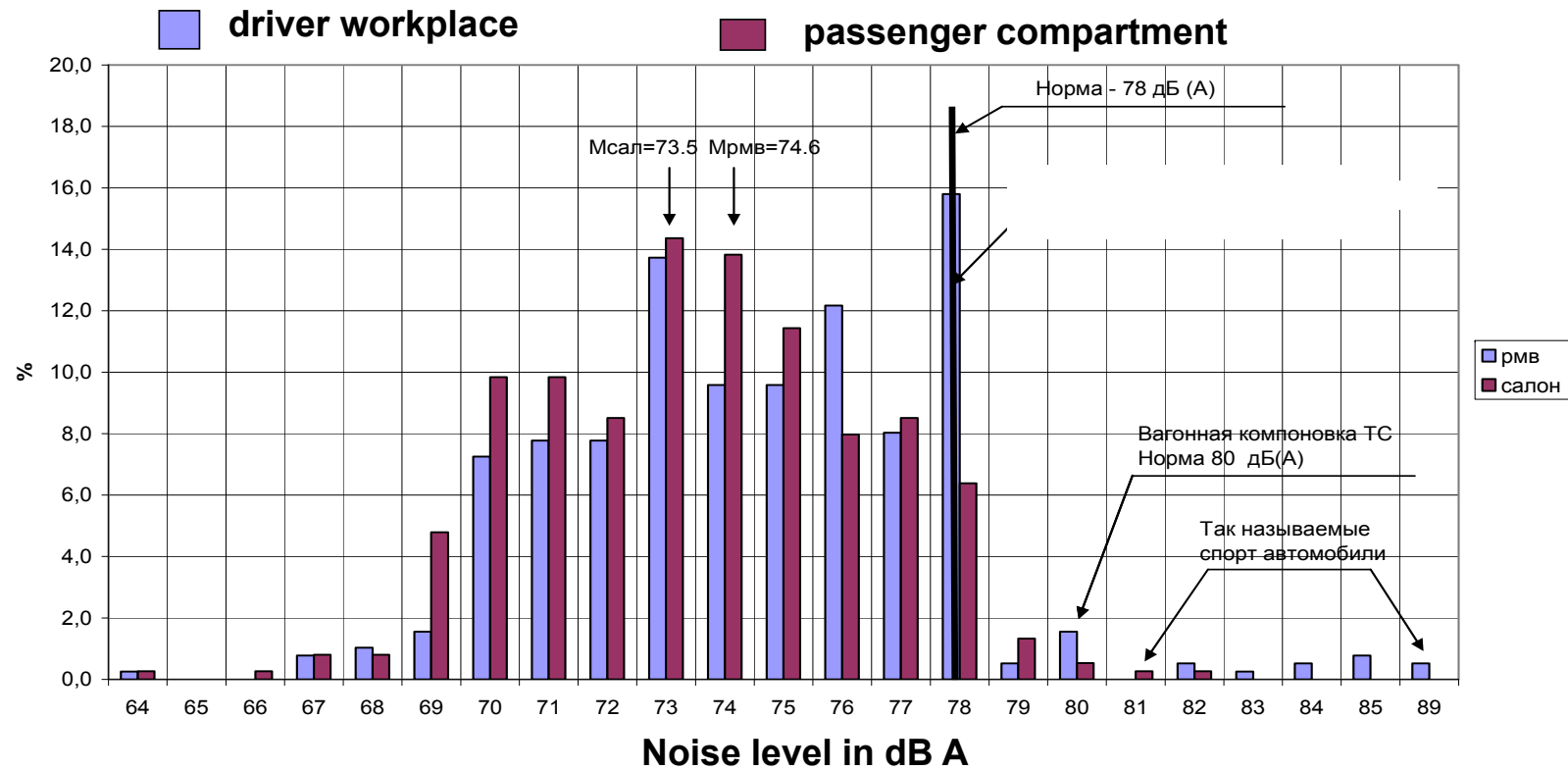
- Means of measurement of internal noise;
- Requirements to a test site;
- Requirements to test samples;
- Test conditions and installation of microphones;
- Analysis of test results

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- *Paragraph 8.38. and its subparagraphs.:*
The present text contained in UN R.E.3. is based on the ISO 5128 standard, developed in 1980s. This proposal concerns both specifications of requirements of the measuring equipment, and changes to the test technique due to the development of vehicle design in the last decades.

