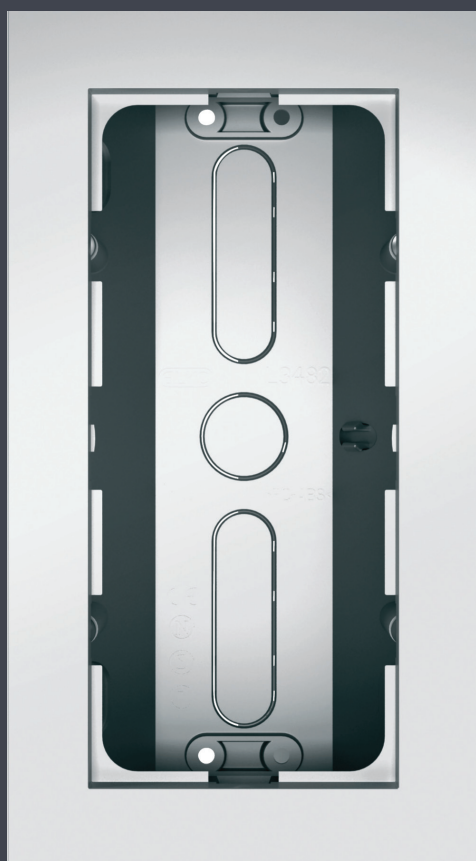


ELKO Plus

Surface mounted
boxes

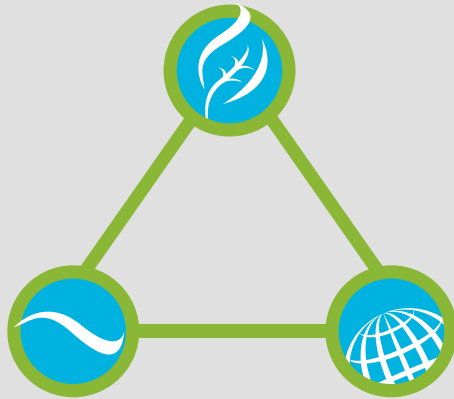
Environmental Profile



www.elko.se
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Environmental considerations



Hydropower

Locally Sourced

We at ELKO take environmental considerations by combining innovation and ongoing improvements in the development, manufacturing and distribution of our products

Products for the environment and the future

ELKO is a Nordic leader in manufacturing of electrical installation equipment. We have always strived to have as clean and efficient production as possible. Reduced environmental impact is achieved through environmentally friendly design, optimized manufacturing, and through high longevity of installed products. One of the reasons for ELKO's success has been our reputation for rugged designs and high reliability.

ELKO has a manufacturing plant in a scenic location not far from Oslo, close to suppliers of clean hydroelectric power. Products manufactured outside this plant are produced within, or close to, the Nordic region. This ensures a minimum of transport when supplying the Nordic market. We pursue a high environmental standard in our activities. We use environmentally conscious suppliers. We have a continuous focus on achieving a minimum resource and material consumption. Training of personnel is a part of this effort.

ELKO has ISO 9001 (quality management) and ISO 14001 (environment) certifications, and is a member of El-Retur (Norway and Sweden), and REPA-registered (Sweden).

Product Environmental Profile - PEP

Product overview

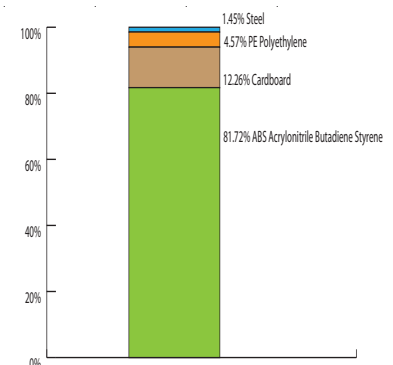
The main purpose of the ELKO Plus surface mounted housing range is to give the installer the possibility to use products designed for flush mounting in surface mounted installations.

This range consists of the following ELKO Plus products: double corner boxes, spacer for 1.5 frame, single, double and triple surface mounted boxes that comes in two depths:

- 25 mm outside depth / 20 mm build height, and
- 40 mm outside depth / 35 mm build height.

