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**General environmental requirements for contract procurements**

**Introduction**

Environmental requirements in procurements of contract works and services (registration no: TRV 2017/52081) are the environmental requirements imposed by the Swedish Transport Administration for procurement of contract works and services, such as construction, operation and maintenance of infrastructure. Some of the requirements have been drawn up in collaboration with the cities of Gothenburg, Malmö and Stockholm.

These requirements have been formulated primarily for the procurement of contract works and services such as construction, operation and maintenance of infrastructure, and represent a shared minimum level to be added to in all contracts.

Noteworthy: This document is not a procurement document it’s a guideline.

For individual projects and contracts, the client can also impose more stringent and object-specific requirements.

The guideline “General environmental requirements for contract works and services contract” is a summary/overview of requirements and ambitions adopted by the Swedish Transport Administration for construction procurement. Some of these requirements were defined in the climate requirements guideline (TDOK 2015:0480), the chemical products guideline (TDOK 2010:310) and the materials and goods guideline (TDOK 2012:22).

The Swedish Transport Administration imposes requirements for climate impact reduction in all investment and maintenance contracts. These are specified in TDOK 2015:0480. The present guideline only includes those requirements that refer to investment measures with a total cost of <50 million SEK, and maintenance contracts of all sizes. For all other contracts, see TDOK 2015:0480.

This guideline replaces the one published in 2012.

**Aim**

The requirements are intended to reduce the environmental impact of works to be executed. Clear, relevant and cost-effective requirements lead to improved air quality, reduced energy use and reduced use and spread of toxic substances.

Through dialogue and open communication with the industry, clients can stimulate contractors’ ability to innovate, while at the same time reducing the micro-management element of requirement specifications.

The goals of the requirements, in no particular order, are that they should

* make it easier for clients, buyers, project managers and contractors to work towards lowering the environmental impact of contract works
* be applicable for all types of procurements in the contracts area
* be easy to follow up
* be fully supported by both clients and providers.

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The aim is to specify requirements that cost-effectively reduce the environmental impact of contracts. The reasons for including a requirement in the joint document are the following:

* A serious environmental problem has to be addressed.
* The method of using requirements in procurements must contribute substantially to reducing the problem.
* Compliance and the results of the requirement must be possible to follow up.
* The requirement must be easy to understand and clearly defined.
* The requirement must not restrict competition, but at the same time it must stimulate contractors to come up with innovative solutions.

Requirements must be updated regularly to ensure that they are as relevant and up-to-date as possible. It is important, therefore, that contractors provide feedback in the form of proposals for improvements, to make consideration of the points above even more effective.

**Scope**

These environmental requirements address environmental aspects of the *execution* of contracts. They do not address *what* is being executed, but how the work is carried out. All requirements must be calculable and possible to verify and follow up in a satisfactory way.

The environmental requirements dealt with in this guideline make up only a small part of all the environmental requirements that apply when contracts are executed. They are general minimum requirements and thus do not cover all environmental issues addressed during a contract. Further requirements, dictated by local or organisation-specific circumstances, will be added.

These environmental requirements do not necessarily cover consultancy services, unless they are included as part of a contract.

Health and safety requirements, quality requirements, ethical and social requirements are not included as these are addressed in other documents and procedures used by clients. It must be possible to harmonise the environmental requirements with working methods and strategic considerations as specified in these other documents and procedures. It is a good idea, for example, for the systematic environmental work and the environment plan which are included in the environmental requirements to be integrated into presentations of systems and plans for quality, safety, health, social issues and similar.

The development of the requirements has been done in collaboration with the cities of Gothenburg, Malmö and Stockholm which means that requirements are coordinated, so that contractors as well as their suppliers know what requirements apply and can act on the basis of this. This makes it easier for them to plan their investments in machinery, operation systems and skills development in order to meet the requirements that apply on a large share of the market in Sweden.

**Guidance**

In addition to the shared requirements, a guidance document has to be available. This is intended to help clients and providers interpret and understand the requirements. It describes application of the requirements, definitions of terms used, and how verification and follow-ups of requirements are to be done.

**References**

Systematic and structured environmental management, environment plan

TDOK 2016:0032 – Requirements, Quality control of procured operations – Contracts and Project planning services

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Fuels/propellants

TDOK 2015:0480 Climate requirements on planning, construction phase, maintenance and on technically approved railway material

Vehicles and machinery

Regulation (EC) 715/2007 (light passenger and commercial vehicles)

EU directive 2005/55/EC (heavy vehicles)

EU directive 97/68/EC and Regulation (EU) 2016/1628

Chemical products

TDOK 2010:310 Chemical products – review criteria and requirements for the Swedish Transport Administration

TDOK 2010:311 Procedure description Chemical products – review of chemical products requiring labelling

Basta: https://www.bastaonline.se/about-basta/about-basta/?lang=en

Materials and goods

TDOK 2015:0480 Climate requirements on planning, construction phase, maintenance and on technically approved railway material

EN 15804 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

TDOK 2012:22 Materials and goods – requirements and criteria regarding content of hazardous substances

**Version log**

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Version 1.0 2012-03-12 New guideline Torbjörn Suneson

Version 2.0 2018-02-14 Revised guideline Stefan Engdahl

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**ASSUMPTIONS AND APPLICATION**

These requirements are intended to produce environmental benefits in a cost-effective way in the execution of construction contracts. Some of them are part of an agreement between the cities of Gothenburg, Malmö and Stockholm, and the Swedish Transport Administration. The requirements are to be imposed in the procurement phase of all contracts carried out by the organisation, and are then to apply during the execution of the contracts.

The requirements concern the contractor’s organisation and the activities carried out by the contractor for the client. The requirements also apply to all subcontractors, at all stages, to their organisations and the activity carried out by them within the framework of the contract from the client. The requirements have been formulated primarily for contract works such as construction, operation and maintenance of infrastructure. They apply to planning and execution of construction as well as design-build contracts, but not normally to consultancy services unless they are included as a part of the contract.