Recommended
permissible levels
of vehicle internal noise

Statistics Category M1

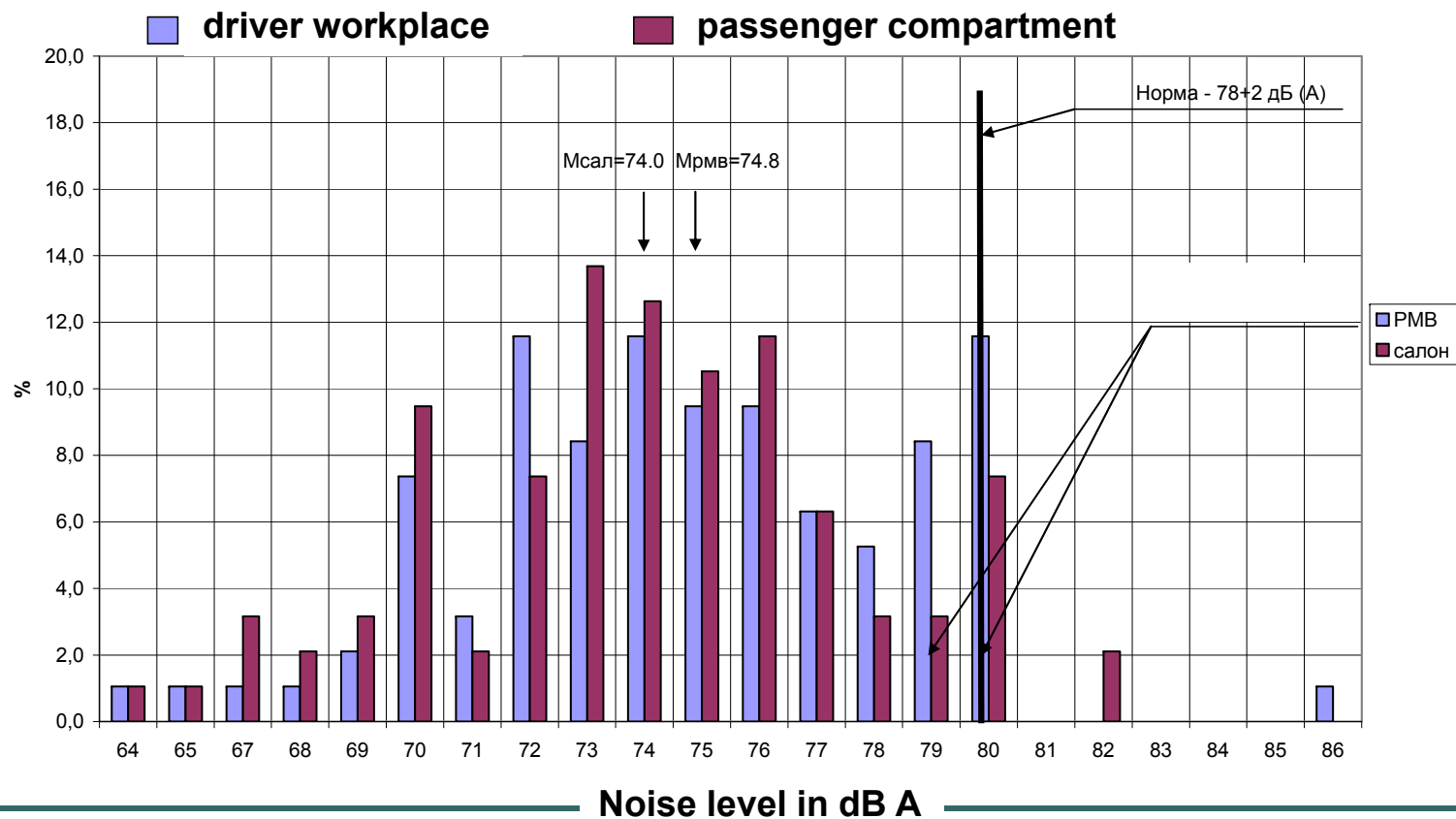
The histogram of distribution of noise levels on a driver workplace and in passenger compartment at acceleration according to GOST P 51616 (386 samples)



Statistics

Category M1G

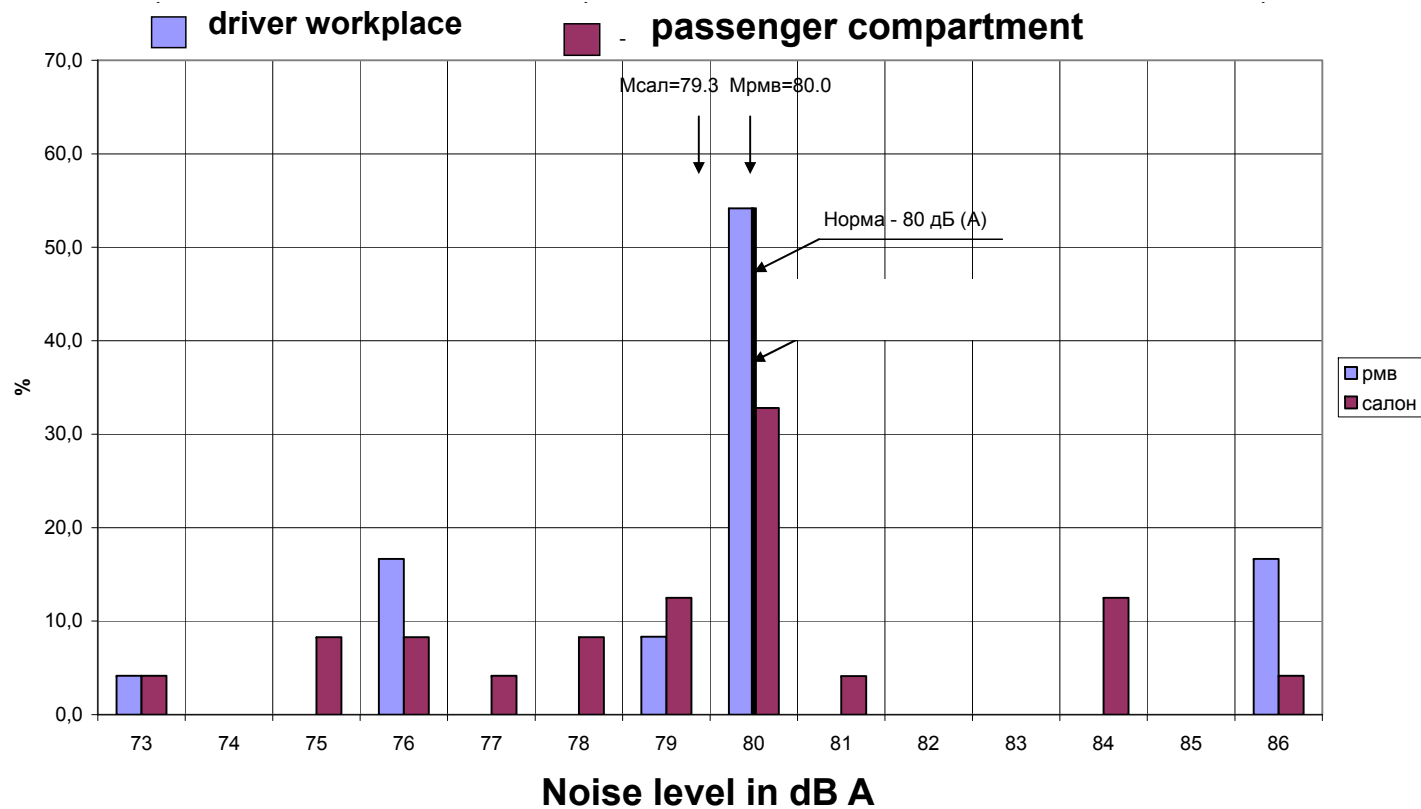
The histogram of distribution of noise levels on a driver workplace and in passenger compartment at acceleration according to GOST P 51616 (95 samples)



