




Glossary of Terms related to Portable Appliance Testing (PAT) Standard

Term	Explanation
EMS	Estates Management Section, part of the University of Essex
PAT	Portable Appliance Testing or Test, the term used to describe the examination of electrical equipment which is portable or moveable to ensure it is safe to use. There are three categories of PAT; a simple visual check by the user, and a formal visual inspection and a combined PAT carried out by a competent, authorised person.
Simple visual check	Carried out by the user of electrical equipment to check for obvious faults (see How to carry out simple visual checks on electrical equipment)
Formal visual inspection	Removal of the plug cover or equipment casing by a competent, authorised person to check that the internal parts of the plug and cable are properly connected, secure and have the correct parts fitted
Combined PAT	A formal check by an authorised, competent person for the correct fusing, correct polarity of supply cables, effective termination of cables and core wiring, and that the equipment is suitable in the environment where it is used. PAT also includes using a device to test for faults not detectable by simple visual checks or formal visual inspection.
RCD	A Residual Current Device, also known as a residual current circuit breaker. If an electrical fault occurs, the RCD will trip at not more than 30 milliamps. This greatly reduces the chances of a dangerous electric shock being received. An RCD is a valuable safety device; never bypass it. If an RCD trips, it is a sign there is a fault. Ask a competent, authorised person to check the equipment or system the RCD is connected to.
Competent, authorised person	A person who has an appropriate electrical qualification/s, and demonstrated their practical knowledge and competency to undertake a formal visual inspection or combined PAT. The Head of Department / Section / Business Unit is responsible for authorising those individuals who they deem competent to carry out formal visual inspections and/or combined PAT. The Deputy Director of Estate Management (Maintenance) keeps a central record of authorised PAT testers.
Classes of protection against electric shock	Electrical equipment is divided into Classes I, II, III, 0 and 01 based on the <i>level of protection provided against the user receiving an electric shock.</i>

<p>Class I</p>	<p>Class I equipment has an earth connection (coloured green and yellow in most countries, green in the US, Canada and Japan).</p>  <p>Without an earth connection, the outside of the equipment could cause an electric shock if the equipment was faulty in some way.</p> <p>With an earth connection, if there is a fault within the equipment, the current will trip the fuse, circuit breaker or residual current circuit breaker / device. This will cut off the electricity supply to the equipment and prevent the user from receiving an electric shock. A typical symbol is shown here.</p> 
<p>Class II</p>	<p>Class II or '<i>double insulated</i>' electrical equipment does not need an earth connection in order to be safe to use.</p> <p>Class II equipment is designed so that live parts are surrounded with extra insulation to prevent accidental contact with live parts, even if there is a fault. The integrity of the equipment casing is a key safety feature so simple visual checks are important.</p> <p>In Europe, double insulated equipment must be labelled Class II, double insulated, or show the double insulation symbol (a square inside another square).</p>  <p>If electrical equipment does not have this symbol, assume it is Class I.</p>
<p>Class III</p>	<p>Class III equipment has no earthing facility. It is designed to be supplied from a Separated Extra Low Voltage (SELV) power source. The voltage from a SELV supply does not exceed 50 volts ac and is low enough that under normal conditions a person can safely come into contact with it without risk of electrical shock. The extra safety features built into Class I and Class II equipment are therefore not required.</p> <p>For medical devices, compliance with Class III is not considered sufficient protection, and further more-stringent regulations apply to such equipment.</p> <p>Class III equipment will show the 'III in a diamond' symbol.</p> 