These shared requirements are general minimum requirements, and do not cover all environmental issues dealt with during a contract. Further requirements may be added by the client in each individual contract, depending on the circumstances in each specific case.

Where this is justified, e g in sensitive areas, requirements will be imposed that are more stringent than the minimum requirements. The definition of “sensitive area” can be found, along with other definitions, in the annex to the requirements. Requirements for sensitive areas are always applied in the cities of Stockholm, Gothenburg and Malmö.

Failure to comply with the requirements will lead to sanctions proportional to the nature of the failure and its consequences. The contractor that signs the agreement with the client will be liable for subcontractors’ compliance with requirements as well, meaning that sanctions in the event of any failure to comply on their part will be borne by the contractor.

Methods and technology are constantly developing. Clients are open to suggestions that can provide even greater environmental benefits, or lower the cost of achieving them. A contractor with an idea for a development that lowers the environmental impact should take the initiative for a discussion about this with the client. Good planning of the contract works with respect to vehicles, machinery, transports, fuel, choices of material etc can often amount to energy savings and a reduced environmental impact.

Further information about the purpose of the requirements, their application, system delimitations, follow-ups and explanations are available in a guidance document. This document is available on each client organisation’s website and may become updated as requirements are applied and practice is established. The websites also have information about where to find further support at help.

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**1 SYSTEMATIC AND STRUCTURED ENVIRONMENTAL WORK**

**1.1a Basic requirements (applies for procurements in 2018 and after)**

By the time of the signing of the contract at the latest, the contractor must have in place systematic environmental management that will be used to reduce the environmental impact of the contract works. This must include the following elements at a minimum, which have to relate to those parts of the company’s activities that are included in the tender:

Environmental policy

* which has been adopted by the company’s management
* which includes a commitment to meet binding requirements
* and continuous improving environmental performance

Goals and action plans for significant environmental impacts and environmental risks.

Procedures for:

* Management of significant environmental impacts and environmental risks
* Self-regulation and follow-ups of environmental management
* Management of deviations, corrective and preventive measures
* Preparedness and action in emergencies

**1.1b More stringent requirements for bigger contracts – optional (applies for procurements in 2018 and after)**

By the time of the signing of the contract at the latest, the contractor must have a structured environmental management system that will be used to reduce the environmental impact of the contract works. This must include the following elements at a minimum, which have to relate to those parts of the company’s activities that are included in the tender:

Environmental policy

* which has been adopted by the company’s management
* which includes a commitment to meet binding requirements
* and continuous improving environmental performance

Goals and action plans for significant environmental impacts and environmental risks.

Procedures for:

* Management of significant environmental impacts and environmental risks
* Self-regulation and follow-ups of environmental management
* Management of deviations, corrective and preventive measures
* Preparedness and action in emergencies

**1.2 Reporting requirement (applies for procurements in 2018 and after)**

The systematic/structured environmental work must be documented and must be available to be shown/presented to the client on request.

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**2 ENVIRONMENT PLAN**

**2.1 Basic requirements (applies for procurements in 2018 and after)**

By the time of the start-up meeting of the contract works at the latest, the contractor must present an object-adapted environment plan to the client in writing, where the following points must be included at a minimum:

1. One named person legally liable for environment matters and one named contact person for environment matters during the contract.

2. A presentation of identified significant environmental impacts and risks in the contract.

3. A description of what the environmental requirements are and how they are going to be achieved during the contract. This description must include the following at a minimum:

a) General environmental requirements (the requirements in the present document and any additional general requirements).

b) Object-specific environmental requirements, including applicable requirements in environment legislation.

c) The contractor’s environmental objectives and measures for meeting the environmental requirements and preventing environmental impacts and risks within the framework of the contract.

d) How environmental competencies are ensured i.e. what competencies are present with regard to the environmental requirements and what competencies are available on location.

e) How the environment plan and the environmental requirements are going to be communicated to personnel, both employees and those hired externally.

The contractor must ensure that the environment plan meets quality and other specified requirements before work begins, and must document this in consultation with the client.

**2.2 Reporting requirement (applies for procurements in 2018 and after)**

The contractor must keep the environment plan up to date and report any deviations from it to the client. Updating and management of deviations must be carried out in consultation with the client and be documented.

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**3 FUELS**

**3.1 Basic requirements (applies for procurements from 2018)**

Fuels must fulfil the following requirements and criteria:

* Alkylate gasoline (SS 155461:2008 and the Fuel Act [SFS 2011:319, Section 5])
* Petrol MK1 (SS-EN 228:2012 + A1:2017 and the Fuel Act [SFS 2011:319, Section 4])
* Diesel fuel MK1 (SS 155435:2016 and the Fuel Act [SFS 2011:319, Section 8])
* E85 (SS 15293:2018)
* ED95 (SS 155437:2015)
* Vehicle gas (SS-EN 16723-2:2017)
* RME/FAME (SS-EN 14214:2012~~+~~A2:2019)
* Synthetic diesel fuels (EN 15940:2016 + A1:2018+AC:2019)

Alkylate gasoline must be used for the motors of powered machinery and tools when these are not equipped with catalytic converters.

When using the fuels specified above, the owner of the vehicle/machinery is responsible for ensuring that the engine manufacturer has granted permission for the use of the fuel in question. Heavy vehicles that meet Euro VI standards must also have type approval for the fuel in question.

In addition to the listed fuels, the use of electricity and hydrogen is also permitted.

**3.2 Basic requirements regarding climate impacts of fuels for vehicles and machinery**

FOR REQUIREMENTS ON INVESTMENT PROJECTS GREATER THAN OR EQUAL TO SEK 50 MILLION

For further information, see the Swedish Transport Administration’s guideline “Climate requirements on planning, construction phase, maintenance and on technically approved railway material”, TDOK 2015:0480.