Statistics

Category M2

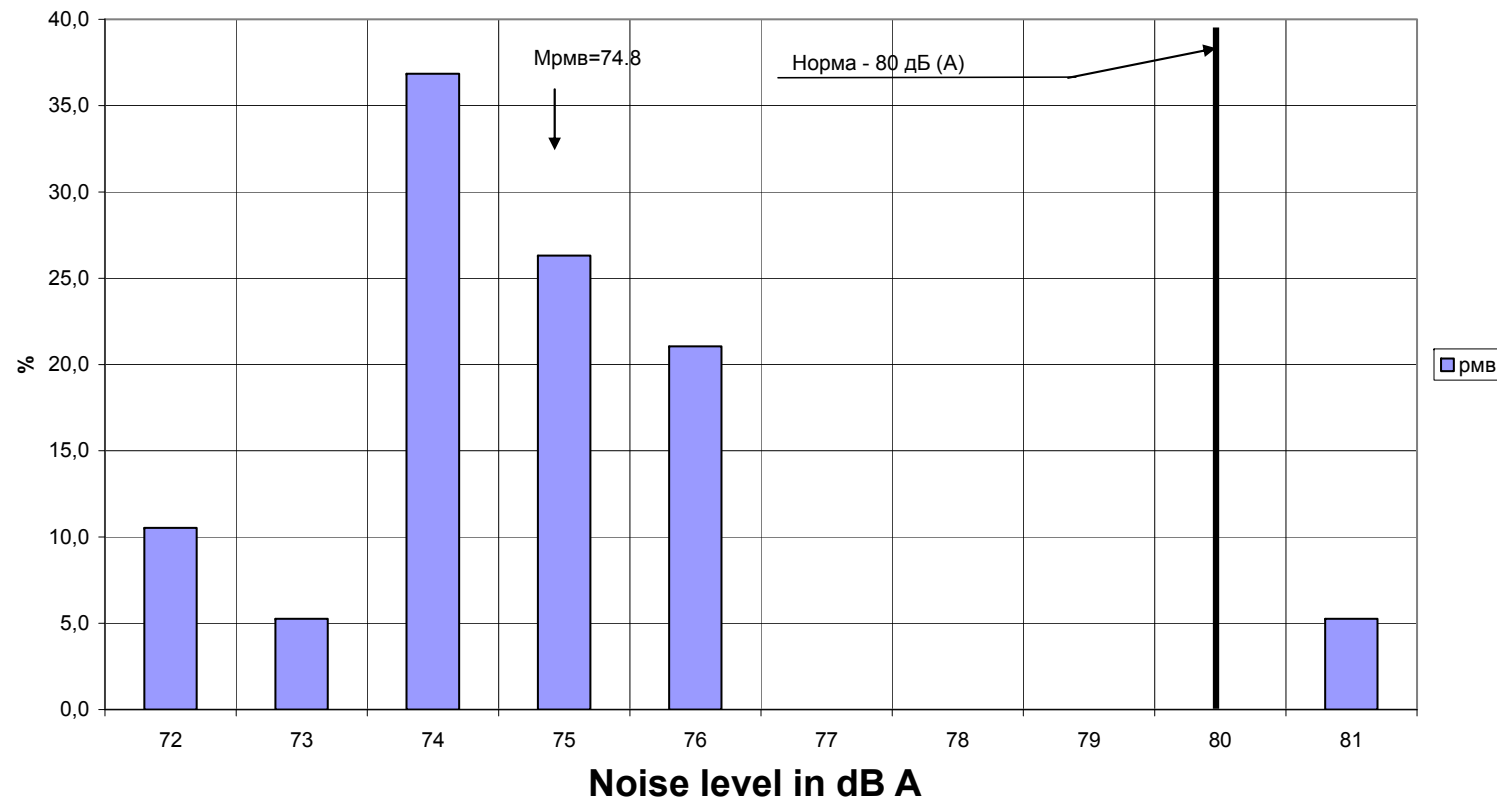
The histogram of distribution of noise levels on a driver workplace and in passenger compartment at acceleration according to GOST P 51616 (24 samples)



Statistics

Category N1 (m < 2000 kg)

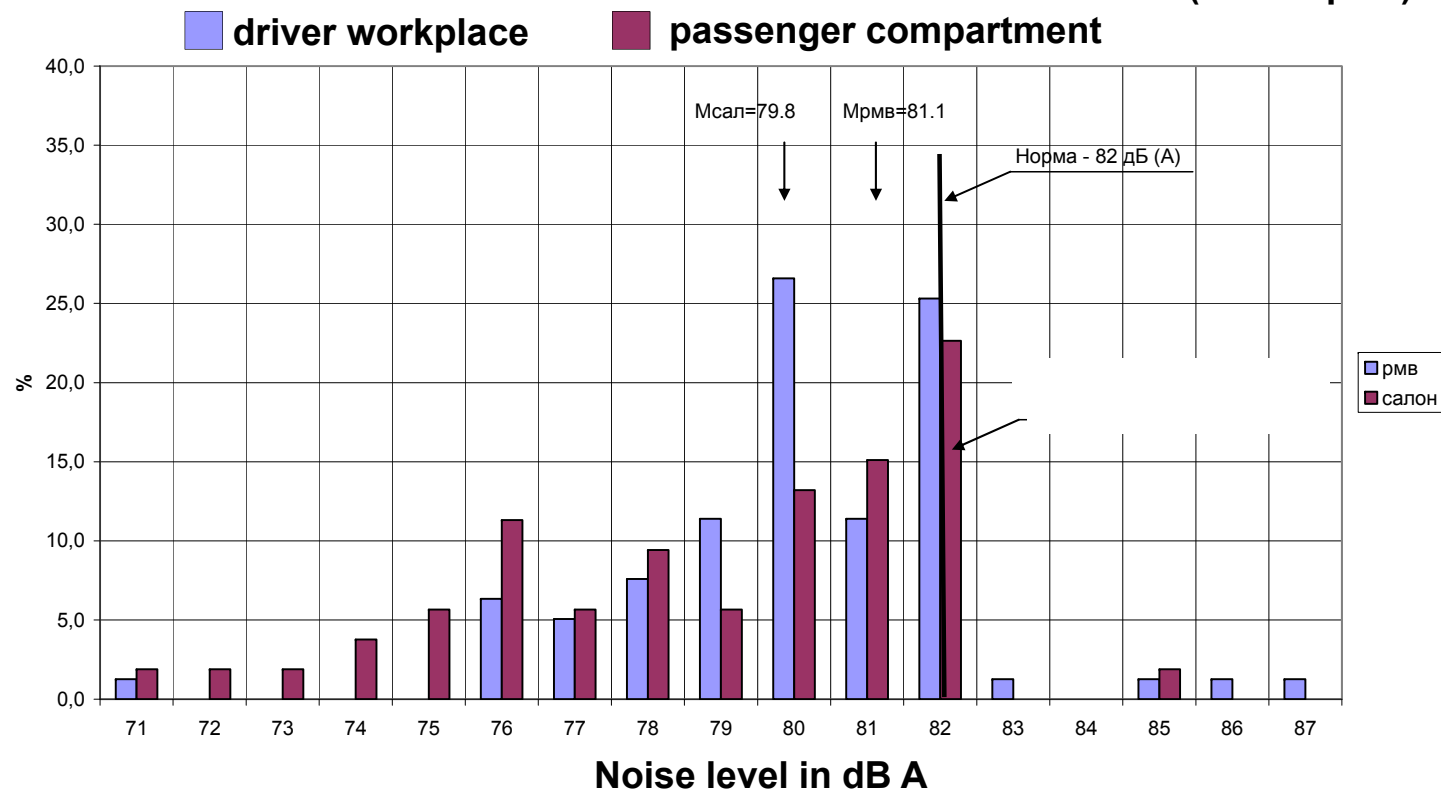
The histogram of distribution of noise levels on a driver workplace at acceleration according to GOST P 51616 (20 samples)



