

ADDENDUM TO ENVIRONDEC HEAT TRANSFER FLUID PCR – North America

The requirements of this PCR shall be modified as follows for all EPDs created under this PCR for **North America**. Requirements given here will supplement the requirements given in the PCR, and if in conflict, supersede those given in the PCR.

3.1 DECLARED UNIT/FUNCTIONAL UNIT

A functional unit is defined by ISO 21930:2007 as the quantified performance of a product system for a building product that is used as a reference unit in an EPD based on LCA. For heat transfer fluids, the functional unit shall be 1 m² of temperature controlled floor space. EPDs with a system boundary inclusive of all life-cycle stages from cradle-to-grave, shall use the given functional unit.

(Note: The above functional unit is consistent with that given in EN 15978 for temperature-controlled spaces)

For EPDs that are based on a portion of the life-cycle (e.g. cradle-to-gate), a declared unit shall be used. In addition to the requirements of the PCR, the following shall be provided when a declared unit is used:

- Intended application
- Audience
- Life-cycle stages included
- Statement that because a declared unit is used, the EPD shall be considered an information module.
- Statement on comparability, given below.

EPD shall include the following statement on comparability "In order to support comparative assertions, this EPD meets all comparability requirements stated in ISO 14025:2006. Comparability of EPDs is limited to those applying a functional unit. However, differences in certain assumptions, data quality, and variability between LCA data sets may still exist. As such, caution should be exercised when evaluating EPDs from different manufacturers or programs, as the EPD results may not be entirely comparable. Any EPD comparison must be carried out at the construction works level per ISO 21930:2017 guidelines. The results of this EPD reflect an average performance by the product and its actual impacts may vary on a case-to-case basis."

3.2 SYSTEM BOUNDARIES – ATTRIBUTABLE

The PCR stipulates that 21930 may serve as the core PCR reference for North American based EPDs. ISO 21930:2007 establishes the following life-cycle stage framework for North American EPDs:

1. Product
2. Design and Construction
3. Use, and
4. End-of-life

The scope of this PCR is given in the PCR as cradle-to-grave with options. However, because a functional unit has been defined in this Appendix, allowable scopes now include cradle-to grave analyses.

Refer to Figure 2 of ISO21930 (2007) for a breakdown of processes attributable to each life-cycle stage. System boundaries shall be clearly documented in the EPD. This framework shall apply to all PCR requirements stipulating calculation and reporting by life-cycle stage.

All significant environmental aspects shall be taken into account and addressed in the EPD. All omitted aspects shall be justified and documented.

3.3 SYSTEM DIAGRAM

Refer to Figure 2 of ISO21930 (2007) for a breakdown of processes attributable to each life-cycle stage. For North American-based EPDs, this figure supersedes Figure 1 given in this PCR.

4.2 REQUIREMENTS REGARDING GENERIC DATA

Sources of all data shall be reported. In both the LCA and EPD. Data quality shall be evaluated in conformance with the requirements of ISO 14044 and reported in both the LCA and EPD. If an EPD is based on an average of industry data within the category, the representativeness of the data shall be justified.

5.1 IMPACT INDICATORS

The potential environmental impact per declared unit for the following environmental impact categories shall be reported using the current version of U.S. EPA's Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI). Required impact categories include:

Impact Category	Units
Global Warming Potential (GWP 100)	[kg CO ₂ eq]
Ozone Depletion Potential (ODP)	[kg CFC 11 eq]
Acidification Potential (AP)	[kg SO ₂ eq]
Eutrophication Potential (EP)	[kg N eq]
Smog Formation Potential (POCP)	[kg O ₃ eq]
Abiotic Resource Depletion Potential of Non-renewable (fossil) energy resources (ADP _{fossil})	[MJ, LHV]

6.1 RESULTS

Section 6.1.1 of the PCR states that “all parameters shall not be aggregated but reported separately”. Under this addendum, this is interpreted to also mean that all required reporting shall be broken out and reported by life-cycle stage as well as by metric.

In addition, the LCA report underlying every North America-based EPD shall document each of the requirements of ISO 21930 (2007) Section 7.3.

6.1.1 Use of Resources

In addition to the life-cycle inventory reporting requirements given in the PCR, the following metrics are also required for North American EPDs:

Energy

- Fossil energy (MJ)
- Bioenergy (MJ)
- Other Energy (as defined by PCR as being those contributing less than 5%)

Material and Natural Resource Use

- Recycled Materials (Kg)
- Land use

6.1.3 WASTE PRODUCTION

In addition to the life-cycle inventory reporting requirements given in the PCR, the following LCI-based metrics are also required for North American EPDs:

- Releases to ground and surface water, as well as releases to indoor air.
- Hazardous waste¹ (kg)

6.2 INTERPRETATION

Data quality shall be evaluated as detailed in Section 4.2 of this addendum.

6.3 ASSUMPTIONS and LIMITATIONS

Documentation of assumptions and limitations considered voluntary under the PCR shall be reported in the LCA report underlying every North America-based EPD. This document shall be made available to the verifier

¹ as defined by RCRA 40 CFR 261.33

7.1 PROGRAMME-RELATED INFORMATION

The EPD shall reference the Program Operator in the EPD. This requirement shall be expanded to allow the listing of North America-based operators and their logos.

7.2 PRODUCT-RELATED INFORMATION

In addition to the requirements for product-related EPD content listed in the PCR, the following information is also required for North American EPDs:

- Data sources for life-cycle inventory or modules used.

The following information given as voluntary to disclose by the PCR shall be required for North America-based EPDs:

- Description of the intended use of the product
- Additional environmental information
- Product components or materials

If the EPD is an Industry average (i.e. Sector-based) EPD, the representativeness of the averaged data shall be justified.

7.3 CONTENT DECLARATION

The PCR states “the gross weight of material shall be declared in the EPD at a minimum of 99% of one unit of the product”. Under this addendum, this is interpreted to mean that each material or component of the product shall be reported individually by weight, and that the total composition reported shall at a minimum comprise 99% by weight of one unit of product.

7.4 ADDITIONAL ENVIRONMENTAL INFORMATION

All additional environmental information, including any additional reporting metric or categories, shall be presented separately from results given for the LCA and LCI.

7.5 MANDATORY STATEMENTS

In addition to the mandatory statements given in the EPD, the following statements are also required for North American EPDs:

- The EPD is based on an LCA that has been conducted in compliance with ISO 14040-44.