



## The New Zealand Ecolabelling Trust

### Proposed revised Licence Criteria for

### Flat and Long Steel Products

**EC-41-15**

**Open for comment until 21 February 2025**

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## Specification change history

Minor clarifications, corrections or technical changes made since the specification was last reviewed and issued in xxx.



DRAFT

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# 1 INTRODUCTION

Eco Choice Aotearoa (ECA) is an environmental labelling programme which has been created to help businesses and consumers find products and services that ease the burden on the environment. The programme results from a New Zealand Government initiative and has been established to improve the quality of the environment by minimising the adverse and maximising the beneficial environmental impacts generated by the production, distribution, use and disposal of products, and the delivery of services. The programme is managed by the New Zealand Ecolabelling Trust (the Trust).

ECA operates to the ISO 14024:1999 standard "Environmental labels and declarations – Type I environmental labelling – Principles and procedures" and the Trust is a member of the Global Ecolabelling Network (GEN) an international network of national programmes also operating to the ISO 14024 standard.

ISO 14024 requires environmental labelling specifications to include criteria that are objective, attainable and verifiable. It requires that interested parties have an opportunity to participate and have their comments considered. It also requires that environmental criteria be set, based on an evaluation of the environmental impacts during the actual product or service life cycle, to differentiate product and services on the basis of preferable environmental performance.

The life cycle approach is used to identify and understand environmental issues (adverse or beneficial impacts) across the whole life of a product or service (within a defined product or service category). This information is evaluated to identify the most significant issues and from those to identify the issues on which it is possible to differentiate environmentally preferable products or services from others available in the New Zealand market. Criteria are then set on these significant and differentiating issues. These must be set in a form and at a level that does differentiate environmentally preferable products or services, is attainable by potential ECA licence applicants and is able to be measured and verified. As a result of this approach, criteria may not be included in an ECA specification on all aspects of the life cycle of a product or service. If stages of a product or service life cycle are found not to differentiate environmentally preferable products or services, or to have insufficient data available to allow objective benchmarking in New Zealand, those stages will not generally be included in criteria in the specification. For some issues, however, (such as energy and waste) criteria may be set to require monitoring and reporting. These criteria are designed to generate information for future reviews of specifications.

The Trust is pleased to publish this proposed revised specification for Flat and Long Steel Products. The proposed revised specification has been published to take account of substances and processes harmful to the environment, energy management and waste management.

This proposed revised specification sets out the requirements that flat and long steel products will be required to meet in order to be licensed to use the ECA Label. The requirements include environmental criteria and product characteristics. The specification also defines the testing and other means to be used to demonstrate and verify conformance with the environmental criteria and product characteristics.

This specification has been prepared based on an overview level life cycle assessment, information from specifications for similar products from other GEN-member labelling programmes, relevant information from other ECA specifications, publicly available information, and information provided by current licensees.

Once finalised, this specification will be valid for a period of five years. Twelve months before the expiry date (or at an earlier date if required), the Trust will initiate a further review process for the specification.

#### Notes:

The Trust published its first ECA specification for flat and long steel in 2015. The specification was reviewed and revised (the current version, with minor amendments) in 2023.

The Trust is now proposing another a review of EC-41 or Flat and Long Steel. This review includes the following proposed changes:

- 1 Addition of Environmental Management Systems Criteria
- 2 Addition of Modern slavery and social accountability Criteria (including Appendix A)
- 3 Update to 5.5.Hazard Classification
- 4 Update to 5.8 Waste Management Criteria
- 5 Update to 5.10 Energy Management and greenhouse gas emissions Criteria

The proposed revisions are to bring this specification in line with other, recently revised, ECA specifications. Where changes to the current requirements are proposed in this specification, they are shown as either red ~~strikeout~~ (for text proposed to be deleted) or red underlined (for new text).

The Trust invites comments from interested parties.

## 2 BACKGROUND

Steel construction products fall into two broad categories: “long” and “flat” products. Long steel products are made from “blooms” or “billets” and include rods, bars/coil sections, wire, reinforcing, nails and small diameter seamless pipes. Flat steel products are made from steel slabs and include plate, strip, hollow sections, large diameter welded pipe and structural beams.

### 2.1 Market information

Iron and steel are essential materials that are used in a very wide range of construction applications and products, including steel framing, structural steel (beams, channels, angles, etc), reinforcing bar (rebar), wire, roofing and cladding, decking, doors, sashes, windows, ductwork, pipe, fixtures, hardware (hinges, handles, braces, screws, nails, etc), culverts, stormwater drains and manhole covers.

Internationally, crude steel production has risen at a very fast rate since the 1940s and in 2013 global production was of the order of 649 million tonnes per annum. In 2013, New Zealand manufactured of the order of 900 thousand tonnes (kt) steel per annum at two steel production facilities<sup>1</sup>.

Exports of iron and steel from New Zealand are worth about NZ\$ 575 million in 2013, while imports of iron and steel and articles are worth about NZ\$ 890 million each year<sup>2</sup>. Iron and steel imported into New Zealand primarily originates from Australia, however a significant amount of iron and steel and articles are also imported from Asia (South Korea, Japan, Taiwan and others) and the United Kingdom.

There is one integrated steel mill in New Zealand which is operated by New Zealand Steel Limited. At present, this facility produces steel slab and a range of flat products such as roofing and cladding materials and welded pipe.

There is currently one New Zealand producer of long steel products which are manufactured via the EAF process. This facility is due to shut down during 2015. The EAF will be decommissioned with steel billet to be

<sup>1</sup> World Steel Association, Crude Steel Production, 1980-2013.

