

Product Environmental Profile

DPX³ 160A Thermal -Magnetic MCCB



LEGRAND'S ENVIRONMENTAL COMMITMENTS

- **Incorporate environmental management into our industrial sites**

Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).

- **Offer our customers environmentally friendly solutions**

Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.

- **Involve the environment in product design and provide informations in compliance with ISO 14025**

Reduce the environmental impact of products over their whole life cycle.

Provide our customers with all relevant information (composition, consumption, end of life, etc.).



REFERENCE PRODUCT

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function | <p>Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage U=415 V and rated current I_n = 100A. This protection is ensured in accordance with the following parameters:</p> <ul style="list-style-type: none"> - Number of poles N_p = 3 - Rated breaking capacity I_{cn} = 16kA - Tripping curve Cd = 10 X I_n |
| Reference Product | <div data-bbox="826 1010 1066 1346" data-label="Image"> </div> <div data-bbox="906 1361 1043 1388" data-label="Text"> <p>Cat.No 420005</p> </div> <div data-bbox="821 1395 1131 1422" data-label="Text"> <p>DPX3 160 THR.MAG.TP 100A 16KA</p> </div> |



PRODUCTS CONCERNED

The environmental data is representative of the following products:

| Catalogue Numbers |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 420000 420001 420002 420003 420004 420005 420006 420007 420040 420041 420042 420043 420044 420045 420046 420047 420080 420081 420082 420083 420084 420085 420086 420087 420120 420121 420122 420123 420124 420125 420126 420127 420010 420011 420012 420013 420014 420015 420016 420017 420050 420051 420052 420053 420054 420055 420056 420057 420090 420091 420092 420093 420094 420095 420096 420097 420130 420131 420132 420133 420134 420135 420136 420137 |

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■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It respects the restrictions on use of hazardous substances as defined in the RoHS directive 2011/65/EU.

| | | | | | |
|------------------------------------------|--------------|-------------------------------------|--------------|----------------------------------|--------------|
| Total weight of Reference Product | | 1403 g (with unit packaging) | | | |
| Plastics as % of weight | | Metals as % of weight | | Other as % of weight | |
| Other plastic | 22.4% | Steel | 26.6% | | |
| PA | 11.7% | Copper alloys | 17.8% | | |
| PC | 2.2% | Other metal | 0.8% | | |
| PVC | 1.3% | Silver alloys | 0.4% | | |
| PE | 0.3% | | | | |
| | | | | Packaging as % of weight | |
| | | | | Paper | 16.4% |
| | | | | PP | 0.1% |
| | | | | | |
| Total plastics | 37.9% | Total metals | 45.6% | Total other and packaging | 16.5% |

Estimated recycled material content: 16% by mass.



■ MANUFACTURE

This Reference Product comes from sites that have received ISO 14001 certification.



■ DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 1000 km by road from our warehouse to the local point of distribution into the market in India.

Packaging is compliant with applicable regulation. At their end of life, its recyclability rate is 99 % (in % of the mass of the packaging).



■ INSTALLATION

For the installation of the product, only standard tools are needed.



■ USE

Under normal conditions of use, this product requires no servicing, no maintenance or additional products.

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END OF LIFE

The product end-of-life factors are taken into account during the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 60%. This value is based on data collected from a technological channel using industrial procedures. It does not prevalidate the effective use of this channel for end-of-life electrical and electronic products.

Separated into:

- plastic materials (excluding packaging) : 15 %
- metal materials (excluding packaging) : 46 %
- other materials (excluding packaging) : 0 %
- packaging (all types of materials) : 16 %



ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end-of-life. It is representative from products marketed and used in India, in compliance with the local current standards

For each phase, the following modelling elements were taken into account:

| | |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacture | Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing. |
| Distribution | Transport between the last Group distribution centre and an average delivery point in the sales area. |
| Installation | The end of life of the packaging. |
| Use | <ul style="list-style-type: none"> • Product category: passive product« • Use scenario: PSR 0005-ed2-EN-2016 03 29 § 3.1.1 « Circuit-breakers » • Energy model: Electricity Mix; India, year 2009 |
| End of life | The default end of life scenario maximizing the environmental impacts. |
| Software and database used | EIME V5 and its database «CODDE-2015-04» |

