Environmental criteria for sustainable public procurement of

Catering Equipment

Version March 2017

1. Scope/definition

The Catering Equipment product group concerns equipment used to prepare a large number of dishes at the same time. It applies to both electrical and gas appliances.
The equipment is used in various sectors such as company restaurants, retirement home canteens (compact kitchens), hospitals, the nursing and care sectors (institutional kitchens) and fast-food restaurants.
In this document, Catering Equipment is divided into the following subsets. This list of products is not intended to be exhaustive.

- refrigeration and freezing equipment: cold display counters, fridges, freezers and deep-freeze units;
- cooking equipment: stoves, hot plates, steamers, ovens and deep fryers;
- dishwashers: conveyor and basket-type dishwashers, front loaders, pass-through dishwashers and glass washer machines.

Products	CPV code
Kitchen furniture and equipment	39141000-2

This document applies to professional equipment exclusively and not to any consumer products. Nor does it apply to toasters, kettles, beverage vending machines or coffee-makers. Other appliances, such as microwave ovens (subset: cooking equipment), preparation and extractor systems may be included in this document in the future. Too little information is available on this at present.

The sustainability issues for Catering Equipment are related to the task of catering. However, Catering Equipment itself is a separate product group and was therefore left out of consideration for the purpose of this document. It is nonetheless recommended that the catering manager be involved in the tender procedures for Catering Equipment. Effective and efficient use of Catering Equipment requires adequate knowledge of modern preparation methods.

This document describes the environmental criteria. Information about the other elements of sustainable public procurement, such as social conditions and social return, may be found on the PIANOo website, on the specific product group page: https://www.pianoo.nl/document/10635/productgroep-grootkeukenapparatuur.

2. Most significant environmental effects

The table below lists the sustainability themes and describes the approach to each theme for the product group. The “Approach” column presents a statement indicating the influence of sustainable purchasing and its criteria on the “sustainability” of the theme. This column also includes a reference to any requirements, award criteria or points of attention/suggestions that may be useful in implementing the approach. The product group can also have an impact on other environmental themes, but these are (at least at present) less relevant or of a much less significant level of concern, or do not as yet have a suitable set of standard criteria.

Themes:	Approach:	No. of requirement/ Criterion
Energy and climate Energy savings in the use phase, with corresponding reduction in CO_2 emissions	• purchase of energy-efficient equipment.	AS4, AS6, AS7, AS8, AS9, AS11, ME4, ME5, ME6, ME 8, ME9, ME10,ME11 ME12,ME13,GC2, GC3, GC4, GC5, GC6
Supplies and Raw materials	• purchase of equipment with long life cycle.	ME1, ME2, ME3

Raw materials used during production of equipment, Waste generation during use phase		
	• purchase of products with less packaging materials.	AS10

Water and Soil Use of harmful substances during use phase of catering equipment	• purchase of equipment without harmful substances.	ME8, ME9, GC1
	• purchase of equipment with low water consumption.	AS6, AS8, ME10, ME11 ME12, ME13

3. Points of attention/suggestions

Devoting attention to the opportunities and possibilities for the most sustainable procurement possible in the preparation phase will lead to specifications that are more ambitious or of different types than the standard technical specifications and award criteria set out in this document. The table below presents points for attention and suggestions for promoting sustainability in procurement within this product group.