<sup>2</sup> NZ Trade and Enterprise

manufactured at the New Zealand Steel integrated mill in Glenbrook and transported to the current rolling mills in Otahuhu.

There is no New Zealand producer of structural steel products, such as beams and columns, however there are a number of importers competing in this market.

## 2.2 Methods of iron and steel production

There are two main types of steel production facilities:

- **Integrated steel mills:** Conventional integrated mills use a Blast Furnace (BF) to produce pig iron from sintered iron ore. The fuel for a BF is usually coke, which is produced by pyrolysis of coal. The pig iron is then converted to steel in a Basic Oxygen Process (BOP). BOPs can only use a relatively small proportion of steel scrap (typically between 10 and 35%).

Integrated mills typically produce “plate” products (thickness from 10 mm to 200 mm) or strip products (thickness from 0.2mm to 16mm) but can also produce billet for the production of long steel products. Plate products are used in applications such as ship building, construction and large diameter welded pipes. Thin flat (strip) products are used in automotive body panels, domestic white goods, roofing and cladding materials, etc.

- **Direct melting:** Up to 100% steel scrap (or pig iron) is melted and refined by applying a large electrical current in an Electric Arc Furnace (EAF). These facilities are sometimes referred to as mini-mills. EAFs typically produce “long” products, such as rods, bars or sections. Typical rod products are the reinforcing bar (rebar) used in concrete. Sections include the large rolled steel joists (RSJ) that are used in building projects. Wire-drawn products and seamless pipes are also part of the long products group.

There are other iron and steel making technologies that are less commonly used, such as producing Direct Reduced Iron (DRI) pellets or Hot Briquetted Iron (HBI) from iron ore using natural gas. Steel can be produced using an Open Hearth Furnace, however this is much more energy intensive than a BF and is generally only used in developing countries because of the lower capital cost.

Approximately 70% of world steel production is via the integrated route, 30% via EAF.<sup>3</sup> At a sector level, there is a high level of mutual beneficial dependency between the different manufacturing processes. Production of virgin steel is required to meet demand for steel products. These products have a long life and are not available for recovery and reuse until the end of their useful life. As historic production and demand for steel has been far lower than current demand, there is not sufficient recovered steel available for re-processing in EAF mills to meet demand. Integrated mills are limited in the proportion of recovered steel they can process and have some dependence on EAF mills to provide recycling options for the virgin steel products they produce.

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<sup>3</sup> World Steel Association, Sustainable Steel. At the Core of a Green Economy, 18 June 2012.

An overview of the iron and steel making processes is shown on Figure 1 below.

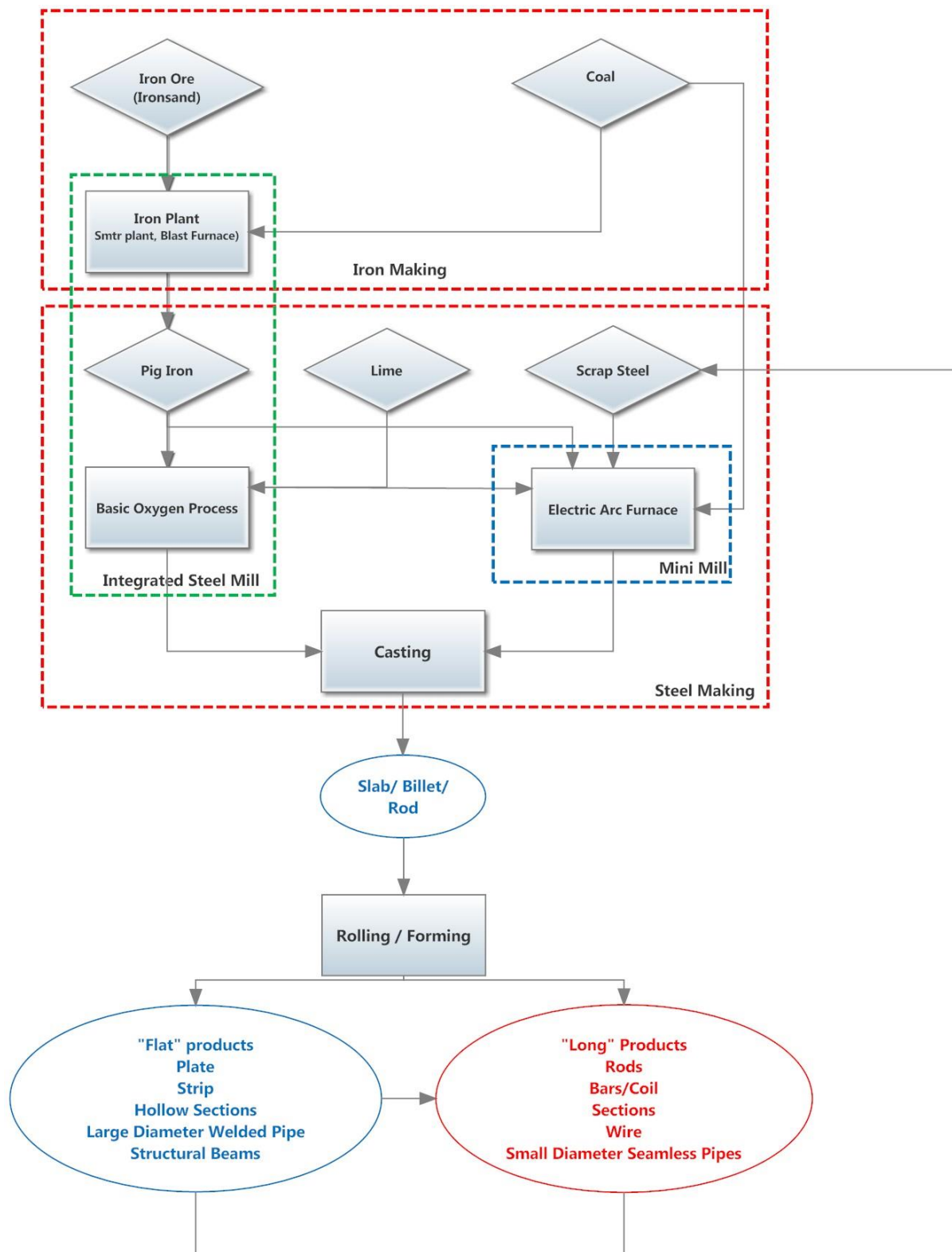


Figure 1: Overview of steelmaking process

## 2.3 Steel processing and finishing

The main processing and finishing stages for steel are described below:

- Casting:** There are two methods of casting; batchwise (ingots) or a continuous process (slabs, blooms, billets). Continuous casting is more energy efficient.
- Rolling:** The metal billet is reduced in thickness in the hot roll mills and further reduced to sheets, bars and rods by cold rolling. Wire is produced by cold drawing steel rod.
- Pickling:** To prepare the steel for cold rolling or drawing, pickling (usually acid pickling with sulphuric or hydrochloric acid) is carried out to remove oxides and scale from the surface of the steel.
- Coating:** Metal coating processes include coating with zinc (galvanising), zinc/aluminium alloy and painting. Zinc, aluminium or alloy coated steel is often passivated to prevent surface corrosion during storage. Passivation is commonly undertaken using a chromate solution (containing hexavalent chromium which is a known carcinogen). Alternative passivating techniques have been (or are being) developed and are implemented to varying extent for different product categories.

## 2.4 Steel production in New Zealand

### Pacific Steel

Pacific Steel produces approximately 200 kt of steel a year at their facility in Otahuhu, Auckland. The Pacific Steel rolling mills were sold to New Zealand Steel in mid-2014. Fletcher Building still operate an EAF which uses 100% scrap metal until a new billet facility at NZ Steel's integrated mill is commissioned. The steel billets are rolled into a range of bar (up to 40 mm diameter) and rod (up to 12 mm) products. Billets are also transported to the wire plant, which is a separate facility located close to the steel mill. The Pacific Steel site in Otahuhu produces a wide range of wire rod, reinforcing bar and coil products.

### NZ Steel Limited

The only integrated steel mill in New Zealand (NZ Steel) uses a unique iron making process that uses titomagnetic iron sand extracted from the Waikato North Head mine site. NZ Steel uses a direct reduction process to smelt iron, where the primary reducing agent is sub-bituminous coal. The molten pig-iron is converted to steel in a KOBM oxygen steel making furnace (a type of BOP). NZ Steel produces around 650kt of steel each year.

The steel is cast into slabs and then hot or cold rolled. The steel coil is either on-sold or further processed into products like pipe and hollow sections, welded structural beams and a range of cladding and roofing products. About 60% of the production from NZ Steel is exported. NZ Steel is also installing a billet plant at the Glenbrook site to produce billet for the manufacture of long steel products at the Otahuhu Rolling Mill and wire plant, previously operated by Pacific Steel.

## 2.5 Specification framework

This specification has been prepared for long and flat steel products. The specification has been prepared based on the production of steel via either an EAF or a BOP. The specification has not included specific criteria around the iron making process. The earlier version of the specification focused on the EAF route due to the ready availability of steel and scrap steel via this route in New Zealand and the production being less complex than steel produced at integrated mills. With the decommissioning of the EAF furnace by Fletcher Building, any steel sold in the New Zealand market produced via the EAF route will be imported into New Zealand and the iron and scrap steel and steel producers may source pig iron and scrap steel from the open trading market. Therefore, it would be challenging to establish benchmarking criteria for iron.



While specific criteria for iron making have not been included in the specification, where the steel is produced at an integrated mill, separating the environment impacts of discharges to the environment of the iron making process from the broader site activities would not be possible. The management of wastes and water is also undertaken on a site-wide basis. Therefore, the specification includes the iron making process where it impacts or relates to site-wide issues. These include the site-wide requirements around effluents to water, emissions to air, dust management, water management, and waste management.

This specification includes galvanising or metal alloy coating and surface passivation, but does not cover paint coating systems for steel, except where this steel has been painted to prevent surface corrosion during storage and transport.

## 2.6 Life-cycle issues

As with all ECA specification development work, the life cycle approach for developing this specification has started with a comprehensive, but overview level of evaluation of the whole of life cycle of steel products. The approach has then focussed on those parts of the life cycle and issues most relevant to demonstrably differentiate products within the defined product category – flat and long steel products. As a result of this approach, the upstream boundary of the lifecycle for which environmental criteria are set in this specification is the steel making process and does not include any specific criteria associated with the manufacture of iron. While criteria could be set for iron-making at an integrated mill where the iron and steel making processes are under the direct control of the licence holder, pig iron used in EAFs is traded on an open market and the supply chain is broken and therefore criteria for the supply of pig iron would be difficult to set, to demonstrate compliance and verify.

## 3 INTERPRETATION

**“Basic Oxygen Process” or “BOP”** means a steel-making furnace that refines molten iron into steel by injecting hot oxygen to drive off impurities and includes Basic Oxygen Furnances.

**“Electric Arc Furnace” or “EAF”** means a steel-making furnace that uses high-energy electric arc to melt ferrous scrap, for refining into new steel.

**“Energy Management Programme”** means a program to achieve and sustain efficient and effective use of energy including policies, practices, planning activities, responsibilities and resources that affect the organisation’s performance for achieving the objectives and targets of the Energy Policy.