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SELECTION OF ENVIRONMENTAL IMPACTS

| | Total for Life cycle | | Raw material and manufacture | | Distribution | | Installation | | Use | | End of life | |
|-----------------------------------------------|----------------------|--------------------------------------|------------------------------|------|--------------|------|--------------|------|----------|------|-------------|------|
| Global warming | 6.35E+02 | kg-CO ₂ eq. | 7.06E+00 | 1% | 6.98E-02 | < 1% | 1.50E-02 | < 1% | 6.27E+02 | 99% | 6.81E-02 | < 1% |
| Ozone depletion | 1.84E-05 | kg-CFC-11 eq. | 9.54E-07 | 5% | 1.41E-10 | < 1% | 1.15E-10 | < 1% | 1.75E-05 | 95% | 9.48E-10 | < 1% |
| Acidification of soils and water | 6.84E-01 | kgSO ₂ eq. | 2.69E-02 | 4% | 3.14E-04 | < 1% | 7.28E-05 | < 1% | 6.56E-01 | 96% | 2.77E-04 | < 1% |
| Water eutrophication | 1.79E-01 | kg-PO ₄ ³⁻ eq. | 4.71E-03 | 3% | 7.21E-05 | < 1% | 7.86E-05 | < 1% | 1.73E-01 | 97% | 4.09E-04 | < 1% |
| Photochemical ozone formation | 8.59E-02 | kg-C ₂ H ₄ eq. | 2.01E-03 | 2% | 2.23E-05 | < 1% | 5.15E-06 | < 1% | 8.38E-02 | 98% | 2.11E-05 | < 1% |
| Depletion of abiotic resources - elements | 4.61E-03 | kgSb eq. | 4.61E-03 | 100% | 2.79E-09 | < 1% | 6.65E-10 | < 1% | 3.27E-06 | < 1% | 3.46E-09 | < 1% |
| Total use of primary energy | 9.83E+03 | MJ | 1.94E+02 | 2% | 9.36E-01 | < 1% | 1.95E-01 | < 1% | 9.63E+03 | 98% | 7.78E-01 | < 1% |
| Net use of fresh water | 7.99E-01 | m ³ | 1.13E-01 | 14% | 6.25E-06 | < 1% | 5.05E-06 | < 1% | 6.86E-01 | 86% | 3.41E-05 | < 1% |
| Depletion of abiotic resources - fossil fuels | 9.96E+03 | MJ | 1.22E+02 | 1% | 9.81E-01 | < 1% | 2.09E-01 | < 1% | 9.84E+03 | 99% | 9.26E-01 | < 1% |
| Water pollution | 3.20E+04 | m ³ | 6.29E+02 | 2% | 1.15E+01 | < 1% | 2.29E+00 | < 1% | 3.14E+04 | 98% | 8.93E+00 | < 1% |
| Air pollution | 6.43E+04 | m ³ | 2.23E+03 | 3% | 2.86E+00 | < 1% | 1.89E+00 | < 1% | 6.20E+04 | 97% | 5.51E+00 | < 1% |

The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website.

For products covered by the PEP other than the Reference product, the environmental impacts of each phase of the lifecycle are calculated with

The environmental impacts of the manufacture phase are proportional to the number of poles, the variations of the environmental impacts of distribution, installation and end of life phases are insignificant; the environmental impacts of the use phase are proportional to the number of poles and to the dissipated powers.

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Registration N°: LGRP-00544-V01.01-EN | Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0005-ed2-FR-2016 03 29» |
| Verifier accreditation N°: VH02 | Information and reference documents : www.pep-ecopassport.org |
| Date of issue: 12-2017 | Validity period: 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14025:2010 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/> | |
| The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINEN) | |
| The elements of the present PEP cannot be compared with elements from another program | |
| Document in compliance with ISO 14025 : 2010: «Environmental labels and declarations. Type III environmental declarations» | |
| Environmental data in alignment with EN 15804 : 2012 + A1 : 2013 | |