All these products are available in white, black and aluminium finishes. The representative product used for the analysis is the ELKO Plus double corner box, ELKO reference 4613. This product's environmental impact is representative for the other products of the range. The basic design and resource use are similar for all the products in the range.

The environmental analysis was performed in conformity with ISO 14040.



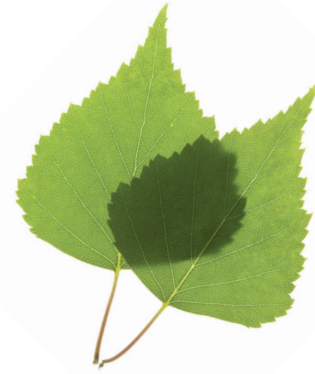
Constituent materials



The mass of the products in this product range is from 25 g to 129 g, packaging not included. The mass is 127.92 g for the ELKO Plus double corner box, reference 4613.



PEP for ELKO Plus Surface mounted housings



Manufacturing



The ELKO Plus surface mounted housing range is manufactured on a site with ISO14001 certified environmental management system.

Distribution



The mass and volume of the packaging have been optimized, based on the European Union's packaging directive.

The mass of ELKO Plus double corner box packaging materials is 25.03 g. It consists of 18.23 g cardboard and 6.8 g polyethylene (LDPE) film.

Use



The products in the ELKO Plus surface mounted housing range do not generate environmental emissions during normal use.

End of life



The products in the ELKO Plus surface mounted housing range have been optimized to decrease waste and allow recovery of components and materials at the end of life. Most parts are marked according to ISO 11469 and ISO 1043 series for easy recycling.

The products in this range do not need any special end-of-life treatment. These products can enter the usual end-of-life treatment process according to each country's normal practice. The recycling potential of the products has been evaluated using ADEME (version V1, September 20, 2008).

As described in the recyclability calculation method this ratio includes only metals and plastics which have proven industrial recycling processes.

| Environmental indicators | Unit | For one ELKO Plus double corner box, reference 4613 | | | | | |
|------------------------------|----------------------------------|---|------|---------|------|------|---------|
| | | S = M + D + I + U + E | M | D | I | U | E |
| Raw Material Depletion | 10 ⁻¹⁸ /year | 32.6 | 32.1 | 0.242 | 0.00 | 0.00 | 0.303 |
| Energy Depletion | MJ | 19.1 | 18.7 | 0.178 | 0.00 | 0.00 | 0.222 |
| Water depletion | dm ³ | 3.22 | 3.18 | 0.0169 | 0.00 | 0.00 | 0.0211 |
| Global Warming | g CO ₂ | 872 | 840 | 14.0 | 0.00 | 0.00 | 17.6 |
| Ozone Depletion | µg CFC-11 | 127 | 105 | 9.96 | 0.00 | 0.00 | 12.4 |
| Air Toxicity | 10 ³ .m ³ | 138 | 132 | 1.65 | 0.00 | 0.00 | 3.32 |
| Photochemical Ozone Creation | mg C ₂ H ₄ | 514 | 487 | 12.0 | 0.00 | 0.00 | 15.0 |
| Air acidification | mg H ⁺ | 107 | 103 | 1.79 | 0.00 | 0.00 | 2.24 |
| Water Toxicity | dm ³ | 478 | 474 | 1.76 | 0.00 | 0.00 | 2.20 |
| Water Eutrophication | mg PO ₄ | 123 | 122 | 0.234 | 0.00 | 0.00 | 0.293 |
| Hazardous waste production | g | 35.4 | 35.4 | 0.00524 | 0.00 | 0.00 | 0.00654 |

Environmental impacts



Life cycle assessment is typically split into the following phases: Materials and Manufacturing [M], Distribution [D], Installation [I], Use [U], and End-of-life [E]. Products in this range do not have

any environmental impact during the Installation [I] and Use [U] phases.

Modelling hypothesis and method:

- The calculation was performed on the ELKO Plus double corner box, reference 4613.
- Product packaging is included.
- Installation components: no additional components are included.
- Scenario for the Use phase: this

product range is included in the category Enclosure. (Assumed service life is 20 years.)

The electrical power model used for calculation is the European model.

End-of-life impacts are based on a worst case transport distance to the recycling plant (1000 km).



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