**“Environmentally hazardous material”** means any material, chemical or other substance that if released into the natural environment will threaten human or environmental health.

**“Galvanised”** means steel (roll or coil) which has a thin layer of zinc deposited on its surface, through a hot-dip or electrolytic process, for the purpose of increasing the steel’s corrosion resistance. For the purpose of this document, “galvanising” also includes treatments with zinc-iron, zinc-aluminium or other similar zinc-based mixtures.

**“GEN”** means the Global Ecolabelling Network.

**“Halogenated organic compound”** means any organic compound incorporating halogens including fluorine, chlorine, bromine and iodine.

**“Hazardous Heavy Metal”** means mercury, lead, cadmium, hexavalent chromium and their components.

**“Label”** means the Eco Choice Aotearoa Label

**“PCBs”** mean Polychlorinated Biphenyls

**“Raw material”** means a material used in the manufacture of steel.

**“Slushing Oil”** means a treatment applied to galvanised steel coil to prevent surface oxidation.

Where references are made in this document to published lists, standards, or documents, the reference should be read as referring to the most recent edition of these lists, standards or documents.

## 4 CATEGORY DEFINITION

This category applies to flat and long steel products.

This category includes:

- Long steel for construction products, e.g.:
  - Steel bar and coil
  - Steel wire rod
- Finished long steel construction products
  - Steel bar and rod, such as reinforcing bar or rod
  - Steel wire and wire products, such as nails, reinforcing wire, etc.
  - Steel seamless pipe, tube and associated fittings
  - Steel flats, angles and channels
  - Welded wire mesh.
- Flat steel products
  - Plate
  - Strip
  - Hollow sections
  - Large diameter welded pipe
  - Structural beams (including welded beams)
- Assembled steel products (including welded or assembled products)

The category does not apply to products that incorporate non-steel elements or that have been cast outside the steel mill (e.g.: remelting of steel ingot).

The category applies to products that have been galvanised or otherwise surface treated to prevent surface corrosion.

This category does not apply to products that have been painted, except where this steel has been painted to prevent surface corrosion during storage and transport.

To be licensed to use the Label, the steel product must meet all of the environmental criteria set out in clause 5 and product characteristics set out in clause 6.

## 5 ENVIRONMENTAL CRITERIA

### 5.1 Legal Requirements

#### Criteria

The product must comply with the provisions of all relevant environmental laws and regulations that are applicable during the product's life cycle.

#### Verification Required

Conformance with this requirement shall be demonstrated by providing a written statement on regulatory compliance, signed by the Chief Executive Officer or other authorised representative of the applicant

company. This statement shall be supported by documentation identifying the applicable regulatory requirements and demonstrating how compliance is monitored and maintained.

## Explanatory Notes

Relevant laws and regulations could, for example, include those that relate to:

- Producing, sourcing, transporting, handling and storing raw materials and components for manufacture;
- Manufacturing processes;
- Handling, transporting and disposing of waste products arising from manufacturing;
- Transporting product within and between countries; and
- Using and disposing of the product.

The documentation required may include, as appropriate:

- Procedures for approving and monitoring suppliers and supplies; and
- Information provided to customers and contractors regarding regulatory requirements.

It is not intended to require licence holders to accept increased legal responsibility or liability for actions that are outside their control.

### 5.2 Environmental management system or processes

The applicant / licence holder or manufacturer must have (or establish, if necessary) appropriate environmental management processes or an environmental management system (EMS), to manage the environmental impacts from the manufacturing of the product.

#### Verification required

Conformance with this requirement shall be demonstrated by providing a written statement on compliance, signed by the Chief Executive Officer or other authorised representative of the applicant / licence holder or manufacturer. The statement shall be supported by an EMS based on ISO 14001, or details of the processes for controlling hazardous substances, discharges to air, land and water or other relevant environmental impacts.

#### **Notes:**

The Trust has introduced this clause to bring this specification in line with other, recently revised, ECA specifications.

### 5.3 Modern slavery and social accountability

#### Criteria

- a The applicant / licence holder and manufacturer must have a publicly available policy / policies on human rights, diversity & inclusion, and anti-bullying. At a minimum, it should comprise:
  - An explicit, commitment to respect all internationally recognized human rights standards – understood, at a minimum, as the International Bill of Rights and the International Labour Organization (ILO) Declaration on the Fundamental Principles (see below) and Rights at Work;

- Stipulations concerning the company’s expectations of personnel, business partners and other relevant parties e.g. a code of conduct; and
- Information on how the company will implement its commitment and monitor compliance with it.

**Note:** The Trust expects the applicant / licence holder and manufacturer to show that it is undertaking activities to create more equitable conditions for those affected by, or involved in, the sourcing and manufacturing of products and materials, supported by a publicly available document.

- b Where an applicant / licence holder and manufacturer has found instances of modern slavery in their business operations and or supply chains\* in the past two years, there shall be evidence of corrective action.
- c In addition to the above, the applicant / licence holder and manufacturer shall consider:
  - Providing information to confirm whether the requirements of Social Accountability International Standard, SA8000 have been considered;
  - Being a Living Wage employer (or equivalent); and
  - Having a senior member of its organisation responsible for social and environmental sustainability.

**Note:** From ILO Declaration on the Fundamental Principles and Rights at Work, there are the following core labour standards:

- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87);
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98);
- Forced Labour Convention, 1930 (No. 29);
- Abolition of Forced Labour Convention, 1957 (No. 105);
- Minimum Age Convention, 1973 (No. 138);
- Worst Forms of Child Labour Convention, 1999 (No. 182);
- Equal Remuneration Convention, 1951 (No. 100); and
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

\*Supply chains refer to the products and services (including labour) that contribute to the ECA-licensed products and services. This includes products and services sourced in NZ or overseas and extends beyond direct suppliers.

