



Mobile Building Laboratory PSL- 1

A. APPLICATION AND MAIN FEATURES

The mobile building laboratory is intended for:

- Transportation of three persons (including the driver) and equipment to the place of operation
- Concrete samples and common and one-and-a-half brick testing on compression
- Definition of rigidity index of concrete mixture, preparation from the mixture the check samples, and concrete testing.
- Cold resistance concrete testing
- Definition of consistence of cement grout
- Effective laboratory control of stability and homogeneity of concrete, mixture, brick by the impact impulse method
- Definition of mobility of concrete mixture on solid and porous fillings
- Preparation of concrete paste
- Definition of normal thickness and duration of concrete paste setting
- Program changing of temperature in thermostat and automatic fixation of temperature of sample frailty
- Measurement of air humidity and temperature of concrete mixtures
- Testing of cement samples on twin-pillar bend at normal temperature
- Preparation of cement paste while cement testing
- Thermal treatment of concrete while definition of strength to compression
- Prompt definition of thermal conductivity of building materials and as well materials, designed for thermal insulation of industrial equipment and pipe insulation with the help of method of thermal probe
- Drilling out of cylindrical samples core in concrete constructions for the purpose of definition of concrete strengths
- Definition of concrete activity
- Definition of control and diagnostics of objects based on observation and distribution of temperatures

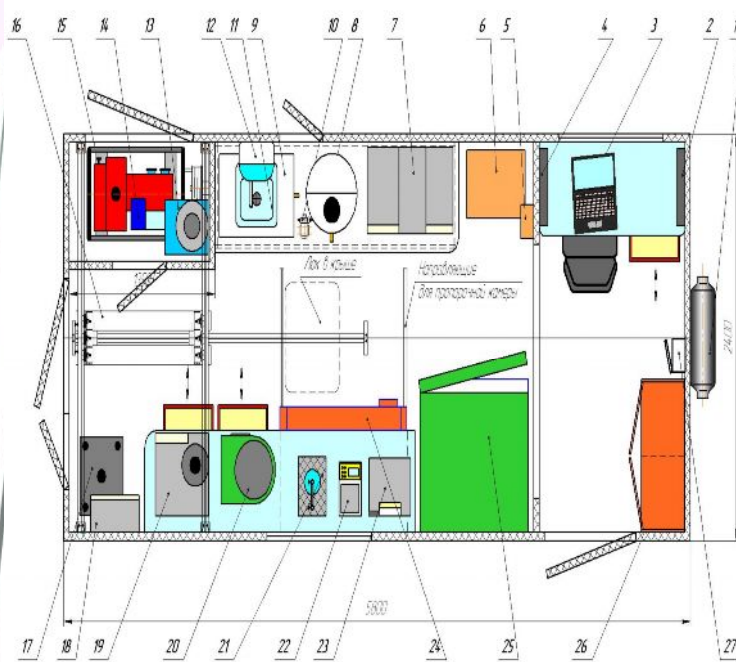


The laboratories are manufactured in climatic modifications MFC category 4 according to GOST 15150. Technical characteristics of the laboratory equipment must be provided upon conditions of temperature inside laboratory from plus 1 to plus 35°C and absence of humidity condensation on the equipment.

A. LABORATORY ARRANGEMENT

The mobile building laboratory is a special technological unit. Staff of the crew consists of two people.

The body of the laboratory is made from the sandwich panels, inside and outside are white plastic and consists of two sections – laboratory section and operating section, because of the effective work place arrangement.



Denomination	Quantity
1 Heater OB-95	1
2 Laptop pocket	1
3 Laptop	1
4 Document pocket	1
5 Control unit SMK-539	1
6 Vibroplate SMJ -539	1
7 Apparatures 2170P6	1
8 Water container 100 l.	1
9 Plastic barrel 100 l	1
10 Pump	1
11 Washer	1
12 Heating boiler	1
13 Laboratory flow table KP-111A	1
14 Vika unit OPC-1	1
15 Diesel generator	1
16 Lifting device	1
17 Press	1
18 Control panel	1
19 Automatic mixer	1
20 Agitator	1
21 Kill unit	1
22 Electronic scale	1
23 Platform scale	1
24 Steam camera KYP-1M	1
25 Climatic testing camera	1
26 Locker	1
27 First aid box	1

Fig.1 – The scheme of location laboratory and technological sections

Laboratory (operators) section (photo 1,2)

It is intended for operation works with concrete, cement mixtures on different characteristics.

Photo 1



Photo 2



Photo 1,2 – Overall view on the laboratory section

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On the left side of the laboratory (in the direction of travel photo.3) the laboratory table with the following equipment is located: laboratory shaker table KP-111A, device 2170 P-6 (photo 4), for electric power supply over the table the ducting with four sockets is provided. (3 sockets -220V, 1 socket -380V).



Photo 3 - General view on the left side of the laboratory section



Photo 4 – View on the device 2170 P-6

For compliance of technological norms in the section of the laboratory table there is a washer with heating boiler (see photo 5) and automatic water supply.



Photo 5 – View of water supply support system

On the right side of the laboratory section (in the direction of car travel see the photo 6) there is the press BM-3.6, mixer tap ALS-5, chum MTZ, electronic scale, platform scale, climatic camera KM 55/50-120 SB, steam camera KYP-1M (see photo 7), vetch OGC-1, in the drawer there are: cube forms, exsiccator, thermal device, cones in the set with funnels, laboratory trays, torque snappers, tempering cup, crucible tongs, rod with the handle, tubular drills with diamond crown.



