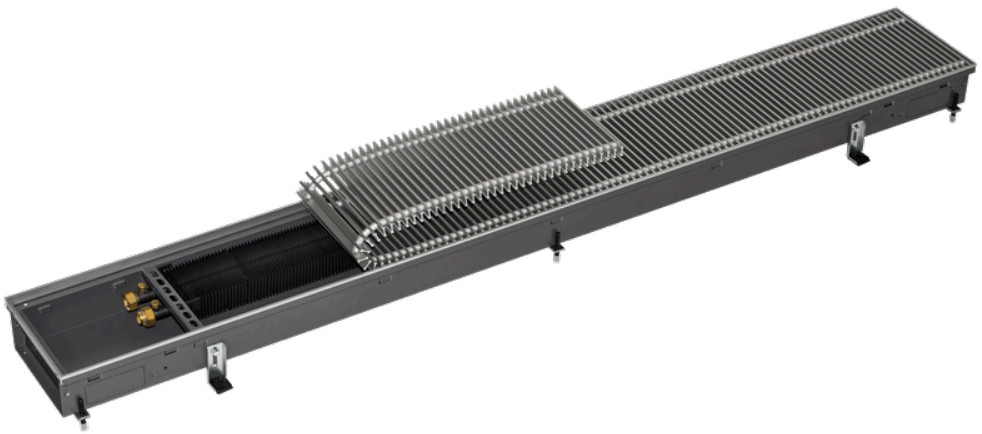
Item number: 145140913263

# Environmental Product Declaration - (EPD) Katherm NK

| | | | |
|---|---|---|---|
| Width | mm | 137 | |
| Height | mm | 92 | |
| Length | mm | 3400 | |
| Grille design | | Roll-up grille | |
| Grille finish | | Stainless steel, polished | |



The EPD data presented here is based on a verified EPD from the program holder EPD International AB. The data contained therein has been converted to the above-mentioned article number. (Verified EPD: EPD-IES-0007770)

## Table of Contents

Basic data . . . 2
Resource use . . . 3
Waste & Output Flows . . . 3
Restriction Notice . . . 4
List of terms . . . 5