### **Verification required**

Conformance with this requirement shall be stated in writing and signed by the Chief Executive Officer or other authorised representative of the applicant/licence holder. This statement shall be accompanied by documentation that:

- Copies of the relevant policies, procedures and plans; and
- Records demonstrating the plans are being effectively implemented (including monitoring results).

### **Explanatory notes**

Information on the United Nations International Bill of Human Rights and the ILO Declaration on the Fundamental Principles and Rights at Work is provided in Appendix C.

**Notes:**

The Trust has introduced this clause to bring this specification in line with other, recently revised, ECA specifications.

## 5.4 Raw Materials

### Criteria

Manufacturer's using post-consumer scrap must implement procedures to exclude feedstocks containing undesirable materials, including:

- i. Radioactive materials
- ii. Polychlorinated Biphenyls (PCBs)

### Verification Required

Conformance with this requirement shall be demonstrated by providing a written statement on compliance, signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be supported by documentation on procedures and standards for excluding feedstock containing undesirable components.

## 5.5 Hazardous Substances

### Criteria

- d Licence holders must report annually to ECA on hazardous heavy metals in the steel product, including:
- Results of analysis of hazardous heavy metals (lead and cadmium) concentrations in the steel; and
  - Initiatives taken to minimise levels of hazardous heavy metals in the steel.

AND

- e The steel products shall not be treated with:
- Compounds containing mercury, lead, cadmium, hexavalent chromium, arsenic or their compounds (except as allowed under clause c);
  - Halogenated organic compounds;
  - Any chemicals that are included in the International Agency for Research on Cancer (IARC) lists for proven (Group 1) or probably (Group 2A) carcinogens; and
  - Slushing oil.

AND

- f Zinc and zinc alloy coated steel may be passivated with chromate solutions containing hexavalent chromium (chrome 6+). Licence holders must report annually to ECA on measures to reduce and, where possible eliminate chromate passivation, including:
- Total volume of chromate solution used;
  - Total quantity of steel passivated using chromate solution;
  - The findings of any investigations undertaken into alternatives to chromate passivation;
  - A proposed programme for future investigations into alternatives to chromate passivation.

AND

d Small parts such as screws, hinges, bolts etc are exempt from the requirements in b) unless they are parts that are intended to come into frequent contact with skin.

e There must be a publicly available document for each product showing the chemical ingredients within it. The document must include all hazardous substances in the product.

Note: Clause 5.3 (b) means that steel products that are not zinc and zinc alloy coated steel products may not be passivated with chromate solutions containing hexavalent chromium (chrome 6+). Clause 5.3 (c) has been included as there are currently no viable and environmentally preferable alternatives to chromate passivation for zinc and zinc alloy coated steel products. However, once alternatives are commercially viable, ECA intends to entirely prohibit the use of chromate passivation.

### Verification Required

Conformance with these requirements shall be demonstrated by providing a written statement on compliance, signed by the Chief Executive Officer or other authorised representative of the applicant company. The statement shall be supported by documentation that includes:

- A description of the policies, procedures and programmes in place to minimise undesirable heavy metals in the feedstock and finished product; and
- Testing results of heavy metal concentrations in steel undertaken in accordance with the relevant ISO or ASTM test methods.
- An annual report to ECA report on measures to reduce and, where possible eliminate chromate passivation (if applicable).
- a publicly available Safety Data Sheet (SDS) or Technical Data Sheet (TDS) may meet the requirements, provided it lists all hazardous substances in the product and other information to confirm that the requirements in a)-c) are met.. Hazardous substances should be identified in accordance with the New Zealand Health & Safety at Work Act and Hazardous Substances and New Organisms Act, or local equivalent legislation in the country where the product is manufactured. SDS for products sold in New Zealand must meet New Zealand legislative requirements. Hazardous substance classifications should be in accordance with the Globally Harmonised System (GHS).

#### Notes:

The Trust has introduced this clause to bring this specification in line with other, recently revised, ECA specifications.

## 5.6 Material efficiency

### Criteria

Licence holders shall calculate and report the overall material efficiency of the steel making site.

### Verification Required

Conformance with these requirements shall be demonstrated by providing a written statement on compliance, signed by the Chief Executive Officer or other authorised representative of the applicant company/licence holder. The statement shall be supported by calculations. The calculation shall be undertaken as follows:

Material efficiency = (crude steel + by-products) / (crude steel + by-products + waste),

where

waste = material sent to landfill + material sent to incineration.

Notes:

- Waste includes those materials that ultimately end up in a landfill (onsite or offsite) or are incinerated (with or without heat recovery). This does NOT include utilities waste (e.g. fly ash).
- Slags are only considered waste if they are landfilled or incinerated. Stored slags for future processing or use or slags used for landscaping purposes are not considered waste.
- By-products are residues that are used; residues not used are considered waste (all flows landfilled or incinerated). Scrap steel should NOT be included as a by-product.

## 5.7 Process Emissions

### 5.7.1 Effluents to Water

#### Criteria

- a The steel mill, rolling mills and finishing lines must have effective procedures and systems (including an annual improvement plan) in place to minimise emissions of oil and grease, suspended solids and metals in wastewater (including cooling water and stormwater if these contaminants may be present) discharged to the natural environment (natural water bodies, ocean or land).