FOR PROJECTS WITH INVESTMENT MEASURES OF LESS THAN SEK 50 MILLION AND FOR MAINTENANCE CONTRACTS REGARDLESS OF PROJECT SIZE (APPLIES IN THE METROPOLITAN REGIONS FOR CONTRACTS TO BE COMPLETED IN 2020 OR LATER, AND WHICH WERE PROCURED ON OR AFTER 15 MARCH 2018):

At least 20 per cent of total energy use with respect to vehicles and machinery must be electricity from renewable sources and/or sustainable highblend/pure and sustainable clean biofuels not comprehended by reduction duty.

As an alternative, investing entities may apply the same requirements as for bigger investment measures, as specified under 3.2 in TDOK 2015:0480, provided that they can be applied.

In cases where biofuels are used to meet climate requirements, the fuels used must have a sustainability certificate issued by the Swedish Energy Agency in accordance with the Act on Sustainability Criteria for Biofuels and Bioliquids (2010:598).

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**3.3 Reporting requirements for fuels**

FOR REQUIREMENTS ON INVESTMENT PROJECTS GREATER THAN OR EQUAL TO SEK 50 MILLION

For further information, see the Swedish Transport Administration’s guideline “Climate requirements on planning, construction phase, maintenance and on technically approved railway material”, TDOK 2015:0480.

FOR PROJECTS WITH INVESTMENT MEASURES OF LESS THAN SEK 50 MILLION AND FOR MAINTENANCE CONTRACTS REGARDLESS OF PROJECT SIZE (APPLIES IN THE METROPOLITAN REGIONS FOR CONTRACTS TO BE COMPLETED IN 2020 OR LATER, AND WHICH WERE PROCURED ON OR AFTER 15 MARCH 2018):

In the final documentation, the contractor must provide a list of used quantities and qualities of electricity and fuel on a form drawn up by the client. On request, receipts and invoice documentation must also be presented to corroborate the stated amounts and qualities.

**4 LIGHT DUTY VEHICLES**

**4.1 Basic requirements for light duty vehicles**

REQUIREMENTS IN PROCUREMENTS 2018–2019

Passenger cars with carbon dioxide emissions exceeding 200g/km must not be used.

Light commercial vehicles with carbon dioxide emissions exceeding 250 g/km must not be used.

Light duty vehicles older than 8 eight years must not be used.

REQUIREMENTS IN PROCUREMENTS FROM 2020

Light duty vehicles must meet Euro Class V standards or later Euro Class standards.

*The basic requirements under 4.1 do not include light road-rail vehicles used in railway contracts.*

**4.2 Reporting requirements for light vehicles (applies for procurements from 2018 and after)**

Light road vehicles used must be documented and a list of them must be possible to produce on request, specifying vehicle types, makes, models, registration numbers, model years and emissions standards (Euro Class).

*These reporting requirements affect all light vehicles used in the contract, including those which are not included by the basic requirements.*  *Emissions standards do not need to be specified before 2020.*

*For light vehicles not included by the basic requirements, only data on vehicle type, make, model and registration number need to be specified~~.~~*

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*For procurements carried out from 2020, the reporting requirement changes to the effect that vehicles’ model years need not be specified.*

**5 HEAVY DUTY VEHICLES**

**5.1 Basic requirements**

REQUIREMENTS IN PROCUREMENTS 2018–2019

Heavy duty vehicles must meet Euro V standards. Later Euro Class standards are also permitted.

REQUIREMENTS IN PROCUREMENTS FROM 2020

Heavy duty vehicles must meet Euro VI standards. Later Euro Class standards are also permitted.

REQUIREMENTS FOR HEAVY DUTY VEHICLES WITH TWO ENGINES (APPLIES IN PROCUREMENTS FROM 2020)

Heavy duty vehicles with machinery or other work functions powered by electricity and an internal combustion engine for mobility must meet Euro Class V standards. Later Euro Class standards are also permitted. The vehicle’s internal combustion engine must not, in this case, be used during work or to produce electricity.

*The more stringent requirements in sensitive areas, as specified under 5.2, do not include road-rail vehicles, machinery engines permanently mounted on heavy road-rail vehicles, laying trucks for gravel coating, and some directly imported vehicles for transporting geotechnical equipment. Requirements for these vehicles are specified under 5.3.*

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**5.3 Requirements for heavy vehicles not comprehended by the general requirements specified above (5.1 and 5.2)**

5.3.1 REQUIREMENTS FOR VEHICLES FOR TRANSPORTING GEOTECHNICAL EQUIPMENT (APPLIES IN PROCUREMENTS FROM 2018 AND AFTER)

In addition to vehicles that meet the general basic requirements (under 5.1 and 5.2), vehicles imported directly from the US, that have not been Euro Class tested, may be used for transporting geotechnical equipment. Such directly imported vehicles may not be older than 12 years, not counting the year of production.

5.3.2 REQUIREMENTS FOR LAYING TRUCKS FOR GRAVEL COATING

**Requirements in procurements 2018–2019**

Laying trucks for gravel coating must meet Euro Class IV standards. Later Euro Class standards are also permitted.

**Requirements in procurements from 2020**

Laying trucks for gravel coating must meet Euro Class V standards. Later Euro Class standards are also permitted.

5.3.3 REQUIREMENTS FOR HEAVY ROAD-RAIL VEHICLES

**Requirements in procurements 2018–2023**

Heavy road-rail vehicles must meet Euro Class III standards. Later Euro Class standards are also permitted.

**Requirements in procurements from 2024**

Heavy road-rail vehicles must meet Euro Class IV standards. Later Euro Class standards are also permitted.

5.3.4 REQUIREMENTS FOR MACHINERY ENGINES PERMANENTLY MOUNTED ON HEAVY ROAD-RAIL VEHICLES (APPLIES IN PROCUREMENTS FROM 2018 AND AFTER)

Machinery engines permanently mounted on heavy road-rail vehicles must not be older than the road-rail vehicle in question, and must not be older than 20 years, not counting the year of production.