## Basic data

| impact category | unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B2 | B3 | B4 | B6 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP - Total | kg CO2 eq | 1.03E+02 | 2.14E+00 | 1.82E+00 | 1.07E+02 | 3.17E+00 | 1.39E+00 | 6.70E-01 | 1.80E-01 | 9.90E-01 | 0.00E+00 | 0.00E+00 | 1.08E-01 | 2.21E+00 | 5.46E-02 | -3.98E+01 |
| GWP - fossil | kg CO2 eq | 1.02E+02 | 2.13E+00 | 4.79E+00 | 1.09E+02 | 3.17E+00 | 1.38E+00 | 6.31E-01 | 1.59E-01 | 9.78E-01 | 0.00E+00 | 0.00E+00 | 1.08E-01 | 2.21E+00 | 5.42E-02 | -3.94E+01 |
| GWP - Biogenic | kg CO2 eq | 1.07E+00 | 5.15E-03 | -2.97E+00 | -1.89E+00 | 4.13E-03 | 1.19E-02 | 2.72E-02 | -1.58E-02 | 1.16E-02 | 0.00E+00 | 0.00E+00 | 2.62E-04 | 1.46E-04 | 5.46E-04 | -1.61E-02 |
| GWP - Luluc | kg CO2 eq | 3.32E-01 | 7.99E-04 | 3.17E-03 | 3.36E-01 | 5.11E-04 | 1.38E-03 | 1.24E-02 | 3.69E-02 | 2.14E-03 | 0.00E+00 | 0.00E+00 | 4.05E-05 | 5.61E-06 | 5.46E-05 | -2.13E-01 |
| ODP | kg CFC-11 eq | 3.82E-06 | 5.30E-07 | 8.03E-08 | 4.43E-06 | 7.37E-07 | 5.89E-08 | 5.38E-08 | 1.49E-08 | 5.50E-08 | 0.00E+00 | 0.00E+00 | 2.70E-08 | 1.94E-09 | 1.64E-08 | -2.39E-06 |
| AP | mol H+ eq | 1.05E+00 | 6.78E-03 | 3.45E-02 | 1.09E+00 | 1.58E-02 | 5.77E-03 | 2.58E-03 | 1.20E-03 | 7.02E-02 | 0.00E+00 | 0.00E+00 | 3.45E-04 | 2.83E-04 | 4.56E-04 | -5.73E-01 |
| EP - fresh water | kg P eq | 8.62E-02 | 1.38E-04 | 5.81E-03 | 9.21E-02 | 9.59E-05 | 4.17E-04 | 1.29E-04 | 5.42E-05 | 5.61E-03 | 0.00E+00 | 0.00E+00 | 7.02E-06 | 2.62E-06 | 1.57E-05 | -4.87E-02 |
| EP - marine | kg P eq | 1.18E-01 | 1.52E-03 | 5.11E-03 | 1.24E-01 | 5.38E-03 | 1.56E-03 | 6.78E-04 | 2.65E-04 | 3.61E-03 | 0.00E+00 | 0.00E+00 | 7.72E-05 | 1.36E-04 | 1.57E-04 | -4.99E-02 |
| EP - country | mol N eq | 1.32E+00 | 1.66E-02 | 4.44E-02 | 1.38E+00 | 5.89E-02 | 1.16E-02 | 6.20E-03 | 1.77E-03 | 4.95E-02 | 0.00E+00 | 0.00E+00 | 8.42E-04 | 1.46E-03 | 1.71E-03 | -5.89E-01 |
| POCP | kg NMVOC | 4.00E-01 | 4.25E-03 | 1.20E-02 | 4.16E-01 | 1.43E-02 | 3.13E-03 | 1.35E-03 | 5.54E-04 | 1.23E-02 | 0.00E+00 | 0.00E+00 | 2.15E-04 | 3.33E-04 | 4.21E-04 | -1.69E-01 |
| ADPE | kg Sb eq | 1.58E-02 | 5.11E-06 | 5.15E-06 | 1.58E-02 | 3.03E-06 | 8.46E-06 | 4.09E-06 | 2.63E-06 | 1.75E-03 | 0.00E+00 | 0.00E+00 | 2.59E-07 | 5.50E-08 | 1.77E-07 | -1.07E-02 |
| ADPF | MJ | 1.20E+03 | 3.47E+01 | 5.30E+01 | 1.29E+03 | 4.64E+01 | 2.96E+01 | 1.50E+01 | 2.07E+00 | 1.22E+01 | 0.00E+00 | 0.00E+00 | 1.76E+00 | 1.25E-01 | 1.27E+00 | -4.68E+02 |
| WDP | m³ depriv. | 2.92E+01 | 1.16E-01 | 6.59E-01 | 3.00E+01 | 7.64E-02 | 1.78E+00 | 1.98E-01 | 8.97E-02 | 1.21E+00 | 0.00E+00 | 0.00E+00 | 5.89E-03 | 4.95E-03 | 5.50E-02 | -9.12E+00 |
| GWP-GHG | kg CO2 eq | 9.98E+01 | 2.12E+00 | 4.72E+00 | 1.07E+02 | 3.15E+00 | 1.34E+00 | 6.28E-01 | 1.90E-01 | 9.63E-01 | 0.00E+00 | 0.00E+00 | 1.07E-01 | 2.21E+00 | 5.34E-02 | -3.81E+01 |
| PM | disease inc. | 8.17E-06 | 1.87E-07 | 8.97E-08 | 8.44E-06 | 1.05E-07 | 9.32E-08 | 1.75E-08 | 1.12E-08 | 1.52E-07 | 0.00E+00 | 0.00E+00 | 9.47E-09 | 2.12E-09 | 8.85E-09 | -3.00E-06 |
| IR | kBq U-235 eq | 9.50E+00 | 1.75E-01 | 1.66E-01 | 9.84E+00 | 2.18E-01 | 9.67E-02 | 4.48E-01 | 7.68E-03 | 1.24E-01 | 0.00E+00 | 0.00E+00 | 8.89E-03 | 6.00E-04 | 5.96E-03 | -3.48E+00 |
| ETP - FW | CTUe | 6.25E+03 | 2.71E+01 | 6.35E+01 | 6.34E+03 | 2.88E+01 | 3.22E+01 | 1.24E+01 | 5.34E+00 | 5.81E+02 | 0.00E+00 | 0.00E+00 | 1.37E+00 | 8.46E-01 | 9.04E-01 | -4.40E+03 |
| HTP - C | CTUh | 6.79E-07 | 7.41E-10 | 1.68E-09 | 6.81E-07 | 5.42E-10 | 1.41E-08 | 2.76E-10 | 2.73E-10 | 1.33E-08 | 0.00E+00 | 0.00E+00 | 3.75E-11 | 2.81E-10 | 3.89E-11 | -2.34E-07 |
| HTP - NC | CTUh | 1.01E-05 | 2.84E-08 | 7.25E-08 | 1.02E-05 | 4.05E-08 | 7.02E-08 | 7.76E-09 | 6.20E-09 | 9.43E-07 | 0.00E+00 | 0.00E+00 | 1.44E-09 | 2.02E-09 | 6.04E-10 | -6.67E-06 |
| SQP | - | 6.26E+02 | 4.09E+01 | 2.06E+02 | 8.74E+02 | 2.25E+01 | 3.76E+00 | 6.94E+00 | 3.17E+00 | 2.73E+01 | 0.00E+00 | 0.00E+00 | 2.09E+00 | 5.07E-02 | 3.14E+00 | -2.38E+02 |