No.	Points of attention/suggestions (AS)
AS1	**Energy-efficient set-up of catering equipment** Energy efficiency is an important factor when planning the layout of the catering equipment. For example, the evaporator of fridges and freezers should be positioned in such a way that heat transfer is possible.
AS2	**Repair or refurbish equipment** Consider whether it would be possible to realise production resource savings by having existing equipment repaired or by purchasing refurbished appliances.
AS3	**Avoid excess capacity** To prevent unnecessary energy consumption, make a critical assessment of the actual capacity required from the catering equipment.
AS4	**Consider gas over electric** Make a well-considered choice between gas and electric equipment. From the perspective of energy consumption, it is generally more efficient to use gas rather than electrical appliances. Because not all locations have gas net connections and the required extraction equipment is largely part of the construction domain, this has therefore not been included in the overall criteria. The designer is nonetheless advised to choose gas appliances when choosing equipment such as steamers and deep-fryers. For dishwashers, consider connecting the dishwasher to the steam or hot water outlet or making use of a heat pump, if no gas connection is available. In the case of stoves the choice for gas is less straightforward. Even if a gas connection is available, an induction stove might still be a better choice.
AS5	**Use SCC-certified companies** Consider using SCC-certified companies. This improves the level of safety during installation and helps prevent safety-related incidents. As a result, this can have a direct impact on the sustainability of the activities once the kitchen is in use.
AS6	**Vacuum system soup kettles** Check that soup kettles are equipped with a vacuum system (instead of a water filling system), double-walled lids, a water dosing system, digital controls and energy management functions. This can result in savings of up to 30% on power and water compared with conventional kettles.
AS7	**Double boilers** Check that double boilers have digital controls, separate bowls, adjustable levels and insulation material around the gastro norm (GN) dish.
AS8	**Roasting tins** Ensure that roasting tins have double-walled lids, a water dosing system, digital controls, energy management functions, a composite bottom and all-round insulation.

AS9	**Hot display counters/cabinets** Check that hot display counters and cabinets have double walls, good insulation (including the glass), digital controls, energy management functions and an infrared or long-wave heating system.
AS10	**Dispenser vs. single-portion containers** Offer items such as milk, yoghurt and fruit juice in dispensers rather than in single-portion containers.
AS11	**Salamanders** Salamander heating equipment should be fitted with a Hi-Lite system, digital controls and an energy management function.

4. Selection criteria

Not defined for this product group.

5. Technical specifications

General technical specifications for catering equipment

No.	Technical specifications (ME)
ME1	**Maintenance scheme** The equipment must be provided with a maintenance scheme written in Dutch and must stipulate the maintenance necessary to ensure the longest possible life span and optimal functioning of the equipment in question. The required frequency of all maintenance activities must be given and should include details on which of these tasks could be carried out by the user and which by a maintenance professional. *Verification* The tenderer may be asked to affix a maintenance scheme to the equipment in a visible location.
ME2	**Replacing parts** The parts that can be replaced without affecting the warranty must be replaceable by the user without prior training. This includes parts such as door seals and filters. Replacement instructions must be included upon delivery of the equipment. *Verification* The tenderer may be asked to supply instructions for replacing parts with the initial delivery of the equipment.
ME3	**Reordering of replaceable parts** Replacement parts must remain available for at least 10 years after the date of delivery of the equipment. *Verification* This requirement may be incorporated into the contract. The contracting authority could also require price guarantees.

Technical specifications for Refrigeration and Freezing Equipment subset

No.	Technical specifications (ME)
ME4	**Energy consumption of refrigerators/freezers** The energy consumption of the refrigeration and freezing equipment does not exceed the values listed below (in accordance with EN-ISO 23953 and the conditions of climate class 4 as defined under these conditions): • for refrigeration equipment: 10 kWh per m^3 of net volume during 48 hours; • for freezer equipment: 20 kWh per m^3 of net volume during 48 hours. *Verification* The tenderer may be asked to submit documentation with evidence showing that these values are

	complied with.
ME5	**Refrigerators/freezers** The refrigeration and freezing equipment must be equipped with forced ventilation inside the casing and an evaporator must be fitted separately and not be built into the walls of the appliance. The refrigeration and freezing equipment must be equipped with a switch to deactivate the ventilator when the door is open. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
ME6	**Cold display counters** Cold display counters must have the option to be covered or closed and be fitted with an on-off switch that has been conveniently positioned and is intended for daily use by kitchen staff. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
ME7	**Freezer closure** Freezers must have a non-transparent closure. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.