Statistics

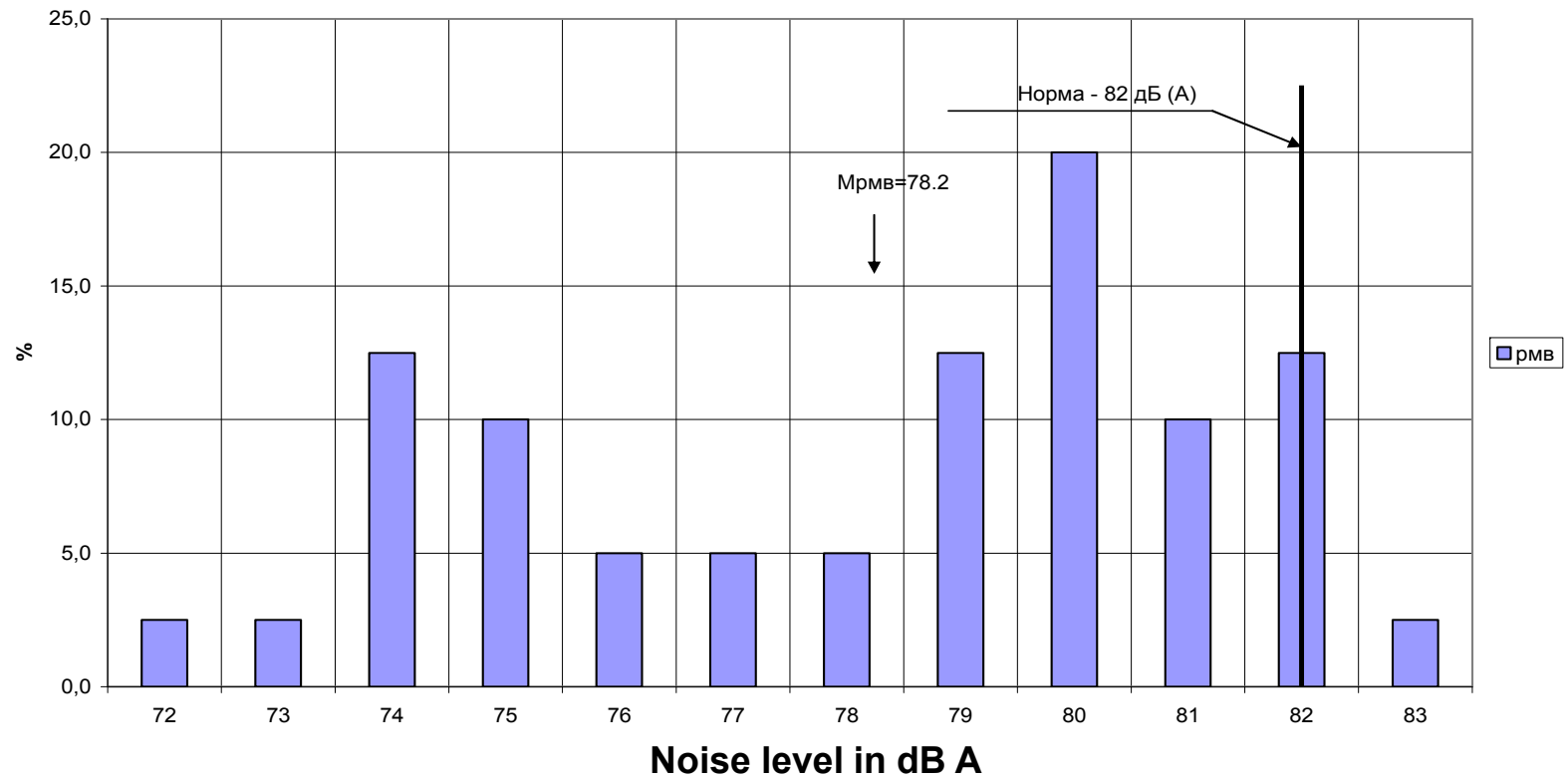
Category N1 (2000 kg < m < 3500 kg)

The histogram of distribution of noise levels on a driver workplace and in passenger compartment at acceleration according to GOST P 51616 (79 samples)



