

# 1. Recommended criteria for office furniture

CPV code: 36121000

'Office furniture' is defined as desks and chairs, filing systems, shelving, bookcases and partition walls for use in offices, open plan offices or meeting rooms in connection with such offices.

## 2. Environmental impact

Environmental challenges		Measures
<ul style="list-style-type: none"> <li>The environmental challenges concerning office furniture are primarily linked to the raw materials, raw material extraction, the production process, distribution and disposal. Office furniture has a low environmental impact during its use phase.</li> </ul>	→	<p>An important measure is therefore to ensure a long period of use. This is best done by focussing on furniture that meets the users' needs, has timeless design and is of good technical quality. This is explained in more detail below.</p>
<ul style="list-style-type: none"> <li>Chemicals: lacquer/varnish, glue, textiles, plastic, etc. contain chemical substances. Some of these chemicals have undesirable effects on health and the environment.</li> </ul>	→	<p>Ask whether the supplier has routines in place to ensure that the finished products do not contain prohibited substances or more than the maximum permitted concentrations of hazardous substances. Specific requirements can also be imposed as regards particular chemicals.</p>
<ul style="list-style-type: none"> <li>Chromium plating: Chromium, particularly hexavalent chromium, is a toxin (it is mutagenic and carcinogenic). Trivalent chromium is less problematic. However, trivalent chromium can be converted to hexavalent chromium during combustion – and discarded furniture can easily end up at an incineration plant. The galvanisation process itself is also associated with environmental challenges.</li> </ul>	→	<p>The chromium plating of metal components must be avoided except for small quantities used for raising-lowering functions (increases wear resistance). Alternatives are available, e.g. polished aluminium or brushed steel.</p>

### Long lifetime

For office furniture, the environmental impact is primarily linked to raw materials, raw material extraction, the production process, production waste, transport and waste after discarding. The environmental effects linked to the actual use of office furniture are modest. This means that the most important environmental measure is to purchase office furniture which potentially has a long lifetime. The environmental impact linked to maintenance and cleaning will vary.

What determines the lifetime?

1. That the product meets the users' needs – both now and in the future
2. That the product does not become old-fashioned
3. That the product does not become technically worn out

*Re. 1) The users' needs:* What determines the users' needs? The most important factors are good ergonomics and flexibility (universal design).

Good ergonomics are ensured through provision for height-adjustment of the desk, ideally with an electric raising/lowering mechanism and an office chair with good provision to adjust the height, back and seat angle. Because no individual is designed to perform work sitting still for long periods of time, good ergonomic solutions should be assessed for everyone whose main duties consist of office work – even if such solutions tend to be associated with furniture that is slightly more expensive. The additional expenditure will pay for itself in the form of reduced absence due to illness and furniture that is longer-lasting and more versatile. Good electric raising/lowering solutions should facilitate good height adjustment (tall people must also be able to stand and work in ergonomically correct positions), be equipped with soft-start/soft-stop and be able to lift at least 80 kg.

Good flexibility is ensured when the products are right-/left-independent and moveable (e.g. where the legs on a desk can be removed/joined together). The transition to flatscreens is reducing the need for corner solutions. Most users will therefore be able to manage with a rectangular desk, so avoiding being tied to a right- or left-handed solution. Some people will also need a strain-relief desk. The market currently offers rectangular desks with a strain-relief desktop, which can be fitted on either the right- or the left-hand side.

A good indoor climate is ensured through provision to suspend cables to provide access for cleaning staff. Office furniture should not release undesirable chemicals into the atmosphere.

Re. 2) Timelessness: Changes in fashions are an important reason why things are replaced. Is it possible to choose office furnishings which survive these changes in fashion? Within the office furniture market, there are material choices and styles that have already been in existence for many years. Desktops in beech and birch are examples of this. Office chairs upholstered in neutral/conservative colours, such as black, anthracite, grey, beige and marine, are other examples.

