

the perfect office



Your guide to the TCO standard: what it means,
why it matters and its impact on the office of the future



welcome to the TCO guide



This booklet outlines why UK IT specifiers should take the lead in demanding the TCO badge on all IT equipment and takes a look at the exciting developments on the horizon for the office of the future.

So what is TCO?

A TCO badge has become the global standard for office equipment in terms of user health and safety, environmental responsibility and ergonomic design.

TCO was responsible for eliminating the high levels of radiation emitted by display monitors. Today, 50 percent of all monitors worldwide bear the TCO badge.

TCO sets the world's toughest standards to create environmentally and employee friendly offices. Its remit is fast extending, not just across IT equipment but into all areas of office life, from office furniture and flooring to mobile phones and lighting.

Many Government tenders already specify that display monitors should be TCO'99 compliant – the agenda is firmly set for other office products to follow suit.



emissions...
energy...
ergonomics...

five good reasons why TCO matters:

- The IT manager's remit is set to grow as employee welfare and environmental developments impact on the traditional role.
- Today's IT head not only has to be at the forefront of technological change but also well versed in related energy management, ecological and employee health and safety issues.
- At a conference on business and society in February, the Government stated that it may be necessary to use regulation or the tax system to persuade UK businesses to cut waste, reduce energy consumption and limit the damage they inflict on the environment.
- In the face of a threatened, and hotly-debated, energy tax and as the Disability Discrimination Act is revised, the onus is squarely on IT managers to deliver appropriate products.
- A TCO badge means that a product has passed at least 50 tests relating to emission levels, energy consumption, ergonomic design and ecological soundness - with obvious benefits for health and safety in the workplace.



Why should I care about TCO?

Protecting your employees

The technological revolution has radically changed the face of today's office – enabling us to work faster, smarter and more efficiently, from anywhere across the globe.

However, these rapid advancements come hand in hand with a raft of harmful side effects that companies would be ill advised to ignore.

New breeds of **illness and injury are on the up** and – buyer beware – they are becoming less and less tangible. While slips and trips are less commonplace, employees able to prove that their repetitive strain injury was directly caused by their work, for example, can claim high rewards.



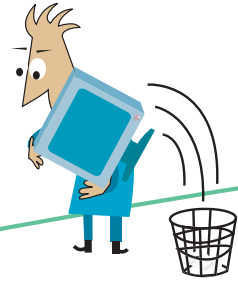
doing the right thing

Protecting your business

In today's increasingly litigious society, few office employees are prepared to accept substandard working conditions, whether these relate to long hours, shoddy equipment or unfavourable treatment – and plenty of companies have learnt this to their cost.

As well as the expense of high profile court cases, the more concealed costs can also be high. Six and a half million working days are lost in Britain every year through stress, which represents an annual cost to the UK economy of **£7b in sick pay and lost production***.

* Source: UNISON



With this in mind, insurers are now starting to seek clear evidence from companies that they are actively looking to improve working conditions across the board – and this evidence has a direct impact on premiums.

Protecting the environment

In today's throwaway society, where it is far more cost effective to dispose of a computer than repair it, [landfill sites crammed with technological waste](#) are growing. The UK Government is introducing initiatives to minimise the impact of this waste on the environment.

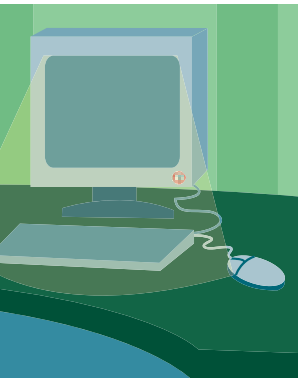
And, from March 2003, all UK manufacturers will have to comply with the terms of the European WEEE Directive – a new legal framework under which they are obliged to organise the disposal, recycling or re-use of goods they put on the market.

Specifying TCO badged products gives the guarantee that the product meets the most rigorous environmental and quality standards in the world – and every TCO accredited product must be fully recyclable.

the four 'e's

What does a TCO badge actually mean?

All TCO badged products have been tested to the world's most rigorous standards across four areas: emissions, energy, ecology and ergonomics.



Emissions

More and more electrical equipment is being packed into today's offices, which is why it is becoming increasingly critical to reduce the electric and magnetic fields the products generate.

Exposure to these potentially harmful fields has increased significantly over the last ten years. While the debate continues to run about the potential risk of radiation exposure for humans, it can only be sensible to try to take precautionary measures to protect staff now, rather than waiting to find out later.

Also, items of electrical equipment have an influence on each other via the electromagnetic fields surrounding them. Image quality, for example, deteriorates in monitors that are placed too close together, which causes problems for the user.

All TCO accredited products meet strict guidelines to deliver the lowest emission levels possible.

Energy

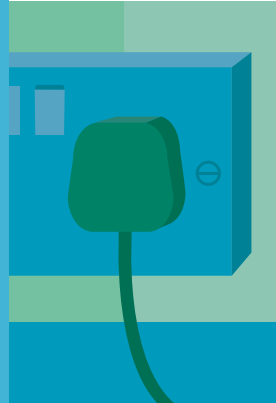
Huge amounts of electrical energy are consumed by office machines and are rapidly converted into heat, raising the room temperature. The more power consumed, the more heat generated and the more air conditioning required, which in itself consumes electricity.