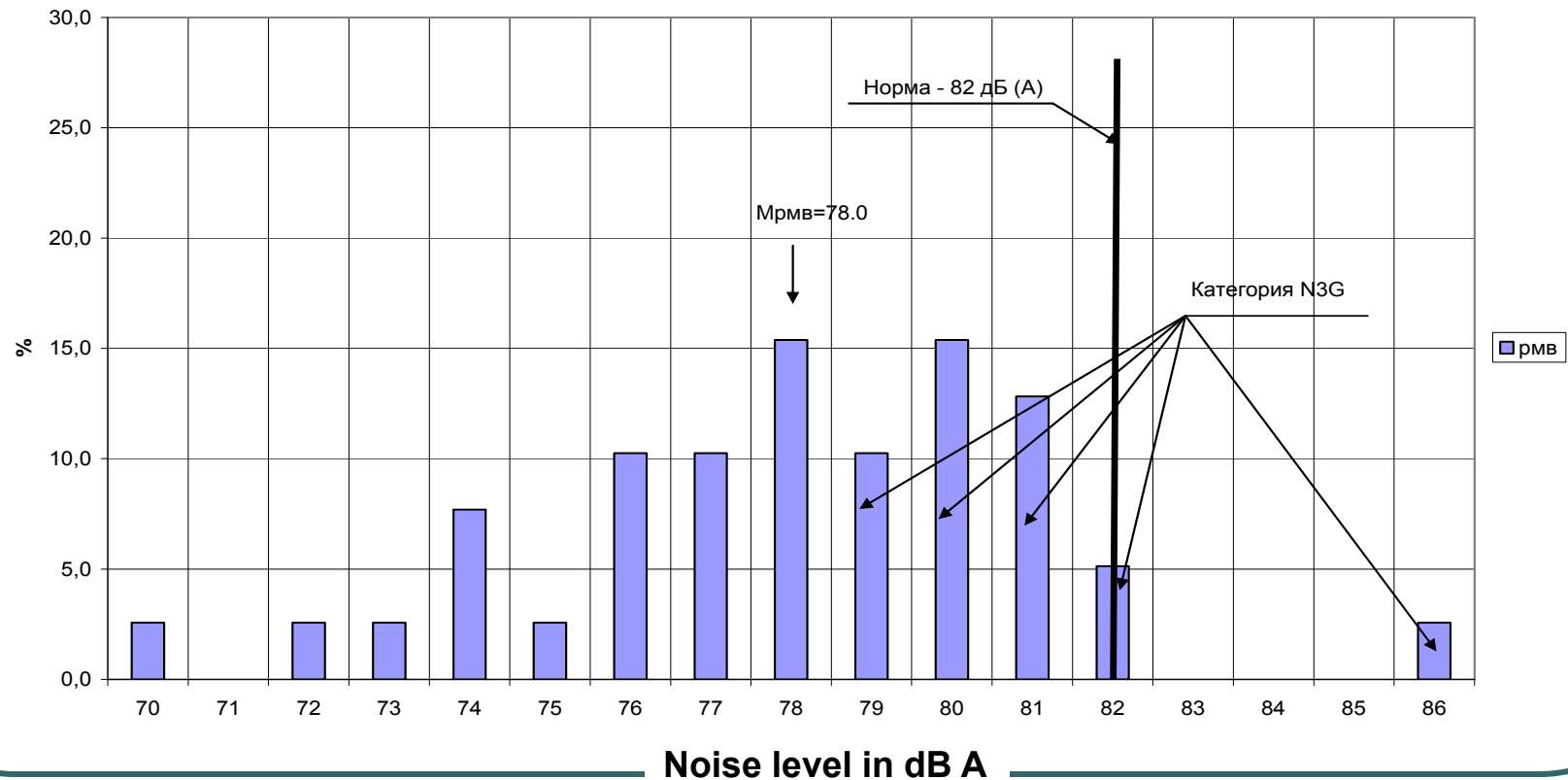
Statistics Category N2

The histogram of distribution of noise levels on a driver workplace at acceleration according to GOST P 51616 (39 samples)



Statistics Category N3

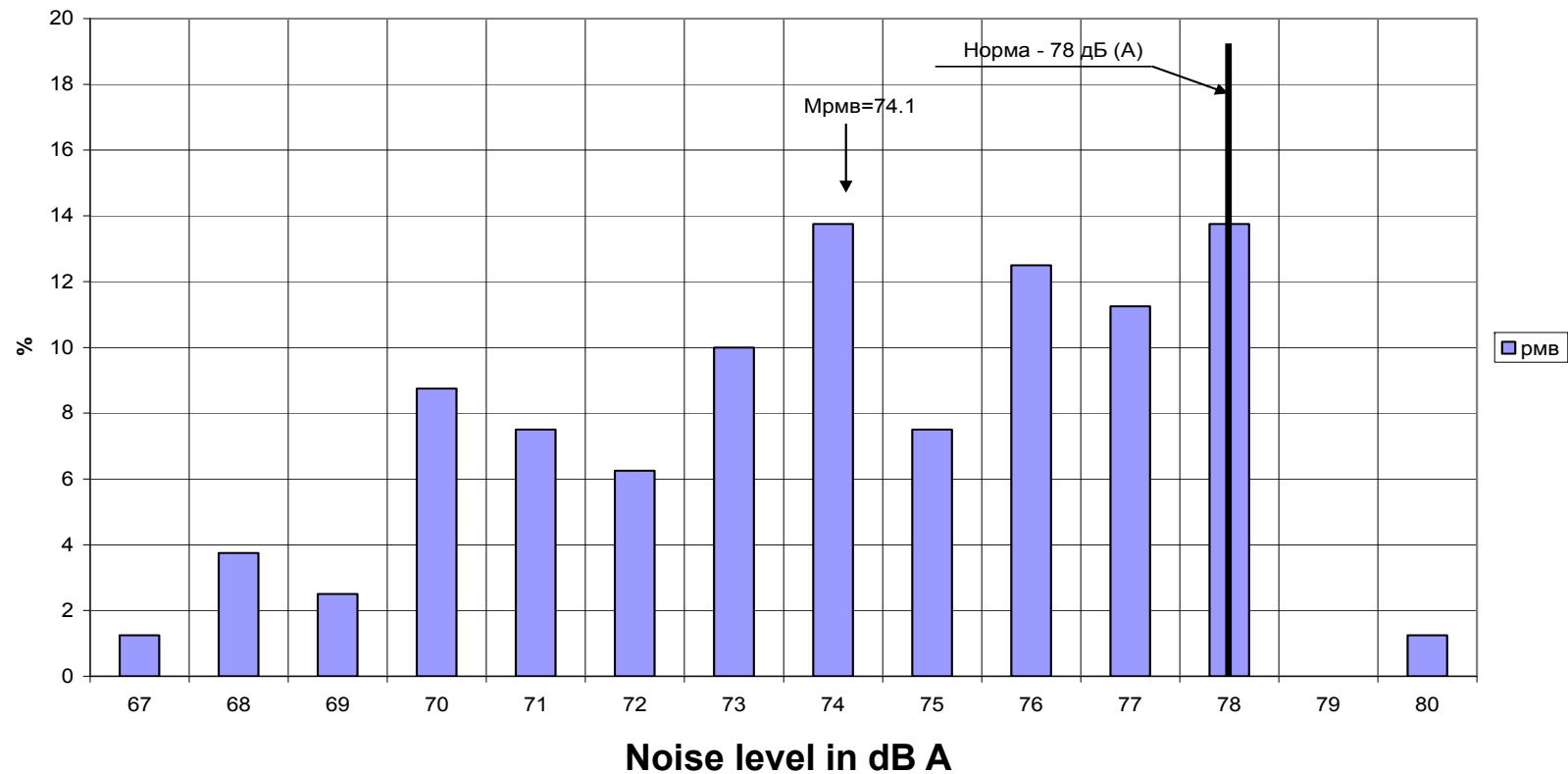
The histogram of distribution of noise levels on a driver workplace and in passenger compartment at acceleration according to GOST P 51616 (39 samples)