## Resource use

| impact category | unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B2 | B3 | B4 | B6 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PERE | MJ | 2.55E+02 | 4.40E-01 | 3.98E+01 | 2.95E+02 | 3.13E-01 | 1.03E+00 | 3.18E+00 | 4.99E-01 | 3.18E+00 | 0.00E+00 | 0.00E+00 | 2.24E-02 | 6.78E-03 | 2.17E-02 | -7.48E+01 |
| PERM | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PERT | MJ | 2.55E+02 | 4.40E-01 | 3.98E+01 | 2.95E+02 | 3.13E-01 | 1.03E+00 | 3.18E+00 | 4.99E-01 | 3.18E+00 | 0.00E+00 | 0.00E+00 | 2.24E-02 | 6.78E-03 | 2.17E-02 | -7.48E+01 |
| PENRE | MJ | 1.20E+03 | 3.47E+01 | 5.30E+01 | 1.29E+03 | 4.64E+01 | 2.96E+01 | 1.50E+01 | 2.11E+00 | 1.22E+01 | 0.00E+00 | 0.00E+00 | 1.76E+00 | 1.26E-01 | 1.27E+00 | -4.68E+02 |
| PENRM | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PENRT | MJ | 1.20E+03 | 3.47E+01 | 5.30E+01 | 1.29E+03 | 4.64E+01 | 2.96E+01 | 1.50E+01 | 2.11E+00 | 1.22E+01 | 0.00E+00 | 0.00E+00 | 1.76E+00 | 1.26E-01 | 1.27E+00 | -4.68E+02 |
| SM | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RSF | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NRSF | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| FW | m³ | 6.70E-01 | 7.09E-03 | 1.85E-02 | 6.96E-01 | 5.73E-03 | 3.48E-02 | 1.08E-02 | 2.70E-03 | 3.74E-02 | 0.00E+00 | 0.00E+00 | 3.60E-04 | 1.13E-03 | 1.43E-03 | -3.34E-01 |

## Waste & Output Flows

| impact category | unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B2 | B3 | B4 | B6 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HWD | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NHWD | kg | 0.00E+00 | 0.00E+00 | 5.30E+00 | 5.30E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RWD | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CRU | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MFR | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.63E+01 | 0.00E+00 | 0.00E+00 |
| MER | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.46E-01 | 0.00E+00 | 0.00E+00 |
| EE (Electrical) | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| impact category | unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B2 | B3 | B4 | B6 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EE (Thermal) | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

## Restriction Notice

| | | |
|---|---|---|
| Restriction Notice 1 | IR | This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator. |
| Restriction Notice 2 | ADPE, ADPF, WDP, ETP - FW, HTP - C, HTP - NC, SQP | The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. |
| Restriction Notice 3 | GWP-GHG | The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013 |

## List of terms

**GWP - Total** Climate change - total
**GWP - fossil** Climate change - fossil
**GWP - Biogenic** Climate change - biogenic
**GWP - Luluc** Climate change - land use and land use change
**ODP** Ozone Depletion
**AP** Acidification
**EP - fresh water** Eutrophication aquatic freshwater
**EP - marine** Eutrophication aquatic marine
**EP - country** Eutrophication terrestrial
**POCP** Photochemical ozone formation
**ADPE** Depletion of abiotic resources - minerals and metals
**ADPF** Abiotic resource depletion - fossil fuels
**WDP** Water use
**GWP-GHG** Global Warming Potential total excl. biogenic carbon following IPCC AR5 methodology
**PM** Particulate Matter emissions
**IR** Ionizing radiation, human health
**ETP - FW** Ecotoxicity (fresh water)
**HTP - C** Human toxicity, cancer effects
**HTP - NC** Human toxicity, non-cancer effects
**SQP** Land use related impacts/Soil quality
**PERE** Use of renewable primary energy excluding resources used as raw materials
**PERM** Use of renewable primary energy resources used as raw materials
**PERT** Total use of renewable primary energy
**PENRE** Use of non-renewable primary energy excluding resources used as raw materials
**PENRM** Use of non-renewable primary energy resources used as raw materials
**PENRT** Total use of non-renewable primary energy
**SM** Secondary material
**RSF** Renewable secondary fuels
**NRSF** Non-renewable secondary fuels
**FW** Net use of fresh water
**HWD** Hazardous waste disposed
**NHWD** Non-hazardous waste disposed
**RWD** Radioactive waste disposed
**CRU** Components for reuse
**MFR** Material for recycling
**MER** Materials for energy recovery
**EE (Electrical)** Exported energy electrical
**EE (Thermal)** Exported energy thermal
**A1** Raw Material Supply
**A2** Raw Material Transport
**A3** Manufacturing
**A1-A3** A1-A3
**A4** Transport to Site
**A5** Installation
**B2** Maintenance
**B3** Repair
**B4** Replacement
**B6** Operational Energy Use
**C1** Deconstruction / Demolition
**C2** Transport
**C3** Waste Processing
**C4** Disposal
**D** Future reuse, recycling orenergy recovery potentials

## This is how you can reach us

www.kampmanngroup.com | info@kampmanngroup.com | +49 591 7108-660 | Kampmann GmbH & Co. KG