Other possibilities are to ask for models that can be re-upholstered or desktops that can be renewed either through sanding and re-varnishing or through the desktop having several wear layers. After a number of years, the furniture can then change colour and appear new.

Re. 3) Technical lifetime: A long technical lifetime is achieved by choosing robust furniture with good guarantees, and by demanding that wear components are replaceable. [The Møbelfakta scheme](#) is intended to ensure durability and good function. Møbelfakta focuses in particular on strength and durability, stability and safety, surface treatment, textiles and fire. Office furniture should therefore meet Møbelfakta's requirements for public sector use.

### Choosing furniture upholstery

Different types of furniture upholstery have different properties. The matrix below attempts to summarise these properties and provide a basis for choosing furniture upholstery.

	Advantages	Disadvantages	Remarks
<b>Cotton</b>	<ul style="list-style-type: none"> <li>Renewable resource</li> </ul>	<ul style="list-style-type: none"> <li>Extensive use of chemicals (except in the case of organic production, but this accounts for only a very small proportion of global production)</li> </ul>	<ul style="list-style-type: none"> <li>Because of its disadvantages, cotton should not be used for office furniture</li> </ul>

		<ul style="list-style-type: none"> <li>Poor wear strength</li> <li>Susceptible to becoming dirty</li> </ul>	
<b>Wool</b>	<ul style="list-style-type: none"> <li>Renewable resource</li> <li>Hard-wearing. Correctly designed with regard to material selection, density and weight, the material will tolerate 50,000 Martinedale cycles.</li> <li>Natural flame retardant Wool chars but will still prevent the foam in the chair from coming into contact with the flames</li> </ul>	<ul style="list-style-type: none"> <li>Chemical use in connection with processing (antifungal agents, dyeing, auxiliary chemicals, etc.)</li> </ul>	
<b>Synthetic fibre</b>	<ul style="list-style-type: none"> <li>Various synthetic fibres are used, but nylon polyester, which is the most commonly used synthetic fibre for furniture, is hard-wearing. If the right material, density and weight are chosen, the material will tolerate 50,000 Martinedale cycles.</li> <li>Wool/synthetic mixture gives greater tensile strength (10-20% synthetic mixture).</li> </ul>	<ul style="list-style-type: none"> <li>Non-renewable resource</li> <li>Flame retardation: Does not catch fire, but melts. However, this exposes the stuffing material in chairs, etc. to the flames, which can have undesirable effects.</li> </ul>	
<b>Hide</b>	<ul style="list-style-type: none"> <li>Renewable resource</li> <li>Hard-wearing</li> </ul>	<ul style="list-style-type: none"> <li>Chemical use in connection with processing (chromium tanning<sup>1</sup>, dyeing, auxiliary chemicals, etc.)</li> </ul>	

For normal office furniture, it is recommended that materials based on wool or synthetic fibre – or possibly a mixture of these - primarily be chosen. If hide furniture is desired, it is recommended that you ask for vegetable or other chromium-free tanning.

#### **Wood:**

Tropical forests are particularly important for global biodiversity and climate. Much of these forest resources are utilised non-sustainably. There are currently no international or national certification schemes which provide an adequate guarantee that imported wood has been lawfully and sustainably felled.<sup>2</sup>

<sup>1</sup> It can be difficult to impose requirements concerning the chromium-free tanning of hide and leather for office furniture, as hide that has undergone chromium-free tanning is not available in large quantities. Such hides are available, but only in fairly small quantities in the market – and virtually all of it goes to the automotive industry. As this is a requirement which can create competition-related problems, we have decided to remove this requirement until further notice.