Statistics

Category M3 (engine in the back)

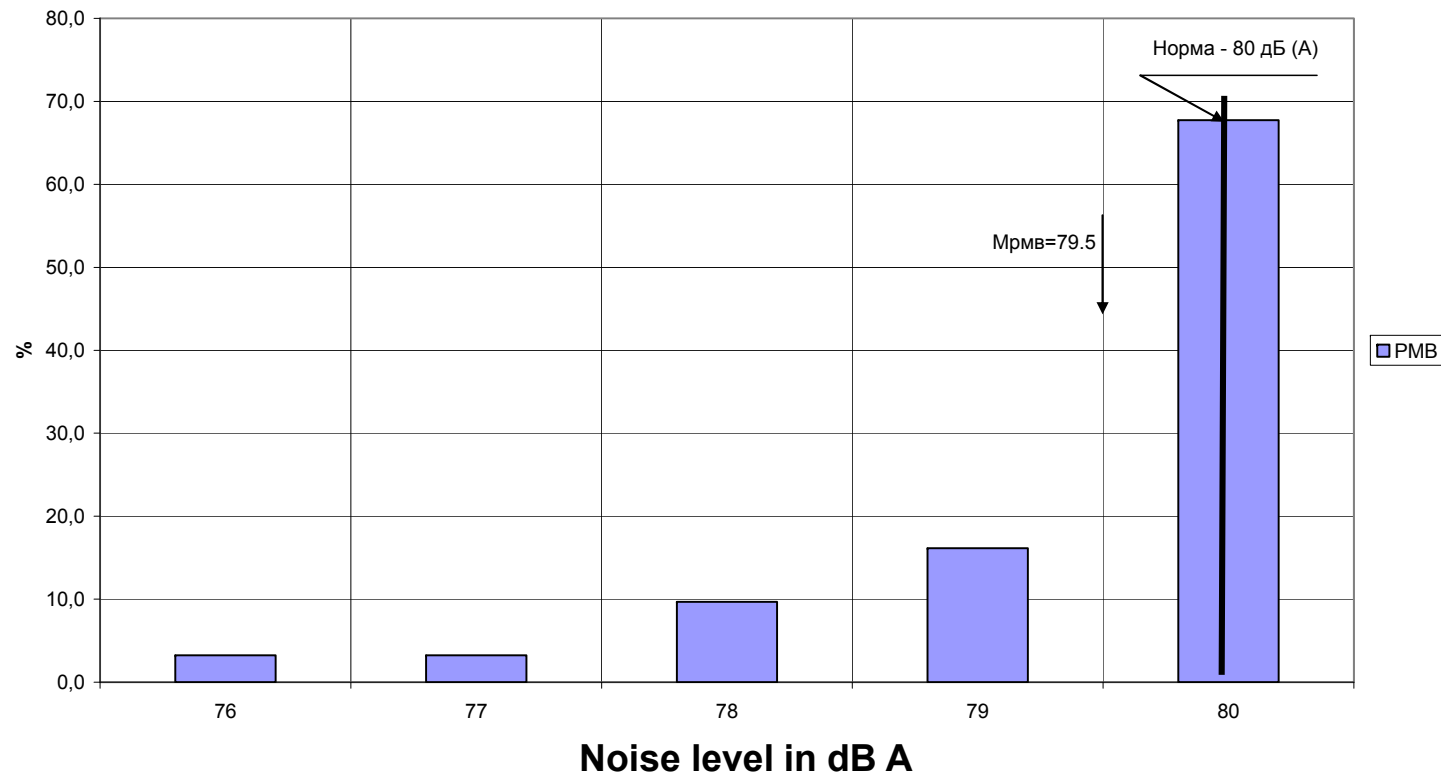
The histogram of distribution of noise levels on a driver workplace at acceleration according to GOST P 51616 (80 samples)



Statistics

Category M3 (engine in the front)