Photo 6 – General view on the right side of the laboratory section



Photo 7 – View on the steam camera KYP-1M

In the laboratory section a special hatch is designed for the emergency conditioning. (see the photo 8)



Photo 8 – View on the organization of the emergency conditioning and load lifting device view

and load lifting device with electric drive, moving on monorail (see photo 9, 10).

Photo 9



Photo 10



Photo 9,10 – General view on the load lifting device

Operating section (see the photo 11)

Operating section is designed for processing and presentation of the results of the building materials testing.



Photo 11 – General view on the working area



Photo 12 – General view on the heating control switchboard

There are the following instruments located on the distribution board (see the photo 13): light control 220V, light 12V, emergency light, pump, phase indicator, signal lamp of power-up, circuit breaker of electric power supply 380V, circuit breaker of electric power 220V, three-phase circuit breaker with GFI, circuit breaker of equipment -380V, circuit breaker of equipment-220V, signal lamps.

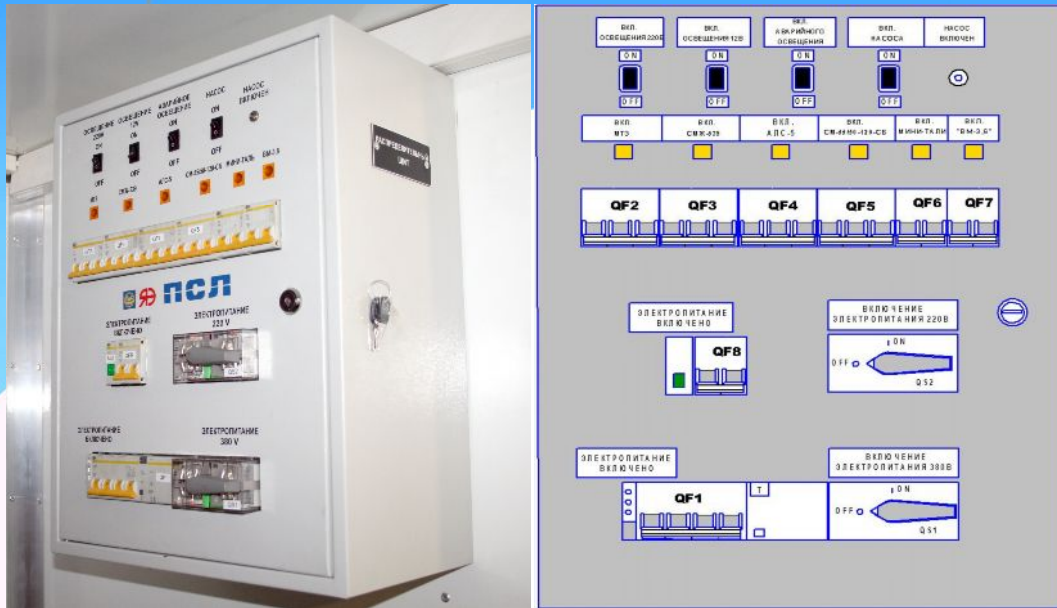


Photo 13 – Laboratory control board

For electrical power supply of mobile building laboratory there is a special section under the petrol generator (see photo 14, 15).

Photo 14



Photo 15



Photo 14, 15- General view on the generator section

B. LABORATORY EQUIPMENT

<p>Test hydraulic press small sized BM-3.6</p> 	<p>Vibrating plate SMJ-539</p> 	<p>Climatic testing camera SM-55/50/120SB (Warm-cold)</p> 
<p>Laboratory flow table KP-111 A (automatic)</p> 	<p>Measurement of concrete strengths sclerometer IPS-MG 4.03</p> 	<p>Cone KA with the set with funnels - 4 pcs.</p> 
<p>Cube forms of different shapes</p> 	<p>Automatic paddle-wheel agitator ALS-5 – for cement paste preparation</p> 	<p>Vetch OGC-1 device</p> 

<p>Tempering cup TC – sheet p.3 powder point and enamel</p> 	<p>Desiccator 1-250</p> 	<p>Measure of different capacity</p> 
<p>Thermal hygrometer TGC-1Y with build-in probe – 2 pcs.</p> 	<p>Thermal thermometer universal TC1-Y-3 pcs.</p> 	<p>Electric scale A & D GF 1200</p> 
<p>Electric scale A & D GP-20K</p> 	<p>Device “KiSH” M-98</p> 	<p>Device 2170 P6</p> 

Heat-conducting of building materials measuring device
ITP-MG4 "PROBE"



"Burker-100" device



Torque wrench of overall type
DREMOMETR with control
rotational moment



Mixing machine MTZ for
cement paste preparation



Steaming universal camera
KYP-1M



Measure of cement activity
IAC-04M



Thermal imager TESTO 880-3



Lifting device with electro
drive



Lap top (according to
specification)



Set of instruments in case



C. VEHICLE

The mobile building laboratory is mounted on KAMAZ 43118, which provides the possibility of comfortable operation in any conditions in the laboratory (photo 16,17).

Photo 16



Photo 17



Photo 16, 17 – The general view on the mobile building laboratory

The final list of laboratory equipment should be defined and approved by the Customer, and the laboratory should have its functions.

If you have any requests or questions please feel free to ask:

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