**5.4 Reporting requirements for heavy duty vehicles (applies in procurements from 2018 and after)**

Heavy vehicles used must be documented and a list of them must be possible to produce on request, specifying vehicle types, makes, models, registration numbers, emissions standards (Euro Class) and model years (applies only to directly imported vehicles for transporting geotechnical equipment and machinery engines permanently mounted on heavy road-rail vehicles).

The reporting requirement on emissions standards does not apply to directly imported vehicles for transporting geotechnical equipment and machinery engines permanently mounted on heavy road-rail vehicles.

*These reporting requirements affect all heavy duty vehicles used in the contract, including those which are not included by the basic requirements.*

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**6 NON ROAD MOBILE MACHINERY**

**6.1 Basic requirements**

REQUIREMENTS IN PROCUREMENTS 2018–2019

Engines in machinery included by the EU regulatory framework must meet Stage II standards. Later standards are also permitted.

Engines in machinery not included by the EU regulatory framework must not be older than 10 years.

REQUIREMENTS IN PROCUREMENTS FROM 2020

Machinery must not be older than 12 years, not counting the year of production.

Machinery with engines that meet Stage IV standards or later may be used even if the age requirement is not met.

REQUIREMENTS FOR MACHINERY WITH TWO ENGINES (APPLIES FOR PROCUREMENTS FROM 2020 AND AFTER)

Machinery in which the work function is powered by electricity but which use an internal combustion engine for mobility must not be older than 16 years, not counting the production year. The internal combustion engine must not, in such cases, be used during work or to produce electricity.

REQUIREMENTS FOR MACHINERY WHICH HAS UNDERGONE ENGINE REPLACEMENT OR HAS BEEN UPGRADED (APPLIES FOR PROCUREMENTS FROM 2020 AND AFTER)

Machinery which has undergone engine replacement or been upgraded to the following emissions standards may be used until the specified year.

*Table 1*

Engine power Stage IIIA Stage IIIB

Basic Basic

requirement requirement

P<8 kW - -

8≤P<19 kW - -

19≤P<37 kW 2030 -

37≤P<56 kW 2024 2030

56≤P<75 kW 2023 2026

75≤P<130 kW 2023 2026

130≤P≤560 kW 2022 2026

P>560 kW - -

*The basic requirements under 6.1 do not include machinery for gravel coating, graders, heavy road-rail machinery, machinery engines permanently mounted on heavy road-rail vehicles, and rail-bound machinery. Requirements for these are specified under 6.3.*

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**6.2 More stringent requirements in sensitive areas**

REQUIREMENTS IN PROCUREMENTS 2018–2109

Engines in diesel-powered machinery included by the EU regulatory framework must meet Stage IIIA standards. Later standards are also permitted.

Engines in petrol-powered machinery included by the EU regulatory framework must meet Stage II standards. Later standards are also permitted.

Engines (under 19 kW) in machinery not included by the EU regulatory framework must not be older than 6 years.

REQIUREMENTS IN PROCUREMENTS FROM 2020

Machinery with engines producing 19 kW or more of power must not be older than 6 years, not counting the production year.

Machinery with engines producing less than 19 kW of power must not be older than 9 years, not counting the production year.

Machinery with engines that meet Stage IV standards or later standards may be used even if the age requirement is not met.

REQUIREMENTS FOR MACHINERY WITH TWO ENGINES (APPLIES FOR PROCUREMENTS FROM 2020 AND AFTER)

Machinery in which the work function is powered by electricity but which use an internal combustion engine for mobility must not be older than 9 years, not counting the production year. The internal combustion engine must not, in such cases, be used during work or to produce electricity.

REQUIREMENTS FOR MACHINERY WHICH HAS UNDERGONE ENGINE REPLACEMENT OR HAS BEEN UPGRADED (APPLIES FOR PROCUREMENTS FROM 2020 AND AFTER)

Machinery which has undergone engine replacement or been upgraded to the following emissions standards may be used until the specified year.

*Table 2*

Engine power Stage IIIA Stage IIIB

Basic Basic

requirement requirement

P<8 kW - -

8≤P<19 kW - -

19≤P<37 kW 2024 -

37≤P<56 kW - 2024

56≤P<75 kW - -

75≤P<130 kW - -

130≤P≤560 kW - -

P>560 kW - -

*The more stringent requirements in sensitive areas under 6.2 do not include road-rail machinery, machinery engines permanently mounted on heavy road-rail vehicles, and rail-bound machinery. Requirements for these are specified under 6.3.*

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**6.3 Requirements for machinery not included by the general requirements as specified above (6.1 and 6.2)**

6.3.1 REQUIREMENTS FOR MACHINERY FOR GRAVEL COATING AND GRADERS

* ***Requirements in procurements 2018-2019***

Graders must meet Stage I standards. Later standards are also permitted.

Machinery for gravel coating must meet Stage II standards. Later standards are also permitted.

* ***Requirements in procurements from 2020***

Machinery for gravel coating and graders must not be older than 16 years, not counting the production year.

Machinery for gravel coating and graders with engines that meet Stage IV standards or later standards may be used even if the age requirement is not met.

If this type of machinery is used in sensitive areas, more stringent requirements for sensitive areas apply as specified under 6.2.

6.3.2 REQUIREMENTS FOR HEAVY ROAD-RAIL MACHINERY (APPLIES FOR PROCUREMENTS FROM 2018 AND AFTER)

Road-rail machinery must not be older than 16 years, not counting the production year. Road-rail machinery with engines that meet Stage IV or later standards may be used even if the age requirement is not met.

