

complete testing solutions from
Turnkey Instruments



tintman

photoptic vehicle tint tester



TURNKEY INSTRUMENTS LTD

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photoptic vehicle tint tester

tintman is a photoptic vehicle tint tester that has been designed to quickly and accurately measure the light transmission through all types of vehicle windows to check compliance with road vehicle regulations.

tintman has been developed in conjunction with the South Yorkshire Police, British Standards Institute and Pilkingtons Automotive.

With concern about the effect of the sun's harmful rays, tinted vehicle glass is increasingly being used for solar heat control and blocking ultraviolet radiation. Tinted glass does protect the occupants and internal materials from the sun's rays but it can have an adverse effect on the driver's visibility. Customising glass using film or tinted spray can reduce the light transmission to dangerously low levels. Accordingly UK and European legislation requires that windscreens should have a minimum transmission of 75% and side windows 70%.

To measure the transmission, **tintman** uses a stabilised lamp which emits an intense parallel beam of white light. The lamp is attached to the windscreen with a suction pad and a light detector, with a colour sensitivity which exactly matches the human eye, is placed on the other side of the glass. Like our eyes, the detector is blind to infra-red and ultra violet radiation. When placed near the glass, the detector is automatically aligned and held to the lamp magnetically. Pressing a single button then indicates the percentage transmission of the glass on an illuminated display.

Since both the lamp and detector are just 30mm in diameter, the transmission of curved glass and even crash helmet visors can be measured too. The parallel beam of light emitted by the lamp means that errors due to different glass thickness are virtually eliminated, and its high intensity stops bright sunlight interfering with the measurement.

At any time the user can check the accuracy of the instrument against the reference window or an open 100% spacer ring supplied with **tintman**.

tintman is supplied with carrying case, reference plastic, 100% spacer, batteries and a calibration certificate traceable to national standards.

Light Source	<i>White light source produced by incandescent tungsten filament lamp focused into near parallel beam. Approximate colour temperature 3000° K. Stabilised 2.4 volt lamp voltage. Overall diameter 30mm.</i>
Detector	<i>Large area silicon photodiode fitted with eye response photoptic filter. Overall diameter 30mm.</i>
Clamping Arrangement	<i>Self aligning magnets for automotive glass up to 12mm thick.</i>
Readout Unit	<i>Handheld with detachable light source and detector connected via colour coded cables. Simple one button operation with tactile feel. Overall dimensions 200 x 100 x 40mm.</i>
Readout display	<i>Illuminated 4 digit liquid crystal display with 12.7mm character height. Low battery warning.</i>
Measurement Range	<i>0 to 100% transmission. Display resolution 0.1%.</i>
Accuracy	<i>Better than ±3% transmission over measurement range after check against reference glass.</i>
Power supply	<i>6 volt nominal provided by four AA alkaline battery. Low battery voltage warning at 5 volts. Typically current drain 500 mA, estimated battery life is four hours continuous use.</i>
Reference	<i>NAMAS calibrated ICI plastic reference window. Each glass is marked with actual transmission and is provided with a NAMAS calibration certificate.</i>
Instrument Calibration	<i>NAMAS traceable factory calibration against NAMAS calibrated nominal 20%, 40%, 60% and 80% transmission glasses. A calibration certificate is supplied with the instrument. Annual re-calibration is recommended.</i>
Climatic conditions	<i>-5°C to +40°C operating temperature range. Maximum humidity 98% non-condensing.</i>

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