AND

- b The steel product manufacturer must have and implement systems to recover process waste water sludges and sediments. The steel product manufacturer must report on how it re-uses process waste sludge and sediment or demonstrate that they are disposed to an appropriate location.
- c Discharges of contaminants to the natural environment (natural water bodies, ocean or land) from the manufacturing site including the iron and steel mill, rolling mills, finishing lines, by-product processing areas and waste disposal areas shall be demonstrated to result in acceptable and environmentally sustainable level of impact on the quality of the receiving environment.

#### Verification Required

Conformance with this requirement shall be demonstrated by providing a written statement of compliance, signed by the Chief Executive Officer or other authorised representative of the Applicant Company. This statement shall be supported by documentation that includes:

- A description of the methods and improvement plans used to control oil and grease, suspended solids and metals, and the efficiency of these methods and plans including monitoring results for suspended solids and metals, carried out using appropriate test methods. This should be reported annually to ECA.
- A description of the methods and systems to recover process waste water sludge's and sediments.
- An independent assessment of the discharge quality and its impact on the receiving environment completed by a person or agency competent to complete such an assessment. The assessment may be based on the quality of discharge from the point at which the discharge from the site or any relevant combined or municipal waste collection and treatment system discharges to the natural environment; or from the plant in situations where the plant discharge is mixed with other organisations waste streams and the combined waste stream and its treatment before it is discharged to the natural environment is outside the control of the plant or licence applicant and suitable information is not available on the quality of the combined discharge.



## 5.7.2 Point source emissions to air

### Criteria

- a Primary off gases from steelmaking (both EAF and BOP) and secondary off-gases (from scrap charging, steel tapping and secondary metallurgy) must be captured to the maximum extent practicable. The captured off gases must be directed to an off-gas treatment system to control particulate matter.  
AND
- b Emissions of dioxins and PCBs from steelmaking via the EAF process be measured at least annually and reported to The Trust.  
AND
- C Discharges to air from the steelmaking and ancillary processes shall be demonstrated to result in acceptable and environmentally sustainable level of impact on the quality of the receiving environment.

### Verification Required

Conformance with this requirement shall be stated in writing and signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be accompanied by documentation that includes:

- Information on off gas capture and treatment processes to demonstrate compliance with (a)
- Results of stack emission testing for dioxins and PCBs undertaken in accordance with the relevant ISO, USEPA or ASTM test methods and calculations of the pollutant concentrations to demonstrate compliance with (b).
- A copy of the site's preventative maintenance plan for all air emission control equipment.
- An independent assessment of discharges to air identified in (c) and its impact on the receiving environment completed by a person or agency competent to complete such an assessment. Where the assessment of discharges to air from the iron making process cannot be separated from the overall effects of the activities at the manufacturing site, the effects of iron making process shall be included in the independent assessment.

## 5.7.3 Dust Management Plan

### Criteria

The steel manufacturer must have and implement a dust management plan covering all areas of the Mill operation including outside stockpiles and non-point source process emissions.

### Verification Required

Conformance with these requirements shall be stated in writing and signed by the Chief Executive or authorised representative of the applicant company. This statement shall be supported by documentation, including a copy of the site dust management plan and records to show it is being effectively implemented.

## 5.8 Energy Management and greenhouse gas emissions

The requirements below refer to the energy used, and greenhouse gas emissions generated for production of ECA-licensed products. Where the energy use and / or greenhouse gas emissions generated for ECA-licensed products cannot be separated from the whole manufacturing / warehousing facility or production line, the total energy use and / or greenhouse gas emissions generated can be used.

### Criteria



- a The applicant / licence holder must have improvement objectives and targets to reduce energy use related to production (of ECA-licensed products), and associated greenhouse gas emissions on a year-by-year basis. Furthermore, ECA licence holders must publicly disclose a commitment to decarbonise between now and 2050 on a 1.5°C trajectory, with a significant reduction prior to 2030. Any divergence from objectives or targets should be explained in the annual report.
- b Electricity consumption in the EAF must not exceed 500 kWh / tonne of liquid steel, based on a rolling 12-month average.
- c There must be no external energy input (e.g.; electrical energy) into the BOP during normal operations (excludes reheating following relining or maintenance or ladle pre-heating to avoid tipping).
- d The steel product manufacturer must have and implement effective energy management policies and procedures and/or an energy management programme.
- e Licence holders must report annually to ~~The Trust~~ ECA on energy management, including:
- The energy input for ladle pre-heating;
  - The percentage of iron tipped requiring re-melting;
  - The total external energy use (e.g.: electricity) associated with re-melting of tipped iron;
  - The total energy use in the BOP due to breakdowns, following relining or maintenance and ladle pre-heating; and
  - Initiatives to consider or implement recovery of energy from the BOP exhaust gases;
  - Initiatives to reduce iron tipping and use of ladle pre-heating;
  - Total energy use;
  - Breakdown of total energy use to types of energy used (electrical, chemical, fuel, etc) **including energy from renewable sources;**
  - Breakdown of energy use in the EAF;
  - Breakdown of energy use in the rolling mills and total energy use;
  - Energy use related to production **(i.e the embodied energy of a product);**
  - Energy use related to distribution of steel and steel products;
  - energy use during transport\* of raw materials (if the licence holder is the manufacturer), or transport of flat and long steel products that are imported from overseas manufacturers (if the licence holder is an importer/supplier).;
  - Energy recovered in the form of heat or co-generation of electricity;
  - Initiatives taken to reduce energy use and improve energy efficiency; and
  - Initiatives taken to calculate and reduce embodied energy and CO<sub>2</sub> emissions associated with energy use.
  - Initiatives or requirements for suppliers or contract manufacturers.
  - Information on energy use and management, including use of renewable energy, where that information is available to the licence holder.
- f License holders must have improvement objectives and targets for reduction of energy use related to production of ECA-licensed products, and associated GHG emissions, over time. Furthermore, licence holders must publicly disclose a commitment to decarbonise between now and 2050 on a 1.5°C trajectory, with a significant reduction prior to 2030. Any divergence from objectives or targets should be explained in the annual report.

