

Paint Test Equipment

Holitech DC Holiday Tester Data Sheet



Complies with International Standards

ISO 2746	NACE RP 0274
BS 1344-11	NACE RP 0188
ASTM G 6	JIS G3491
ASTM G 62	JIS G3492
ASTM D4787	AS 3894.1
ASTM D5162	EN14430
NACE RP 04901	ANSI/AWWA C 213



Holitech

The Holitech is a DC Holiday Tester that tests and detects pinholes and flaws in insulated coatings on conductive substrates. Where coatings have to provide an effective safeguard against corrosion, it is essential that any pinholes or flaws that will eventually lead to corrosion are detected at the earliest possible stage, preferably immediately after the coating application.

Operation is by a test voltage being applied to the coating by moving a brush electrode across the surface and where there is either a pinhole or flaw, the voltage will spark through the coating, a red indicator will flash and an audible alarm will sound. The detected flaw can be marked for subsequent repair, and testing resumed for the remaining surface area.

The Holitech is a compact and lightweight instrument, which can easily be carried by the operator with the supplied Neck Strap.

The test voltage is of high impedance, allowing for safe testing, and does not damage or cause burn marks to the coating.

Calibration Certificate with traceability to UKAS is an optional extra. The Certificate is supplied in a paper format and is available online through the Calibration Portal (under Browse Categories) on our website. The Calibration Portal will list all your equipment that is calibrated by Paint Test Equipment, showing the renewal dates and allowing Calibration Certificates to be viewed at any time.

Coatings on concrete as well as steel and iron substrates can be tested.

All models are supplied in a Industrial Foam-Filled Carrying Case with High Voltage Probe, Band Brush, Earth Cable and Neck Strap.

Holitech Specifications

Part No	Range	Approximate Maximum Test Thickness	Resolution	Accuracy	Cal Cert Part No
S4001	0.5–6kV	1500µm (60mils)	0.01kV	±1%	NS001
S4002	1–20kV	5000µm (200mils)	0.1kV	±1%	NS001
S4003	1–30kV	7500µm (300mils)	0.1kV	±1%	NS001

Holitech Accessories

Part No	Product	Size Metric	Size Imperial	Extension Size	Information
SA002	Extension Rod	500mm	20"		To extend electrodes for applications where a long reach is required.
SA003	Extension Rod	1000mm	40"		
SA502	Broad Brush 45° Angle	200mm	8"	200mm / 8"	Brass-filled Brushes for the testing of coatings on large flat areas.
SA503	Broad Brush 45° Angle	500mm	20"	200mm / 8"	
SA505	Conductive Rubber 180° In Line	200mm	8"	200mm / 8"	Conductive Rubber Electrodes for the testing of coatings on large flat areas.
SA515	Conductive Rubber 180° In Line	450mm	18"	200mm / 8"	
SA506	Conductive Rubber Right Angle	200mm	8"	200mm / 8"	
SA507	Conductive Rubber Right Angle	450mm	18"	200mm / 8"	
SA302	Circular Brush and Assembly	51mm	2"	200mm / 8"	Brass-filled Circular Brushes for the testing of coatings on the internal diameter of pipes.
SA303	Circular Brush and Assembly	76mm	3"	200mm / 8"	
SA304	Circular Brush and Assembly	102mm	4"	200mm / 8"	All Brushes come complete with the connector assembly.
SA306	Circular Brush and Assembly	152mm	6"	200mm / 8"	
SA308	Circular Brush and Assembly	203mm	8"	200mm / 8"	
SA310	Circular Brush and Assembly	254mm	10"	200mm / 8"	
SA312	Circular Brush and Assembly	305mm	12"	200mm / 8"	
SA404	Rolling Spring	102mm	4"	Order SA490	
SA406	Rolling Spring	152mm	6"	Order SA490	
SA408	Rolling Spring	203mm	8"	Order SA490	All Rolling Springs require the SA490 Rolling Spring Connector Assembly. One assembly can be used on multiple Rolling Springs. The SA491 Rolling Spring Pusher Assembly is suitable for larger Rolling Springs, to assist the travel of the spring along the pipe.
SA410	Rolling Spring	254mm	10"	Order SA490	
SA412	Rolling Spring	305mm	12"	Order SA490	
SA414	Rolling Spring	356mm	14"	Order SA490	
SA416	Rolling Spring	406mm	16"	Order SA490	
SA418	Rolling Spring	457mm	18"	Order SA490	
SA420	Rolling Spring	508mm	20"	Order SA490	
SA424	Rolling Spring	610mm	24"	Order SA490	
SA430	Rolling Spring	762mm	30"	Order SA490	
SA436	Rolling Spring	914mm	36"	Order SA490	
SA442	Rolling Spring	1067mm	42"	Order SA490	
SA448	Rolling Spring	1220mm	48"	Order SA490	
SA490	Rolling Spring Connector Assembly			200mm / 8"	
SA491	Rolling Spring Pusher Assembly			200mm / 8"	
SA101	Earth Cable	10m			Larger testing area Earth Cable.
SS001	Spare Band Brush Probe	150mm	6"		

