

***Lintel*[®] DB-20-100**

Ductilometer. Ductility of Bituminous Materials.

Standards

ASTM D 113
ASTM D 6084
EN 13703
EN 13589
EN 13398
EN 13587

FEATURES OF LINTEL DB-20-100

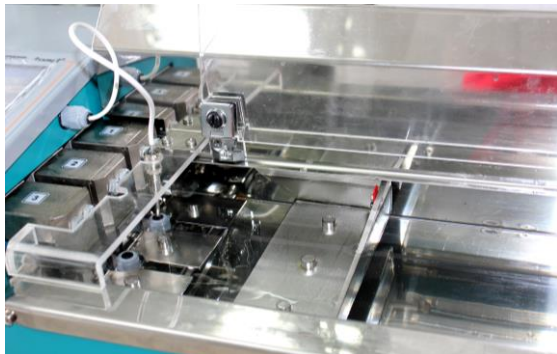
- ❖ Lintel DB-20-100 provides automatic testing of bitumen samples for tensile strength (ductility), elasticity, strain energy, testing of plastics and polymers for tensile strength
- ❖ Tester provides the set temperature in the test zone due to the built-in thermocriostat from -10 to +40°C
- ❖ Tester allows testing from 1 to 3 samples with a maximum breaking force of up to 30 kg per sample
- ❖ Automatic carriage movement at a set speed
- ❖ Built-in pump for mixing the bath coolant and a modern cooling system ensure a minimum temperature gradient in different parts of the bath
- ❖ Test logging provides storage of up to 100 test results and the last 30 sample loading diagrams
- ❖ Memorization of the tensile value and the sample number in automatic mode by the drop in the tension force or by pressing the remote button for fixing the sample rupture by the operator
- ❖ Possibility of checking the readings of the bath temperature sensor with an exemplary thermometer.
- ❖ The color touch screen makes it easy to learn and use the device on a daily basis
- ❖ A set of collapsible forms supplied with the ductilometer comply with GOST, ASTM, EN and provide convenient preparation of samples for testing
- ❖ Transparent ergonomic cover
- ❖ Full self-diagnosis system with indication of the causes of malfunctions on the display
- ❖ Stop the test process at the end of the analysis with an audible alarm
- ❖ The ability to start the thermostat on a timer – "delayed start"
- ❖ Integration with Lintel Link Data Collection System enables collection and transfer of laboratory test results from the tester to a personal computer via wireless communication. Integration with the laboratory information management system Lintel LIMS provides complex automation of laboratory activities



Automatic tester Lintel DB-20-100 uses up-to-date technologies and components to ensure high quality of the tester and convenience of its operation to reduce test timing and improve work efficiency.

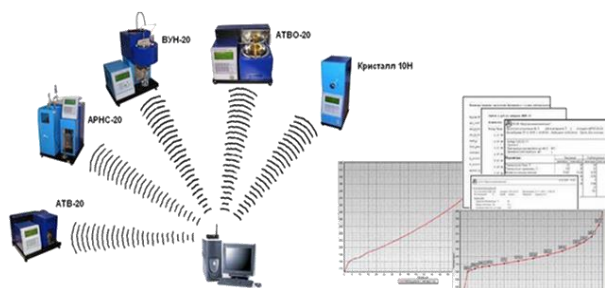
Lintel DB-20-100 provides a number of advantages to our customers:

The device allows testing from 1 to 3 samples with a maximum breaking force of up to 30 kg per sample.



Due to the presence of the test log, it is possible to compare the obtained test values with those stored in the memory of the ductilometer.

Rapid transfer of test results through a data collection system. Lintel Link data collection system allows to transfer test results from the instrument to a computer using wireless data transmission.



**SPECIFICATIONS**

Maximum length of elongation of test samples	1 000 mm
Number of simultaneously tested samples	1 to 3
Maximum load on each meter	300 N
Speed of movement of the carriage	0,1 to 100 cm/min
Bath volume	17 liters
Range of supported bath temperature	-10 to +40°C

ACCURACY PARAMETERS

Force measurement accuracy	± 1%
Uneven temperature of the coolant in the bath	0,5 °C, max
The error of temperature measurement	±0,2 °C, max
Accuracy of carriage speed maintenance	±0,25 cm/min, max
Length measurement accuracy	± 2 mm
The deviation of the sizes of forms	meet the standards

PERFORMANCE DATA

Power supply	650 W, max
Dimensions	1750 x 260 x 370 (W x H x D)
Weight of the device in the package	100 kg max
Ambient temperature	10 to 35 °C
Relative humidity at a temperature of +25°C	80%, max
Voltage	198 to 242 V
Frequency	49 to 51 Hz
Service life	6 year (15,000 hours max)
Warranty period	1 year (2,500 hours max)

SAFETY

Electrical safety	Differential automatic circuit breaker, preventing electric shock for the user and the tester damage due to short circuit
Audio signals	Beeping at the end of the test and failure detection
Diagnostic and setting	Built-in algorithms for self-diagnostics and settings, user notification about causes of malfunctions

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COMPLETE SET

Ductilometer LinteL DB-20-100	1 pc.
Form for bitumen EN 13398, ASTM D 113, GOST 11505, GOST R 52056, GOST 33138	6 pcs.
Shape plate	6 pcs.
Table for forms with samples	1 pc.
Remote button	1 pc.
Knife	1 pc.
Coolant filter	1 pc.
Water softener filter	1 pc.
Silicone tube 10x2 (1.5 m)	2 pcs.
Quick-release coupling 1/2"	2 pcs.
Clamp 16 mm	1 pc.
Accessory box	1 pc.
Operating manual	1 pc.
Passport	1 pc.
Certification program and methodology	1 pc.

OPTIONS

LinteL Link Data Collection System	Software and hardware intended for collection and transmission of test results from devices LinteL to a personal computer by wireless communication
Laboratory information system LinteL LIMS	Software and hardware designed for complex automation of laboratory activities



CERTIFICATION MEANS

Measuring devices used during certification shall be approved by State authorities and have a valid Verification Certificate (reports, stamps).

Measuring devices recommended* for use during tester certification are given in table

Title of equipment	Measuring range	Accuracy class, measurement error	Purpose during tester certification
Ruler	1000 mm	0,2 mm, max	Checking the built-in length meter
Stopwatch SOSpr-2b-2-000	0 to 60 sec 60 sec to 60 min	2	Check carriage speed
Calliper-I-125-0.1	0 to 125 mm	$\pm 0,05$ mm	Measuring form sizes
Temperature meter (TTSM 9410 / M2) with TTTS 01-180 sensor	-50 to +200°C	$\pm(0,05+0,0005 t +0,01)$	Measuring the temperature of the coolant in the test area
Dynamometer ATSD/1R-0,5/1I-1	0,05 to 0,5 kN	$\pm 0,24$ %	Checking force sensors

¹Given devices can be replaced with analogous means providing measurement of corresponding parameters with required accuracy.