\* The Climate Action Toolbox (Business.govt.nz | Tools and resources) is a free tool that can be used to calculate transportation emissions. Information required for the inputs include weight of the raw materials / products (in tonne), the estimated distance of freight and the mode of transportation (rail freight, air freight, ocean freight).

## **Verification required**

Conformance with these requirements shall be stated in writing and signed by the Chief Executive Officer, or other authorised representative, of the applicant/licence holder company. This statement shall be supported by documentation (as relevant) that:

- describes the energy management policies, procedures and programmes.
- improvement objectives and targets for reduction of energy use related to production of ECA-licensed products and associated greenhouse gas emissions;
- confirms the licence holder has publicly committed to decarbonise between now and 2050 on a 1.5°C trajectory, with incremental reduction up to 2030 (any divergence from objectives or targets should be explained in the annual report); and
- includes annual reports to ECA on energy use and management.

### **Notes:**

The Trust has updated the wording in this specification to bring it in line with other, recently revised, ECA specifications.

## **5.9 Water Management**

### **Criteria**

- a The steel product manufacturer shall have systems in place to recycle and re-use water (including stormwater) and shall implement initiatives to maximise the amount of water recycled including:
- Re-use of scrubbing water from wet-dedusting;
  - Re-use of treated process water;
  - Re-circulation of cooling water and water from vacuum generation.

- b The EAF must use a closed loop cooling water system;

Note: The definition of a closed loop cooling water system includes blowdown and top-up with freshwater to maintain chemical concentrations and to replace water lost through evaporation.

AND

- c The steel product manufacturer must have and implement effective water management policies and procedures and/or a water management programme (including improvement plans) including the requirements of a above;

AND

- d Licence holders must report annually to The Trust on water management, including:
- Total water use;
  - Breakdown of total water use to sources of water used;
  - Water use related to production;
  - Breakdown of water recycled or re-used;
  - Initiatives taken to reduce water abstraction and use, and improve water efficiency; and
  - Initiatives taken to reuse process water on-site.

## Verification Required

Conformance with this requirement shall be stated in writing and signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be accompanied by documentation that:

- Describes the water management policies, procedures and programmes; and
- Includes annual reports to The Trust on water use and management.

## 5.10 Waste Management

### Criteria

- a The steel product manufacturer must have and implement systems to maximise the recovery of dedusting dusts and sludges;
- b Uprisings (excluding slags and dusts covered by (a) above), pre-consumer steel scrap and millscale shall be recycled;
- c The steel product manufacturer must have and implement effective waste management policies and procedures and/or a waste management programme (including improvement plans) covering manufacturing operations.
- d Licence holders must report annually to The Trust on waste management, including:
  - Quantities and types of waste recovered for reuse internally and externally;
  - Quantities and types of waste recycled internally and externally;
  - Quantities and types of waste disposed of to landfill;
  - Quantities and types of waste burned internally for energy recovery;
  - Waste generation related to production;
  - Initiatives taken to reduce waste generation and improve recovery/recycling of waste;
  - All ferrous wastes must be diverted from the waste stream and recycled;
  - Quantities of slag generated and recycled;
  - Initiatives undertaken at other steel plants to re-use or recycled steelmaking slags; and
  - Quantities of pre-consumer steel scrap, uprisings and millscale and volumes recycled on-site, or exported for recycling.
- e Licence holders must have continuous improvement objectives and targets relating to the reduction of waste generation, and the increase of reuse and recycling rates over time. Any divergence from objectives or targets should be explained in the annual report.

### Note:

Uprisings from abnormal conditions or that are contaminated such that they cannot be recycled, are excluded from 5.8(b) above. They are still included in the material efficiency calculation in 5.4 and reporting required in 5.8(d) which includes requirements to report on initiatives taken to reduce waste generation and improve recovery/ recycling. A specific discussion on the cause of contamination and abnormal conditions and why the uprisings cannot be recycled is to be included in the report.

## Verification Required

Conformance with this requirement shall be stated in writing and signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be accompanied by documentation that:

- Describes the waste management policies, procedures and programmes; and
- Includes annual reports to The Trust on waste generation and management.
- details the improvement objectives and targets relating to the reduction of waste generation and the increase of reuse and recycling rates (any divergence from objectives or targets should be explained in the annual report).

**Notes:**

The Trust has updated the wording in this specification to bring it in line with other, recently revised, ECA specifications.

## 5.11 Storage of Raw Materials and Waste

### Criteria

The steel manufacturer must have and implement effective management policies, procedures and systems covering the appropriate storage and handling of raw materials, including steel scrap, solid wastes and environmentally hazardous materials. These procedures shall:

- Ensure any storage of steel scrap and other environmentally hazardous materials is located and managed to prevent contamination of surface water or land, including ensuring potentially hazardous liquids are bunded; and
- Include a Spill Response Plan detailing procedures to identify, contain and clean-up any spill of potentially hazardous substances.

### Verification Required

Conformance with this requirement shall be demonstrated by providing a written statement of compliance, signed by the Chief Executive Officer or other authorised representative of the Applicant Company. This statement shall be supported by documentation that includes:

- Details, including photographs, of the location and type of storage facilities on site and the materials stored in each; and
- A copy of the Spill Response Plan and records of test/drills, implementation and reviews.

## 5.12 Recyclability

### Criteria

Steel products must not be impregnated, labelled, coated or otherwise treated in a manner which would prevent recycling and in New Zealand or in the country where the product is used.

