

ASPHALT MIXTURE DYNAMIC MODULUS TESTER HY-UTM-S

The asphalt mixture dynamic modulus tester HY-UTM-S is used to measure the dynamic modulus and phase angle of asphalt mixtures. Dynamic modulus is a performance-related property that can be used to evaluate the stiffness of asphalt mixtures; phase angle is an important indicator for evaluating the viscoelasticity of materials.

Actual road surfaces are subject to dynamically changing loads during vehicle driving. Dynamic modulus testing can simulate this dynamic load and determine the material's mechanical response under realistic load conditions. This more accurately reflects the actual performance of asphalt mixtures than static testing.



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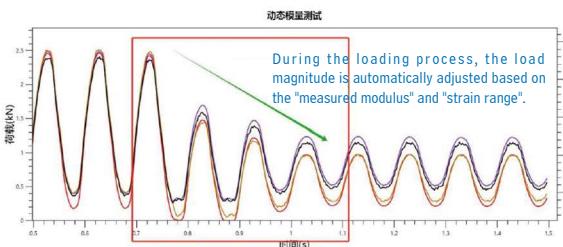
CONTROLLER

- Including data acquisition system and control software.
- The 4-axis/13-channel control system can simultaneously control 4 actuators and collect data from 13 sensors.
- 16-bit AD conversion accuracy, combined with 8x oversampling technology, ensures high accuracy and stability of data acquisition.
- All test results are automatically calculated and do not require the user to calculate them.
- The fixture is equipped with a transponder chip, and the equipment can automatically identify the fixture to avoid test failure caused by mismatch between software and fixture.
- It supports multiple control modes such as stress, strain, and load holding, and can switch automatically, suitable for dynamic or static tests.
- The dynamic control frequency is up to 25Hz, and supports custom waveform output such as sine wave, square wave, triangle wave, etc.



SOFTWARE

- Automatic frequency switching. According to the preset frequency sequence, the frequency is automatically switched during the test.
- Strain closed-loop control. Based on the actual strain value fed back, the loading pressure amplitude is automatically adjusted to ensure that the specimen strain remains stable within the set target range.
- Automatic result calculation. After the test is completed, the software automatically calculates and outputs key performance parameters such as dynamic modulus, phase angle, and load standard deviation.



试验过程	试验数据		试件参数		试验参数		标定环
	名称	值	名称	值	名称	值	
动态模量(MPa)	25.00	10.00	5.00	1.00	0.50	0.10	
相位角(°)	1549	1554	1556	1554	1558	1556	
平均温度(℃)	1.07	0.52	0.29	0.16	0.18	0.18	
平均围压(kPa)	0.0	0.0	0.0	0.0	0.0	0.0	
平均微应变	0.0	0.0	0.0	0.0	0.0	0.0	
荷载漂移(%)	112	108	101	98	96	99	
荷载标准差(%)	-0.7	-0.2	-0.3	0.0	0.1	0.1	
平均形变漂移(%)	12.3	5.3	2.8	0.9	0.8	2.0	
平均形变标准差(%)	-0.8	-0.1	-0.3	0.1	0.4	0.4	
形变均匀性(%)	12.8	5.5	3.2	1.7	1.7	2.4	

Test results are automatically computed and displayed in a tabulated form.

TECHNICAL SPECIFICATIONS

Actuator type	Hydraulic
Loading capacity	30kN
Tensile force	25kN
Force measuring method	Force measurement at bottom
Load cell accuracy	0.1%
Temperature control method	External circulating air
Environmental chamber	With 360° viewing window
Loading method	Stress/strain
Control method	PC
Noise level	55~65dB
Power supply	AC380V 10A

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