Technical specifications for Cooking Equipment subset

No.	Technical specifications (ME)
ME8	**Gas-powered deep fryers** Gas-powered deep fryers must comply with the requirements listed below (in accordance with NEN-EN 437, NEN-EN 203 and CR 1404): 1. The thermal performance must be at least 83% LHV (lower heating value). 2. The annual NOx emission may not exceed: a. 40 ppm for appliances up to 36 kW LHV; or b. 1.11 ppm per kW load for appliances not exceeding 36 kW LHV and 54 kW LHV; or c. 60 ppm for appliances with load greater than 54 kW LHV 3. 3. The annual CO emission value may not exceed 100 ppm. The annual NOx and CO emission values are based on dry combustion gases and on stoichiometric combustion of a high-efficiency gas appliance, gas supply and combustion gas removal system, excluding accessories. *Verification* The tenderer may be asked to submit documentation demonstrating compliance with the requirements above. If the appliance has been awarded the Gastec QA Low NOx label and the Gastec High Efficiency label, it will be considered in compliance with this requirement.
ME9	**Gas-powered steam/convection ovens** Gas-powered steam or other convection ovens must comply with the requirements listed below (in accordance with NEN-EN 437, NEN-EN 203 and CR 1404): 1. Indirect performance must be at least 80% LHV. 2. Annual NOx emission value may not exceed 83.6 ppm. 3. Annual CO emission value may not exceed 100 ppm. The annual NOx and CO emission values are based on dry combustion gases and on stoichiometric combustion, and consist of a gas-powered steam/convection oven, gas supply and combustion gas removal system, excluding accessories. *Verification* The tenderer may be asked for a Gastec label or a summary of the manufacturer's specifications of the appliance as evidence of the item's compliance with this requirement. If the appliance has been awarded the Gastec High Efficiency label, it is considered to be in compliance with this performance requirement.

Technical specifications for Dishwasher subset

<table>
<tr><th>No.</th><th>Technical specifications (ME)</th></tr>
<tr><td>ME10</td><td>Conveyor-type machines
Conveyor-type machines must fall within the parameters listed in the table with regard to energy, water and performance.

<table><tr><td>Maximum energy consumption per metre</td><td>0.10 kWh</td></tr><tr><td>Maximum output of drying zone</td><td>9kW</td></tr><tr><td>Maximum water consumption per metre</td><td>2.2 L</td></tr><tr><td>Maximum specific water consumption per load</td><td>300 L • min/m</td></tr></table>
The parameters were established under test conditions and standard loads as defined in DIN 10510. (These test conditions apply to a washing result of 5 CFU (colony forming units) or less per 10 cm^2 of dishwasher surface, at a washing contact time of at least 120 seconds).

Specific water consumption per load (in L•min/m) is taken to mean the water use per load (in L) divided by the capacity (measured in accordance with DIN 10510) of the machine (in m/min). For example, for a machine with a capacity of 1.1 m/min, the value of 300 corresponds with 330 L of water used per load.

Verification
The tenderer may be asked to submit documentation with evidence showing that these values are complied with.</td></tr>
<tr><td>ME11</td><td>Basket-type machines
Basket-type machines must fall within the parameters listed in the table with regard to energy, water and performance.

<table><tr><td>Maximum energy consumption per basket</td><td>0.10 kWh</td></tr><tr><td>Maximum output of drying zone</td><td>6 kW</td></tr><tr><td>Maximum water consumption per basket (rinsing water)</td><td>2.2 L</td></tr><tr><td>Maximum specific water consumption per load</td><td>1.9 L • h/basket</td></tr></table>
The parameters were established under test conditions and standard loads as defined in DIN 10510. (These test conditions apply to a washing result of 5 CFU (colony forming units) or less per 10 cm^2 of dishwasher surface, at a washing contact time of at least 120 seconds).