6.3.3 REQUIREMENTS FOR ROAD-RAIL MACHINERY WHICH HAS UNDERGONE ENGINE REPLACEMENT OR HAS BEEN UPGRADED (APPLIES FOR PROCUREMENTS FROM 2018 AND AFTER)

Road-rail machinery which has undergone engine replacement or been upgraded to Stage IIIA or IIIB emissions standards may be used for an additional 4 years beyond the year specified in Table 1 for basic requirements above.

In the event of upgrading or engine replacement, all internal combustion engines on the road-rail machinery must be upgraded or replaced in order to extend their permitted lifetime.

6.3.4 REQUIREMENTS FOR MACHINERY ENGINES PERMANENTLY MOUNTED ON HEAVY ROAD-RAIL VEHICLES

*See 5.3.4*

6.3.5 REQUIREMENTS FOR RAIL-BOUND MACHINERY (APPLIES IN PROCUREMENTS FROM 2018 AND AFTER)

Rail-bound machinery must not be older than 20 years, not counting the production year. Rail-bound machinery with engines that meet Stage IV or later standards may be used even if the age requirement is not met.

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6.3.6 REQUIREMENTS FOR RAIL-BOUND MACHINERY WHICH HAS UNDERGONE ENGINE REPLACEMENT OR HAS BEEN UPGRADED (APPLIES FOR PROCUREMENTS FROM 2018 AND AFTER)

Rail-bound machinery which has undergone engine replacement or been upgraded to Stage IIIA or IIIB emissions standards may be used for an additional 8 years beyond the year specified in Table 1 for basic requirements above.

In the event of upgrading or engine replacement, all internal combustion engines on the rail-bound machinery must be upgraded or replaced in order to extend their permitted lifetime.

*The requirements under 6.3 do not apply for rail-bound machinery that is only used for winter track maintenance.*

**6.4 Reporting requirements for machinery (applies in procurements from 2018 and after)**

Machinery used must be documented and a list of it must be possible to produce on request, specifying machinery type, make, model, production year, serial number and type designation, engine power, and emissions standard if applicable (Stage).

*These reporting requirements affect all machinery used in the contract, including any that is not included by the requirements.*

Special reporting requirements when using machinery that has undergone engine replacement or been upgraded

The following information must be specified, in addition to the information required above, in the event of engine replacement or upgrading.

In the event of engine replacement:

* Type-approval number for the new engine

In the event of upgrading:

* Type-approval certificate in conformity with UNECE regulation 123, or the equivalent approval from the Swedish Transport Agency
* Certificate that the above upgrading equipment was mounted on the machinery and engine in question

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**7 CHEMICAL PRODUCTS**

**7.1 Basic requirements (applies in procurements from 2018 and after)**

Chemical products subject to mandatory labelling which are used in the contract must be inspected by the Swedish Transport Administration’s chemicals inspection unit before use. Applications for inspections of chemical products must be made through the Swedish Transport Administration’s chemicals handling system, which is on www.trafikverket.se

The contractor must apply the product selection principle laid down in the Environmental Code when choosing and using chemical products:

1. Chemical products should preferably meet the Swedish Transport Administration’s criteria for Group A.
2. If it is not possible to meet the Swedish Transport Administration’s criteria for Group A, chemical products that meet the criteria for Group B may be used.

Chemical products that do not meet the criteria for Group A and are classified as Group B must fulfil the following special conditions before use:

* A documented product selection analysis and hazard assessment must be made before the product is used.
* A documented risk analysis must be made if there is any risk of impacts.

The product selection analysis, hazard assessment and risk analysis must be documented using the designated templates for each that are available on www.trafikverket.se, or in some other document of corresponding content.

1. If it is not possible to meet the Swedish Transport Administration’s criteria for Group B either, chemical products classified as Group C may be used. Chemical products that do not meet the criteria for Group B and are classified as Group C must fulfil the following special conditions before use:

* A documented product selection analysis, hazard assessment and risk analysis must be made before the product is used. These must be documented in the designated templates for each that are available on www.trafikverket.se, or in some other document of equivalent corresponding content.
* The client must be informed if use is planned of a chemical product in Group C. The client must also be informed of the result of the risk analysis before works begin. Planned and annually used amounts of chemical products classified as Group C must be reported in the Swedish Transport Administration’s chemicals handling system on www.trafikverket.se.

Chemical products may not be used if they contain substances that are on the Swedish Transport Administration’s list of banned substances in concentrations equal to or higher than each substance’s characteristics criteria, Group D. When using products classified as Group D in permitted areas of use, the special conditions for Group C must be fulfilled before use.

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The use of chemical pesticides, biocides and plant protection products is not allowed in the Swedish Transport Administration’s activities. Areas of use exempt from this ban are specified in the Swedish Transport Administration’s list of banned substances.

Environmental performance requirement

At least 60 per cent of the total number of chemical products used must meet the Swedish Transport Administration’s criteria for Group A.

**7.2 More stringent requirements in sensitive areas (applies in procurements from 2018 and after)**

In addition to the basic requirements, hydraulic fluids used must meet the environmental characteristics requirements in Swedish Standard SS 155434.

**7.3 Reporting requirements for chemical products (applies in procurements from 2018 and after)**

The contractor must maintain an up-to-date list of chemical products used during the execution of the contract. This list, as well as completed product selection analyses, hazard assessments and risk analyses, must be possible to produce in the event of an inspection round or audit. The list should be made in the Swedish Transport Administration’s chemicals handling system on www.trafikverket.se, or in TMALL 0559, or in an Excel file of corresponding content.

The chemicals list must be included in the final documentation of the contract. Fulfilment of the environmental performance requirement under 7.1 is to be verified with a chemicals list provided with the final documentation. The list must show clearly that the requirement has been met.

The list must include used chemical products as well as built-in chemical products. Product selection analyses and risk analyses for products in Group C, as well as safety data sheets for chemical products subject to compulsory labelling that have been incorporated into the construction must be annexed to the chemicals list and be included in the final documentation.