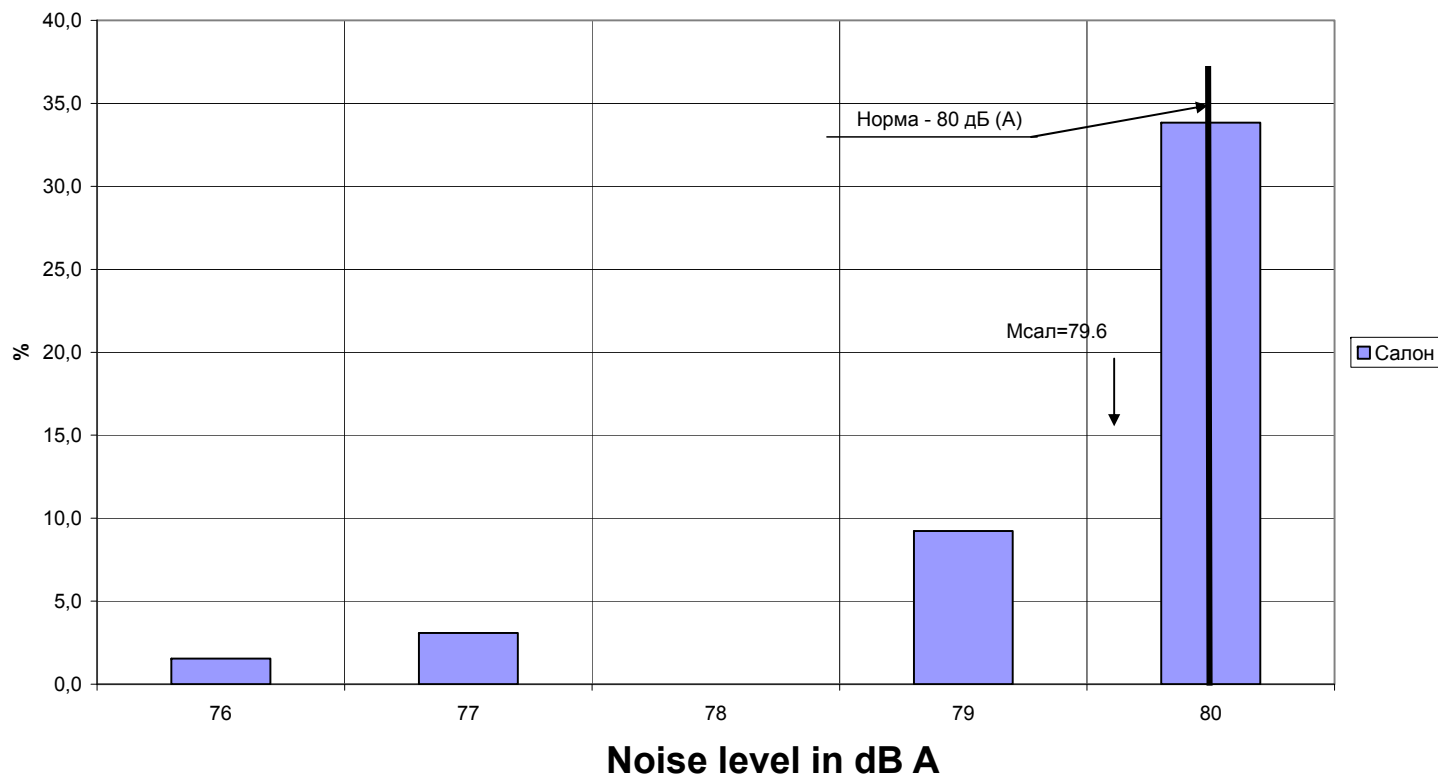
The histogram of distribution of noise levels on a driver workplace at acceleration according to GOST P 51616 (31 samples)



Statistics

Category M3 (class III)

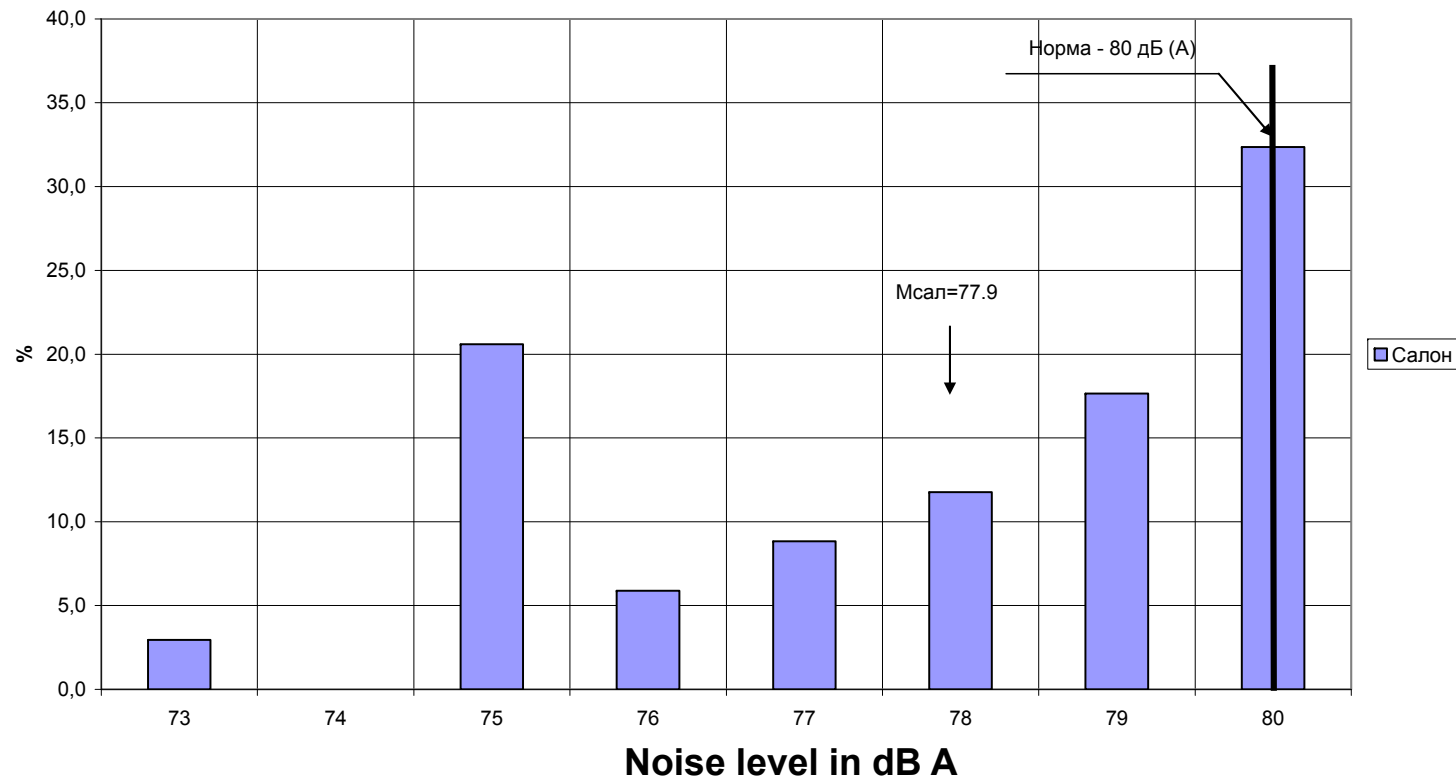
The histogram of distribution of noise levels in passenger compartment at acceleration according to GOST P 51616 (64 samples)