### Verification Required

Conformance with these requirements shall be stated in writing and signed by the Chief Executive or authorised representative of the applicant company. Relevant test certificates and information sheets shall be supplied for review.

## 6 Product Characteristics

### Criteria

The product shall be fit for its intended use and conform, as appropriate, to relevant product performance standards.

### Verification Required

Conformance with this requirement shall be demonstrated by providing a written statement of compliance, signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be supported by documentation:

- Identifying the applicable standards, specifications and or consumer/customer requirements;
- Demonstrating how compliance is monitored and maintained (including quality control and assurance procedures); and
- Records of customer feedback and complaints.

## 7 Requirements and Notes for Eco Choice Licence Holders

### Monitoring Compliance

Prior to granting a licence, The Trust will prepare a supervision plan for monitoring ongoing compliance with these requirements. This plan will reflect the number and type of products covered by the licence and the level of sampling appropriate to provide confidence in ongoing compliance with criteria. This plan will be discussed with the licence applicant and when agreed will be a condition of the licence.

As part of the plan, The Trust will require access to relevant quality control and production records and the right of access to production facilities. Relevant records may include formal quality management or environmental management system documentation (for example, ISO 9001 or ISO 14001 or similar).

Licence holders are required to advise The Trust immediately of any non-compliance with any requirements of this specification which may occur during the term of the licence. If a non-compliance occurs, the licence may be suspended or terminated as stipulated in the Licence Conditions. The licensee may appeal any such suspension.

The Trust will maintain the confidentiality of identified confidential information provided and accessed during verification and monitoring of licences.

### Use of Eco Choice Aotearoa Label

The licence holder shall supply information on the proposed use of the label on products or promotional material.

The Label may appear on the wholesale and retail packaging for the product, provided that the product meets the requirements in this specification and Licence Conditions.

Wherever it appears, the label must be accompanied by the Licence Number e.g. 'licence No1234'. It is optional to include the spec name.

The Label must be reproduced in accordance with:

- The Licence Conditions; and
- The Eco Choice Aotearoa programme's brand kit, which includes examples of keyline art for the reproduction of the Label.

Any advertising must conform to the relevant requirements in this specification, in the Licence Conditions and in the keyline art.

Failure to meet these requirements for using the ECA Label and advertising could result in the Licence being withdrawn.

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## Appendix A Modern Slavery and Social Accountability

### A1 International Bill of Human Rights

In December 1948, the United Nations General Assembly adopted the Universal Declaration of Human Rights (UDHR). In December 1966, the UN General Assembly adopted two international treaties that would further shape international human rights: the International Covenant on Economic Social and Cultural Rights (ICESCR), and the International Covenant on Civil and Political Rights (ICCPR). These are often referred to as “the International Covenants.” Together, the UDHR and these two Covenants are known as the International Bill of Human Rights.

The ICESCR and the ICCPR set out the civil, political, economic, social and cultural rights that everyone is entitled to:

<u>ICESCR</u>	<u>ICCPR</u>
<ul style="list-style-type: none"> <li>• <u>Freedom from discrimination</u></li> <li>• <u>Right to equality between men and women</u></li> <li>• <u>Right to life</u></li> <li>• <u>Freedom from torture</u></li> <li>• <u>Freedom from slavery</u></li> <li>• <u>Right to liberty and security of person</u></li> <li>• <u>Right to be treated with humanity in detention</u></li> <li>• <u>Freedom of movement</u></li> <li>• <u>Freedom of non-citizens from arbitrary expulsion</u></li> <li>• <u>Right to fair trial</u></li> <li>• <u>Right to recognition before the law</u></li> <li>• <u>Right to privacy</u></li> <li>• <u>Freedom of religion and belief</u></li> <li>• <u>Freedom of expression</u></li> <li>• <u>Right of peaceful assembly</u></li> <li>• <u>Freedom of association</u></li> <li>• <u>Right to marry and found a family</u></li> <li>• <u>Right of children to birth registration and a nationality</u></li> <li>• <u>Right to participate in public affairs</u></li> <li>• <u>Right to equality before the law</u></li> <li>• <u>Minority rights</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Freedom from discrimination</u></li> <li>• <u>Right to equality between men and women</u></li> <li>• <u>Right to work</u></li> <li>• <u>Freedom to choose and accept work</u></li> <li>• <u>Right to just and favourable conditions at work</u></li> <li>• <u>Right to form trade unions</u></li> <li>• <u>Right to strike</u></li> <li>• <u>Right to social security</u></li> <li>• <u>Right of mothers to special protection before and after birth</u></li> <li>• <u>Freedom of children from social and economic exploitation</u></li> <li>• <u>Right to an adequate standard of living</u></li> <li>• <u>Freedom from hunger</u></li> <li>• <u>Right to health</u></li> <li>• <u>Right to education</u></li> <li>• <u>Freedom of parents to choose schooling for their children</u></li> <li>• <u>Right to take part in cultural life</u></li> <li>• <u>Right to enjoy benefits of science</u></li> <li>• <u>Right of authors to moral and material interests from works</u></li> <li>• <u>Freedom to undertake scientific research and creative activity</u></li> </ul>

## A2 ILO Declaration

From the ILO Declaration on the Fundamental Principles and Rights at Work, there are the following core labour standards:

- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- Forced Labour Convention, 1930 (No. 29)
- Abolition of Forced Labour Convention, 1957 (No. 105)
- Minimum Age Convention, 1973 (No. 138)
- Worst Forms of Child Labour Convention, 1999 (No. 182)
- Equal Remuneration Convention, 1951 (No. 100)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

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