<sup>2</sup> See the Norwegian Government's action plan for 2007 -2010 concerning environmental and social responsibility in public sector procurement: <http://www.regjeringen.no/Upload/MD/Vedlegg/Planer/T-1467.pdf> . Office furniture that contains tropical wood must not be purchased. 'Tropical wood' means wood that originates from the region between the tropics (23°N and 23°S) and the whole of Myanmar (Burma). It is not currently practicable for a

### **3. Proposed procurement process**

Major new purchases of office furniture are often carried out in connection with expansion, new construction, relocation processes, etc. If the procurement concerns a particular volume, a multidisciplinary procurement team (MPT) should be established. This team could for example consist of a safety representative, a representative of daily users, a physiotherapist, a representative of the cleaning staff, the caretaker who will be responsible for moving and maintaining the furniture and a finance/procurement manager. The MPT should ask and answer the following questions:

1. Who will be the actual users? Who will be involved with the office furniture in some way or other?
2. What needs do these groups have in relation to the office furniture (ergonomics, flexibility, indoor climate, lifecycle costs, etc.)
3. How will these needs change in the future? Will changes in working routines or information technology require new solutions? Will more or less furniture be required?

We often buy new without thinking much about it. Office furniture is a product that can be purchased used without any great risk. This will often be good for both the finances and the environment. Search on the internet for suppliers of used office furniture. Good quality used furniture can also be refurbished by the local furniture maker. This can be a good alternative to new purchases.

### **4. Recommended requirements and criteria for the procurement of office furniture**

Environmental requirements and criteria that are imposed must be included in the tender information for public sector procurements. These requirements and criteria will form part of the tender information together with many other requirements and criteria.

The fundamental principle of proportionality that is set out in Section 3-1 of the Regulation on public procurement means that the environmental requirements and criteria that are imposed must be in proportion to the contract that is to be established. In accordance with the fundamental principles, the requirements must be relevant to the contract concerned and the documentation requirements that are imposed must also be reasonable in relation to the contract.

This means that some of the environmental requirements and criteria that are proposed must be adapted to the procurement concerned. This also means that the documentation requirements and quantity must be adapted to the size and type of contract. Some contracts can be complex even though the contract value is not great. This means that consideration must be given to whether or not the proposed requirements and criteria are compatible with the specific procurement that is being planned.

#### **4.1. Purpose of the contract**

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manufacture to assess whether tropical wood originates from sustainable tropical wood with reliable certification. See also the Regulation of 4 July 2003 No. 895 on special measures with regard to Burma (Myanmar), as subsequently amended.

Purchase of environmentally friendly office furniture

## **4.2. Technical specifications**

### **4.2.1. Quality, etc.**

Unless specified otherwise in this tender information, it is a requirement that the furniture fulfils the requirements applicable at any time concerning area, height, width, length, adjustability, safety, strength, surface, durability, stability, fire safety, etc. in the international standards (ISO and EN) for furniture<sup>3</sup>.

**Documentation requirements:** Møbelfakta certificate, Nordic Swan eco-label certificate, licence for other equivalent environmental labelling schemes, test report showing that the requirements are fulfilled from a test laboratory accredited for the relevant standard, or self-declaration with information which verifies that the requirement is met.

### **4.2.3 Chromium-plated metal parts**

Tendered products must not contain chromium-plated metal parts, except in raising/lowering functions, where trivalent chromium is acceptable.

**Documentation requirements:** Nordic Swan eco-label, licence from other equivalent environmental labelling schemes, or self-declaration with information which verifies that the requirement is met.

### **4.2.4 Sustainable timber**

Where wood accounts for more than 10% by weight of the product, at least 50% of the wood must come from sustainably managed forestry.

**Documentation:** Licence from the Nordic Swan eco-label, FSC (Forestry Stewardship Council) or alternatively PEFC (Programme for the Endorsement of Forest Certification Schemes), equivalent standards for sustainable forest management, or self-declaration from non-certified suppliers which shows the degree of fulfilment.

### **4.2.5 Chemicals**

The substances that are used must not be classified as carcinogenic in the categories *Kreft1* or *Kreft2* (Cancer1 or Cancer2), harmful to reproduction *Rep1* or *Rep2*, and/or mutagenic in the categories *Mut1* or *Mut2*, in accordance with the Norwegian Regulation on classification, labelling, etc. of hazardous chemicals (FOR-2002-07-16-1139); see the appendix.