Statistics

Category M3 (class II)

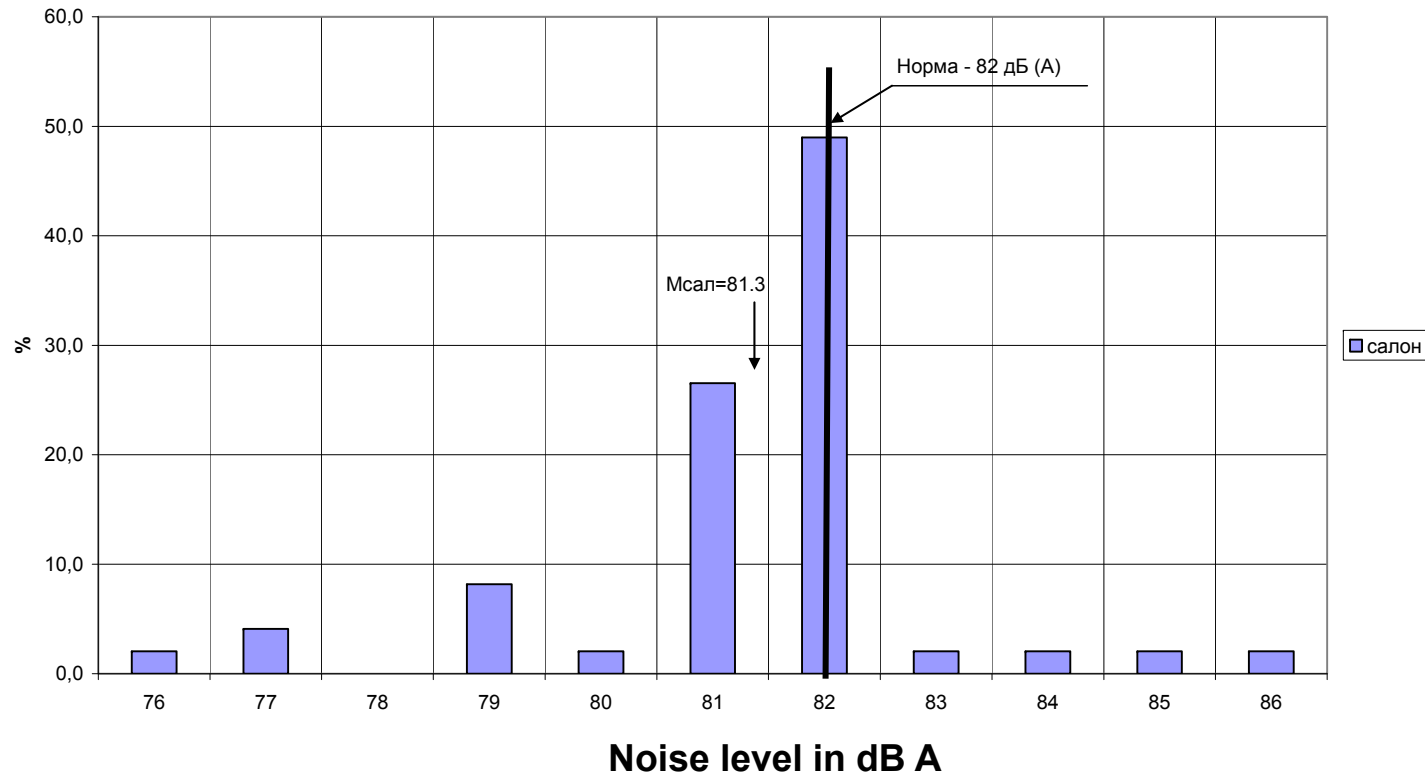
The histogram of distribution of noise levels in passenger compartment at acceleration according to GOST P 51616 (64 samples)



Statistics

Category M3 (class I)

The histogram of distribution of noise levels in passenger compartment at acceleration according to GOST P 51616 (49 samples)



<i>Motor vehicle</i>	<i>Permissible levels of noise, dB (A) *</i>
<i>Motor vehicles for transportation of passengers</i>	
Categories M2 and M3	
(a) at the driver's seat	78
(a) in the passenger compartment of class B, II and III buses	80
(a) in the passenger compartment of class A and I buses	82
Categories M2 and M3 with the engine located in front of adjacent to the driver's seat, including special purpose buses manufactured on the chassis of trucks	80
<i>Motor vehicles for transportation of goods</i>	
Category N1 with a laden mass up to 2 t	80
Category N1 with a laden mass from 2 t up to 3.5 t	82
Categories N2 and N3	82
Categories N2 and N3 (trucks with a sleeping berth)	80
Semitrailers for transportation of passengers	80
<i>Trolley-buses</i>	
(a) at the driver's seat	78
(a) in the passenger compartment	82
Vehicles with the pneumatic braking system, when the compressed air is discharged from the pneumatic valves after the actuation of brakes	70

* Note: The permissible noise levels for all-wheel drive motor vehicles of categories M₂G, M₃G, N₁G, N₂G, and N₃G may be exceeded by not more than 1 dB (A).

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- *Paragraphs 8.8.1. and 8.8.1.3.:* These paragraphs recommend limit values on vehicle internal noise. These data will be useful in a technological level assessment of internal noise taking into account the technique specified in paragraph 8.38. Limit values are set for both the driver working space and for the passenger compartment. The proposed values are based on the statistics of a considerable number of measurements from the Russian Federation at the time of vehicle homologation within the framework of the national vehicle certification system. Several editorial corrections are also introduced.

THANK YOU!