High energy consumption causes damaging side effects both for workers and the environment. The heat generated lowers air humidity causing tiredness, headaches and skin complaints. These symptoms reduce in direct proportion to reductions in power and energy consumption.

Specifying a product with the lowest possible power consumption and a built-in powersave when idle not only reduces energy use but also prolongs the product's lifespan.

To combat the problem, the UK government has called on UK industry to cut waste, reduce consumption and limit the damage the UK inflicts on the environment – and businesses may be persuaded to change their ways by use of the tax system.

All TCO-badged products must have low emission levels and will therefore be subject to the lowest levels of taxation.





Ecology

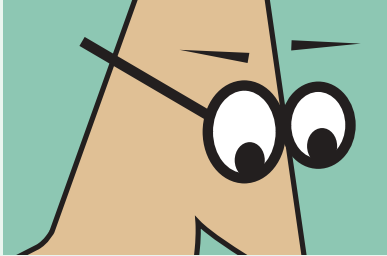
Millions of computers are scrapped every year. As electronic equipment lifespans become shorter, their disposal presents a massive problem on a global scale. Electronic equipment demands substances that cause critical natural damage, such as chlorinated solvents which are major ozone depletors regulated by the terms of the Montreal Protocol.

This problem is being taken seriously on a worldwide scale and companies are increasingly being scrutinised for their policy on corporate and social responsibility.

TCO's requirements stipulate that manufacturers eliminate wherever possible all harmful substances used throughout the manufacturing process and in the end product. For example, solvent use as a degreaser is prohibited as less damaging alternatives exist.

Furthermore, all components of a TCO badged product over a certain size must be labelled, or chemically etched, for recycling purposes, increasing re-use of the raw materials.





Ergonomics

Companies would be well advised to take ergonomic concerns seriously, as flagship court cases are starting to pay out six figure sums to victims of RSI, backache and eye damage.

Removing all factors of disturbance – screen flicker affecting visual ergonomics for example – increases user concentration, minimises absenteeism and ultimately results in a more productive workforce.

A TCO badge is the guarantee that the product is designed to the highest possible ergonomic specification to minimise physical and physiological stress on the user. Areas covered include strain injuries, visual ergonomics and noise.

Energy saving lighting is enhanced by daylight reflected from pale ceilings and walls



PC tower fixed in metal harness under desk for easy access and removing visual disturbances from desktop



Ergonomically designed chairs with alternative seating positions for maximum comfort and flexibility



TCO's state-of-the-art
the blueprint for





Flicker-free screen for good visual ergonomics



Pale, non-glossy keyboard for good visual harmony



Ergonomically designed mouse to minimise wrist, shoulder and back strain



Adjustable height desk to allow employees to sit or stand while working

offices in Stockholm are the workplace of the future



the background

Who are TCO Development?

TCO Development was born out of the massive debate surrounding radiation levels from display monitors. The company's goal is to define the blueprint for the office of the future.

Based in Stockholm, the company is owned by TCO, the Swedish Confederation of Professional Employees which is an umbrella organisation for nineteen member unions.

Through this affiliation their activities can draw upon the collective experience and knowledge of nearly one and a half million professionals in various office environments.

TCO Development works in close conjunction with scientists, experts, users, manufacturers, trade union panels and independent test and certification bodies, such as SEMKO.

TCO Development's quality and environmental standards for business equipment are the toughest in the world and contribute to sustainable consumption and production patterns.

The TCO label makes it easier for purchasers to identify relevant criteria when choosing IT and office equipment.

Which standards do TCO offer?



The world's most stringent quality and environmental standard

A quality and environmental standard for display monitors, computers, portable computers, printers and keyboards with specified requirements in the areas of ergonomics, energy, emissions (radiation) and ecology. Every second, a new TCO labelled display is produced somewhere in the world.

The world's first labelling of mobile phones

The first quality and environmental labelling of mobile phones. With specified requirements in the areas of emissions (radiation), ergonomics and ecology.



Even stricter requirements

TCO'03 Displays consists of two standards, one for CRT displays and one for flat panel displays. Compared with the TCO'99 Displays standard the requirements have been made stricter in terms of user friendliness, ergonomics, environment and ecology.





Proud to be sponsoring this guide

"We are proud to bear the TCO badge. At Brother we take our environmental responsibilities very seriously and are delighted to have produced the world's first TCO'99 accredited printer.

Our new printer is the result of two years' working in close partnership with TCO Development who were involved at every stage of the project.

We had to totally rethink our research, design and manufacturing processes across 18 factories worldwide.

Gaining the TCO badge is a lengthy process that involves passing every single one of 50 tests across the areas of ergonomics, energy consumption, emission levels and ecological soundness.

For example, all plastic components of the HL-7050 are labelled for recycling purposes and ozone-depleting chemicals are not allowed in the manufacturing process.

We are delighted to be associated with TCO and all that it represents."

Harry Suzuki
Managing Director, Brother UK



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