*The Swedish Transport Administration’s criteria for Groups A, B and C have been harmonised with criteria used by the assessment systems in the construction and civil engineering industry. A translation key for the criteria is available in the Swedish Transport Administration’s and the cities’ guidance documents. Further information, support, templates and aids are available in TDOK 2010:310 and TDOK 2010:311 as well as on www.trafikverket.se/för dig i branschen/Miljö och*

*hälsa/Material och kemiska produkter.*

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**8 MATERIALS AND GOODS**

**8.1 Basic requirements (applies in procurements from 2018 and after)**

REQUIREMENTS REGARDING CONTENT OF HAZARDOUS SUBSTANCES

The contractor must apply the product selection principle laid down in the Environmental Code when choosing and using materials and goods:

1. Materials and goods should preferably meet the Swedish Transport Administration’s criteria for Group A.
2. If it is not possible to meet the Swedish Transport Administration’s criteria for Group A, materials and goods that meet the criteria for Group B may be used.
3. If it is not possible to meet the Swedish Transport Administration’s criteria for Group B either, materials and goods classified as Group C may be used. Materials and goods that do not meet the criteria for Group B must fulfil the following special conditions before use:

* A documented product selection analysis and a risk analysis must be made before the material or good is used. If the product selection analysis indicates that there are no viable alternatives, and the risk analysis indicates that use entails acceptable risks, the material or good may be used.

Materials and goods may not be used if they contain substances that are on the Swedish Transport Administration’s list of banned substances in concentrations equal to or higher than each substance’s characteristics criteria, Group D. When using products classified as Group D in permitted areas of use, the special conditions for Group C must be fulfilled before use.

If the contractor has to use materials and goods for which there is no information about the substances they contain, Group E, a documented product selection analysis must be made before the material or good is used.

*For materials provided via the Swedish Transport Administration’s Materials Service unit, the Swedish Transport Administration is responsible for product selection and provision of information on whether the goods meet the Swedish Transport Administration’s criteria for Group A, B or C. This information is available in the Materials Catalogue on www.trafikverket.se.*

Environmental performance requirements

In road contracts at least 80 per cent of the incorporated materials and goods must meet the Swedish Transport Administration’s criteria for Group A.

In rail contracts at least 50 per cent of the built-in materials and goods that the contractor purchases for the project must meet the Swedish Transport Administration’s criteria for Group A.

**TDOK number Version**

TDOK 2012:93 2.0

REQUIREMENTS REGARDING CLIMATE IMPACTS OF MATERIALS

**For requirements on investment projects greater than or equal to SEK 50 million**

For further information, see the Swedish Transport Administration’s guideline “Climate requirements on planning, construction phase, maintenance and on technically approved railway material”, TDOK 2015:0480.

**For requirements on investment measures of less than SEK 50 million:**

Materials used in the contract must meet the requirements specified in the table below with respect to environmental performance and environmental product declaration.

The investing entity may optionally apply the same requirements as for bigger investment measures as specified under 3.2 in TDOK 2015:0480, provided they can be applied.

*Table 3*

Material Planned year of completion Planned year of completion

of contract 2020–2024 of contract 2025­–2029

Reinforcing steel at ≤0.72 kg CO2/kg steel ≤0.52 kg CO2/kg steel

production, (A1-A3)1,2

Structural steel at Requirement for Type III environmental Requirement for Type III

production, (A1-A3) product declaration (EPD for road and environmental product declaration

for road and bridge barriers including (EPD) for all structural steel3.

cable barriers, sheet piling and stainless

steel structural steel products.

Cement/Concrete (A1- ≤0.70 kg CO2/kg cement ≤0.62 kg CO2/kg cement

A3)4,5 *or optionally or optionally*

The contractor must be able, on request, The contractor must be able, on request, to present certified Type III environmental to present certified Type III product declarations (EPD) environmental product declarations for the construction concrete used in (EPD) for the construction concrete

the contract. A reduction in the climate used in the contract. A reduction in the

impact of the concrete by 25% on the climate impact of the concrete by 35% initial figure – burden of proof entirely on the initial figure – burden of proof

on the concrete producer/contractor. entirely on the concrete producer/ The initial level for the prescribed contractor. The initial level for the concrete must be based on the exposure prescribed concrete must be based on class and strength, and the cement type the exposure class and strength, and permitted. the cement type permitted.

1) As specified in EN 15804

2) Stainless and galvanised reinforcing steel is exempted, where required in the construction.

3) From 2025 on there will also be requirements for maximum climate impact of road and bridge barriers including cable barriers, sheet piling and stainless steel structural steel products.

4) Coastal areas and areas that expressly require concrete developed for corrosive environments are exempted from this requirement.

5) The requirements are not applicable to finished concrete products. Requirements for these may be added.

**TDOK number Version**

TDOK 2012:93 2.0

**8.2 Reporting requirements for materials and goods (applies in procurements from 2018 and after)**

HAZARDOUS SUBSTANCES

The contractor must maintain an up-to-date list of materials and goods used during the execution of the contract. This materials list, as well as completed product selection analyses and risk analysis must be possible to produce in the event of an inspection round or audit. The materials list should be made in TMALL 0558 or in an Excel file of corresponding content, and must be included in the final documentation of the contract. Fulfilment of the environmental performance requirement under 8.1 is to be verified with a materials list provided with the final documentation. The list must show clearly that the requirement has been met. Product selection analysis and risk analysis must be annexed to the materials list and be included in the final documentation. The materials list must include all built-in materials and goods, both those provided by the Materials Service unit and those purchased by the contractor. Information about the content of hazardous substances in goods from the Materials Service unit can be found in the Swedish Transport Administration’s materials catalogue.