Specific water consumption per load (in L•h/basket) is taken to mean the water use per load (in l) divided by the capacity (measured in accordance with DIN 10510) of the machine (in basket/min). For example, for a machine with a capacity of 200 baskets/h, the value of 1.9 corresponds with 380 L of water used per load.

Verification
The tenderer may be asked to submit documentation with evidence showing that these values are complied with.</td></tr>
<tr><td>ME12</td><td>Glass washer machines
Glass washer machines must fall within the parameters listed in the table with regards to energy, water and performance.

<table><tr><td>Energy consumption per basket</td><td>0.20 kWh</td></tr><tr><td>Water consumption per basket</td><td>2.5 L</td></tr><tr><td>Water consumption per load</td><td>12 L</td></tr></table>
The parameters were established under test conditions and standard loads as defined in DIN 10511. These test conditions apply to a washing result of 5 CFU (colony forming units) or less per 10 cm^2 of dishwasher surface, at a washing contact time of at least 90 seconds.

Verification
The tenderer may be asked to submit documentation with evidence showing that these values are complied with.</td></tr>
<tr><td>ME13</td><td>Front loader and pass-through dishwashers
Front loader and pass-through dishwashers must fall within the parameters listed in the table with regard to energy, water and performance.

<table><tr><td></td><td>Front loaders</td><td>Pass-through machines</td></tr></table></td></tr>
</table>

	Energy consumption per basket	0.35 kWh	0.35 kWh
	Water consumption per basket	2.6 L	4 L
	Water consumption per load	12 L	50 L

The parameters were established under test conditions and standard loads as defined in DIN 10512. These test conditions apply to a washing result of 5 CFU (colony forming units) or less per 10 cm^2 of dishwasher surface, at a washing contact time of at least 90 seconds.

Verification
The tenderer may be asked to submit documentation with evidence showing that these values are complied with.

6. Award criteria

No.	Award criteria (GC)
GC1	**Refrigeration/freezing equipment** In this section of the tender, [x] points will be awarded for refrigeration and freezing equipment that uses CO2, NH3 or hydrocarbons (such as isobutane and propane) as coolant. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
GC2	**Energy-efficient refrigerators/freezers** If refrigeration and freezing equipment is more energy efficient than technical specification no. 4 (i.e. 10 or 20 kWh/m^3/48 h, as applicable), this component of the tender will be awarded extra points according to the following formulas: • for refrigerators, the number of points = [x] * (10-E); • for freezers, the number of points = [x] * (20-E), where E represents the energy use in kWh per m^3 net volume during 48 hours, determined in accordance with EN 441 under the conditions for climate class D. *Verification* The tenderer may be asked to submit documentation with evidence showing that these values are complied with.
GC3	**Deep fryers** In this section of the tender, [X] points will be awarded for deep fryers that are equipped with an automated energy management system, digital controls and an hour timer for the used fat and oil. The three aforementioned components (energy management, controls and hour timer) must form the focal point of the computerised equipment and must ensure that the appliance makes more efficient use of energy and oil/fat. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
GC4	**Dishwasher** If the dishwasher can be connected to a steam or hot-water outlet or to a gas-powered water preparation appliance, this section of the tender will be awarded [x] points. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
GC5	**Energy reclamation from conveyor or basket-type dishwasher** If the conveyor or basket-type dishwasher has been fitted with energy recycling components, such as condensers, water/water-heat exchangers or heat pumps, this section of the tender will be

	awarded [x] points. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.
GC6	**Conveyor or basket-type dishwasher configured as semi-cascade machine** [X] points will be awarded for conveyor or basket-type dishwashers that are semi-cascade models. *Verification* The tenderer may be asked to provide a list of the equipment to be used in the performance of the service, stating the energy label for each piece of equipment, or to otherwise demonstrate that the criteria are met.

7. Contract provisions

Not defined for this product group.