**Documentation requirements:** Self-declaration with information which demonstrates that the requirements are met. Nordic Swan eco-label or licence from other equipment environmental labelling schemes can be provided instead of a self-declaration.

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<sup>3</sup> The standards and individual requirements can be found on Møbelfakta's website  
[http://www.mobelfakta.no/offentlig\\_bruk.htm](http://www.mobelfakta.no/offentlig_bruk.htm)

Flame retardants must not be used in purchased furniture, except where this is absolutely necessary due to fire safety requirements. If flame retardation is a requirement, this must be stated in other sections of the tender information. In such cases, phosphorous- and/or nitrogen-based organic compounds, or other flame retardants with equivalent or better health and environmental properties, must be used. Alternatively, flame-resistant textiles may be used. Under no circumstances must halogenated flame retardants be used.

**Documentation requirements:** Licence from the Nordic Swan eco-label, the EU Flower mark or self-declaration with information which demonstrates that the requirement is met.

### **4.3. Qualification requirements**

To ensure compliance with requirements and criteria in the tender information during any contract period, it is a requirement that the supplier has routines in place for quality assurance<sup>4</sup>, including audit trails<sup>5</sup>, for the products that are covered by the tender.

**Documentation requirements:** An account of existing routines which documents that the requirement is met. If this is described in the company's quality or environmental management system in accordance with ISO 9001, ISO 14001 or equivalent third party-verified systems, a valid certificate and a copy of relevant routines can be presented.

The supplier shall have routines in place to ensure that tendered products do not contain prohibited substances or mixtures, or unlawfully high concentrations of strictly regulated substances in accordance with the Norwegian Production Regulation (FOR-2004-06-01-922) or substances that occur on the Norwegian Pollution Control Authority's priority list<sup>6</sup>.

**Documentation requirements:** An account of existing routines that documents that the requirement is met or a Nordic Swan eco-label licence or equivalent environmental labelling schemes. If the routines are described in the company's quality or environmental management system in accordance with ISO 14001 or equivalent third party-verified systems, a valid certificate and a copy of relevant routines may be presented.

### **4.4. Award criteria**

Guarantee period: Describe the guarantees that can be offered. For how many years will it be guaranteed that spare parts/wear components will be available for the various products?

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<sup>4</sup> 'Quality assurance' is defined here as the company's documented routines for ensuring that contractual quality is maintained in production and deliveries, including quality control, waste management and the handling of claims concerning products.

<sup>5</sup> 'Audit trail' means the company's documented routines for ensuring that it is possible to trace and follow a product and its components through every stage from raw material extraction via production, processing, assembly and distribution to the user.

<sup>6</sup> The authorities' list of substances with undesirable properties which are prioritised for elimination - [http://www.miljostatus.no/templates/pagewide\\_\\_\\_\\_2828.aspx](http://www.miljostatus.no/templates/pagewide____2828.aspx).

Documentation: The supplier's description enclosed with the manufacturer's self-declaration when the supplier is not the manufacturer.

#### **4.5. Contractual requirements**

Packaging: If a Norwegian supplier (manufacturer or importer) uses packaging, documentation must be presented by no later than the time of establishment of the contract to verify that the supplier is a member of a return scheme or fulfils the obligation through his own scheme for final processing where the packaging is managed in an environmentally appropriate manner (Grønt Punkt Norge AS or equivalent return scheme).

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##### **Background to the work**

In June 2007, the Norwegian Government launched an action plan for environmentally and socially aware procurement. State procurements in particular are being targeted. The action plan came into force on 1 January 2008. Office furniture is one of the selected product areas in this action plan. A set of recommended criteria must be prepared for the range of product areas selected. The task of preparing these criteria has been delegated to the Panel for environmentally aware procurement, with GRIP as secretariat.