*The Swedish Transport Administration’s criteria for Groups A, B and C have been harmonised with criteria used by the assessment systems in the construction and civil engineering industry. These assessment systems may be used, in consultation with the client, to verify the content of hazardous substances in materials and goods according to the Swedish Transport Administration’s criteria. A translation key for the criteria is available in the Swedish Transport Administration’s and the cities’ guidance documents. Further information, support, templates and aids are available in TDOK 2012:22 and on www.trafikverket.se/för dig i branschen/Miljö och hälsa/Material och kemiska produkter.*

CLIMATE

**For requirements on investment projects greater than or equal to SEK 50 million**

*For further information, see the Swedish Transport Administration’s guideline “Climate requirements on planning, construction phase, maintenance and on technically approved railway material”, TDOK 2015:0480.*

**From 2018 the following applies for projects with investment measures of less than SEK 50 million and for maintenance contracts regardless of size, where requirements are specified regarding the climate impact of materials:**

The contractor must verify that requirements are met by presenting a Type III environmental product declaration (EPD) for materials from the selected materials supplier/s as part of the final documentation. These EPDs must conform with EN 15804. The contractor must be able to prove, on request and by presenting relevant invoicing documentation, that only materials from the selected supplier/s were used.

**TDOK number Version**

TDOK 2012:93 2.0

**Definitions**

**Biofuel**

A biofuel is a liquid fuel made from a renewable resource, in contrast with fossil fuels which are made from finite, non-renewable resources.

**Built-in chemical products, materials and goods**

Chemical products and materials and goods incorporated into the construction in order to become a permanent part of the final result and its future use. Chemical products which are included and goods and materials used temporarily during the construction phase are not referred to as incorporated.

**Chemical product**

A chemical substance or a preparation of chemical substances which is not a good, as defined in Chapter 14, Section 2 of the Environmental Code (1998:808).

**Chemical product requiring labelling**

A chemical product with a hazard symbol and/or a risk phrase (as specified in KIFS 2005/7), or optionally new CLP labelling (as specified in Regulation (EC) No 1272/2008) with a hazard pictogram and/or a hazard statement under section 2 or 15 of the safety data sheet (in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council).

**Construction contract**

A contract in which the client has carried out project design (produced construction documents such as drawings and specifications) and then procured a contractor that undertakes to execute the work described in the documents.

**Contract**

A contract is an agreement between a client and a contractor describing their respective commitments in the execution of works or provision of goods or services within a specified period of time, for a specified price.

See the definitions of design-build contracts and construction contracts below.

**Design-build contract**

A contract in which the client procures a contractor to carry out, or have a subcontractor carry out, the design as well as the construction of a project.

**Deviation**

Non-fulfilment of a requirement.

**Environment contact person**

One of more persons appointed by the contractor to answer the client organisation’s questions about environmental aspects of a given project.

**Environment plan**

A document specifying measures addressing environmental impacts in areas such as working methods, choice of building materials, materials handling, source separation and waste management, in order to ensure increased protection of the environment (source: AMA Construction standards).

**Environment zone**

A geographical area in urban areas where there may be traffic restrictions for environmental protection reasons. Under the traffic ordinance, municipalities are entitled to determine which areas to make environment zones. The regulatory framework is drawn up at the national level. In 1996 the cities of Stockholm, Gothenburg and Malmö implemented environment zones for diesel-powered vehicles weighing more than 3.5 tonnes. An environment zone applies for all heavy trucks and buses using the specified area.

**Environmental requirements**

We have chosen to differentiate between three types of environmental requirements: Performance requirements, Execution requirements and Administrative requirements. Performance requirements describe WHAT has to be achieved in the form of an environmental quality or an environmental characteristic. Execution requirements describe HOW an environmental quality/characteristic is to be achieved – examples of such requirements include requirements for the technical design of a protective measure. Administrative requirements include requirements for verifications, reporting etc.

**EPD**

Environmental Product Declaration.

**General environmental requirements**

Requirements always imposed by the client, regardless of project size and location.

**Geotechnical equipment**

For the purposes of this guideline, heavy technical equipment for soil investigations, e.g. tracked drilling rigs.

**Gravel coating**

Gravel coating is a comprehensive term for surface treatment, grouting and sealing.

**Hazard assessment**

An assessment of a chemical product’s inherent characteristics from an environmental and health perspective, and of what measures are required in order to protect health and the environment in the handling of the product. A hazard assessment must be carried out by a person with the requisite qualifications. It must be documented and must describe, at a minimum:

* The results of the product selection analysis.
* Risks arising from the handling of the product in this particular instance.
* Requirements for protective equipment and protection measures in this particular instance.
* The need for health examinations, if any (e.g.the thermosetting plastics notice). Justify.
* If specific qualifications or knowledge of specific legislation (e.g. the thermosetting plastics notice) are required. State how training is to be carried out or knowledge obtained.
* Management of waste.

**Heavy duty vehicles**

Vehicles classified as category M3, N2 or N3 in the vehicle register and that have an emissions approval in accordance with 595/2009 (in g/kWh).

The permitted total weight of heavy duty vehicles is normally above 3.5 tonnes.

**Legally liable for environment matters**

Part of the organisation’s operational responsibilities, governed by rules of procedure and delegations.

Operational responsibilities include planning, design, construction, maintenance and operation of undertakings.

The operator is the legal person/persons responsible for the management of the operations or part of them.

**Light vehicles**

This term applies to passenger cars and light trucks (and buses). Light vehicles are those classified as category M1, M2 and N1 in the vehicle register and that have an emissions approval in accordance with 715/2007 (in g/km). The permitted total weight of light vehicles is normally under 3.5 tonnes.

**Machinery**

Machinery refers to a mobile machine, transportable industrial equipment, or a vehicle with or without bodywork which is not intended to be used for the conveyance of persons or goods on roads or rails and which is powered using an internal combustion engine.

Vehicle refers to a device on wheels, tracks, runners or similar, designed primarily for transporting persons or goods on land. Machinery refers, among other things, to such mobile machines as are defined in the Act on measures against noise and emissions for mobile machines (1998:1707).