Operation

Safety

Safety precautions must be strictly adhered to whilst using the Holitech Holiday Tester.

The Holitech must be operated by responsible and trained personnel, who are in good health and do not suffer from any cardiac conditions.

The Holitech must not be used in any area which could have a combustible or flammable atmosphere, as the test voltage can cause a spark and an explosion could occur.

The work under test must be located in a clearly definable marked area, with unauthorised personnel prohibited.

All items under test must have a secure connection to earth or ground.

Testing

The Holitech must be switched off and the multiturn voltage control turned fully anticlockwise.

Connect the plugs on the high voltage handle and earth cable to the colour coded sockets on the front and back of the instrument.

Fit the required Brush or Rolling Spring to the high voltage handle.

Connect the earth cable to the base metal of the item under test. It is essential that the base metal of the item being tested is also connected to a true earth.

Switch the Holitech on to switch position A. The green Fault indicator will illuminate and there will be a low reading on the display. Press the switch on the high voltage handle and turn the multiturn voltage control on the instrument in a clockwise direction until the required test voltage is displayed.

With the high voltage handle switch pressed on, place the Brush or Rolling Spring on the coating to be tested and move over the full area of the coating. If a flaw is detected a spark will jump across from the Brush or Rolling Spring through the flaw in the coating to the metal substrate, the alarm will sound, the red flashing Fault indicator will illuminate and the test voltage will drop to zero. To reset the instrument, repress the high voltage handle switch, this will restore the test voltage so that testing can resume.

For the majority of testing, the switch A mode will be sufficient. However, for difficult-to-see flaws it may be necessary to select a continuous test voltage where the spark can be seen more easily, jumping across the flawed area. This can be achieved by selecting switch B mode, which will give a continuous test voltage when the high voltage handle is pressed and will sound the alarm every time a spark occurs. The red flashing Fault indicator will illuminate and remain on until the high voltage handle switch is pressed again.

Always ensure that the high voltage probe is kept away from the instrument.

Test Voltages

Always refer to the manufacturer's test specification to ensure that the correct test voltage is used. If this is not available then the following procedure will allow the dielectric strength of the coating to be obtained:

Using a sample of the coating to be tested, put a small pinhole in the coating through to the substrate. Apply a low test voltage to this pinhole and gradually raise the voltage until a spark occurs. This is the minimum voltage to detect a through pinhole. Place the probe on a known good section of the same coating type and thickness and gradually raise the test voltage until a spark occurs through the coating. This is the dielectric strength voltage of the coating for this particular thickness. The test voltage can be set midway between the minimum voltage to detect a pinhole and the dielectric strength voltage.

An approximate guide which may be used for reference only is 3 to 5 volts per micron, so for a coating thickness of 1000 microns the test voltage would be between 3000 and 5000 volts.

Replacing Batteries

When the batteries require replacement, the red Lo Bat indicator will illuminate. To replace, pull out the 2 drawers located on the rear of the instrument. Replace with 2 lithium PP3 batteries, ensuring correct polarity.



About us

Paint Test Equipment are manufacturers of a comprehensive range of specialist instruments for the Industrial Coatings and Finishings Industries and have been supplying instruments to customers worldwide for over 25 years.

During this time Paint Test Equipment have established a reputation for manufacturing quality instruments to the highest specification, to meet the demanding requirements of the Industrial Painting Industry.

Recalibration

Paint Test Equipment can service and recalibrate all applicable products that we supply.

We recommend that the equipment is returned on a 12-monthly basis to Paint Test Equipment for service and recalibration.

Calibration Certificates will have traceability to UKAS or BAM. The Certificate is supplied in a paper format and is available online through the Calibration Portal (under Browse Categories) on our website. The Calibration Portal will list all your equipment that is calibrated by Paint Test Equipment, showing the renewal dates and allowing Calibration Certificates to be viewed at any time.

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