**Materials and goods**

A good is an object that is given a specific shape, surface or design in production, which then determines its function to a greater degree than its chemical composition. Definition according to Chapter 2 in REACH. Materials as a term is not defined in legislation; materials refers to bulk materials that goods may be made of, e.g. wood, steel and plastic.

**Metropolitan region**

Major cities and municipalities near major cities (see the municipalities grouped with each major city in the link below). A metropolitan region means municipalities with at least 200 000 inhabitants in the biggest population centre, along with surrounding municipalities in which at least 40% of the population commute to work in a major city or municipality near a major city. In Sweden Stockholm, Gothenburg and Malmö qualify as metropolitan regions under this definition. Source: SALAR, municipal groupings 2017

https://skl.se/tjanster/kommunerlandsting/faktakommunerochlandsting/kommungruppsindelning.

2051.html

**Object-specific environmental requirements**

An environmental requirement relating to the site and to the construction in question.

**Objectives and action plans**

These terms come from management systems standards (in this case ISO 14001) and systematic environmental work, in which the achievement of defined objectives and continuous improvement are dependent on an action plan.

**Product selection analysis**

A way of applying the product selection principle laid down in Chapter 2 of the Environmental Code. The aim of product selection analyses is to highlight environmental and health characteristics of products in order to guide users to better alternatives, when available.

The product selection analysis must be documented and must describe, at a minimum:

* The need for using a chemical product. Is there another method that produces a lower impact on health and the environment?
* What alternative products are there?
* Do any of these have a lower impact on the environment and health?
* How the operator has sought alternative products.
* Whether products in the BASTA register or products already classified as Group A can be used.

The product selection analysis must consider the construction phase as well as the operation/maintenance phase and the waste phase.

**Rail-bound machinery**

All rail-bound machines (SS-EN 14033), demountable machines (SS-EN 15955) and portable machines (SS-EN 13977), except those that are essentially a truck, belong to the rail-bound machinery category. A vehicle that is “essentially a truck” refers to a vehicle that may still be driven on public roads as a truck, and is registered as a truck in the Swedish Transport Agency’s road traffic register.

**Reduction obligation**

Means that fuel suppliers have to ensure that the petrol and diesel they sell contribute to a specified reduction of the climate impact.

**Renewable energy sources**

Refers to biofuel, geothermal energy, solar energy, hydropower, wind power and wave power as specified in the Act on electricity certificates (2011:1200). Where biofuels are used to meet climate requirements, the biofuel in question must have a sustainability certificate issued by the Swedish Energy Agency in accordance with Act on sustainability criteria for biofuels and bio-liquids (2010:598).

**Risk analysis**

Risk analysis (environment and health). An analysis of the likelihood that damage will occur, as well as of the extent of the damage, in the application in question. Risk analyses are site-specific and must include measures for ensuring that the impact on health and the environment does not occur. Risk analysis have to carried out by a person with the requisite qualifications. It must be documented and must describe, at a minimum:

* How the product in question is intended to be used (handling, working methods) and in what quantities (e g amount per unit of time).
* The work element’s health and environment impact.
* Risks that may arise with the product in the use in question. How these risks can be managed.
* If the product is to be built-in in the construction, the analysis must describe risks in the administration and waste phases, and how these risks are to be managed.
* If the health and environment impact is acceptable. Describe any measures by which an acceptable impact might be achieved.
* The need for inspection programmes and if necessary, suggestions for inspection programmes.

If the planned use of the product means it will come into contact with soil or water, the risk analysis must also describe:

* What quantities and concentrations will occur in the recipient in the case in question, i e a site-specific risk scenario (e g PEC).
* Documented recipient concentrations that are acceptable from an environmental perspective (e.g. PNEC)

**Road-rail machinery**

Machinery that can be used on both roads and railways. Under SS-EN 15746 all road-rail machinery except that which is essentially a truck belongs to the road-rail machinery group under environmental requirements.

**Road-rail vehicle**

A vehicle that can be driven on both roads and railways. Such vehicles are essentially trucks that have been adapted for road-rail use, and must be approved under either SS-EN 14033 or SS-EN 15746. Regardless of how they are classified under TSA, these trucks belong to the heavy vehicles group under environmental requirements.

**Self-regulation**

When the entity carrying out an activity is itself responsible for overseeing that the rules and requirements governing that activity are being followed.

**Sensitive area**

A geographical area in which environmental quality norms (EQN) risk being exceeded, e.g. concentrations of the substances regulated in the Air quality ordinance (2010:477), or an area that requires special precautions due to the risk of polluting sensitive natural environments, such as bodies of water significant for the water supply, or sensitive wetlands. When more stringent requirements apply for a sensitive area, this is specified in the tender documents. For contracts within the cities of Gothenburg, Stockholm and Malmö, the municipal boundaries define the sensitive area regardless of who the client is.

**Shared environmental requirements for contracts**

An agreement on environmental requirements between the Swedish Transport Administration and the cities of Stockholm, Gothenburg and Malmö.

**Sustainability certificate**

A certificate that a biofuel or bioliquid is considered sustainable and meets the sustainability criteria laid down in the Act on sustainability criteria for biofuels and bioliquids (2010:598).

**Systematic environmental management**

This is a term from management systems standards (in this case ISO 14001) that describes a work approach that is structured over time, i e examines, implements and follows up operations in such a way that environmental requirements are met, negative environmental impacts prevented, and environmental performance targets achieved.

**Systematic work approach**

A work approach in which processes and procedures have been identified, described and established. This means that procedures describe specific ways in which activities are to be carried out, and the division of responsibilities within the organisation. A systematic work approach is integrated in the organisation and imbues work on e.g .planning, budgeting, risk management and follow-ups.

**Vehicle gas**

Vehicle gas is often a mixture of fossil and renewable gas, i.e. natural gas and/or biomethane.