

## Environmental Product Declaration, EN15804, Ria

Designed by Kvadrat/Raf Simons

84% new wool worsted, 12% viscose, 4% nylon

Weight – 840 g/lin. meter

Width – 140 cm

### Environmental Product Declaration

Environmental Product Declaration (EPD) is an assessment of the environmental impacts for a product from cradle to grave. The calculations in the LCA model is based on EN15804. The calculations also follow principles of the ISO 14040 standards for life cycle assessment. This EPD is based on an EPD model developed by Kvadrat and FORCE Technology using the LCA software GaBi6. Data is from internationally recognized LCA databases combined with literature sources and knowledge from Kvadrat and their suppliers and is further described in the background documentation.

### Environmental profile

The three tables show the total environmental impacts of the product for different impact categories and life cycle phases by using the terminology in the European standard for environmental product declarations (EPD) of building products, EN 15804. A1-A3 covers the raw material production, transport and processing into textile. A4 covers transport of textiles. C4 covers end-of-life impacts from landfilling and incineration. D covers the benefits from end-of-life treatment, including avoided production due to energy recovery and recycling.

### Environmental impact

| Environmental impact             | Unit                                    | A1-A3   | A1      | A2      | A3      | A4       | C4      | D        | Total   |
|----------------------------------|---|---------|---------|---------|---------|----------|---------|----------|---------|
| Global warming Potential         | kg CO <sub>2</sub> eq.                  | 9,7E+00 | 9,5E+00 | 1,9E-01 | 4,3E-02 | 4,8E-02  | 2,2E-01 | -4,4E-02 | 1,0E+01 |
| Ozone Depletion Potential        | kg CFC 11 eq.                           | 3,2E-09 | 1,4E-09 | 2,7E-17 | 1,9E-09 | 8,4E-18  | 7,7E-10 | -5,9E-16 | 4,0E-09 |
| Acidification Potential          | kg SO <sub>2</sub> eq.                  | 4,1E-02 | 3,6E-02 | 5,2E-03 | 2,4E-04 | 1,9E-04  | 2,2E-04 | -4,7E-05 | 4,2E-02 |
| Eutrophication Potential         | kg (PO <sub>4</sub> ) <sup>3-</sup> eq. | 5,4E-03 | 4,8E-03 | 6,0E-04 | 3,3E-05 | 4,8E-05  | 4,5E-04 | -6,7E-06 | 5,9E-03 |
| Photochemical Ozone Formation    | kg C <sub>2</sub> H <sub>4</sub> eq.    | 2,2E-03 | 1,9E-03 | 2,7E-04 | 2,1E-05 | -7,3E-05 | 6,6E-05 | -4,5E-06 | 2,2E-03 |
| Abiotic Depletion - Elements     | kg Sb eq.                               | 2,2E-05 | 2,2E-05 | 6,5E-09 | 2,8E-08 | 4,3E-09  | 5,4E-09 | -7,4E-09 | 2,2E-05 |
| Abiotic Depletion - Fossil fuels | MJ, net calorific value                 | 1,0E+02 | 1,0E+02 | 2,4E+00 | 7,2E-01 | 6,5E-01  | 4,9E-01 | -6,5E-01 | 1,0E+02 |

| Resource use  | Unit                    | A1-A3   | A1      | A2      | A3      | A4      | C4      | D        | Total   |
|---|-------------------------|---------|---------|---------|---------|---------|---------|----------|---------|
| Use of renewable primary energy excluding renewable primary energy resources used as raw materials                      | MJ, net calorific value | 6,8E+01 | 6,6E+01 | 1,4E-02 | 1,4E+00 | 3,7E-02 | 3,1E-02 | -1,5E-01 | 6,8E+01 |
| Use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)           | MJ, net calorific value | 1,3E+01 | 1,3E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00  | 1,3E+01 |
| Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)     | MJ, net calorific value | 8,1E+01 | 7,9E+01 | 1,4E-02 | 1,4E+00 | 3,7E-02 | 3,1E-02 | -1,5E-01 | 8,1E+01 |
| Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials              | MJ, net calorific value | 1,2E+02 | 1,2E+02 | 2,4E+00 | 8,2E-01 | 6,6E-01 | 5,3E-01 | -7,8E-01 | 1,2E+02 |
| Use of non-renewable primary energy resources used as raw materials   | MJ, net calorific value | 7,5E-01 | 7,5E-01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00  | 7,5E-01 |
| Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) | MJ, net calorific value | 1,2E+02 | 1,2E+02 | 2,4E+00 | 8,2E-01 | 6,6E-01 | 5,3E-01 | -7,8E-01 | 1,2E+02 |
| Use of secondary materials  | kg                      | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00  | 0,0E+00 |
| Use of renewable secondary fuels  | MJ, net calorific value | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00  | 0,0E+00 |
| Use of non-renewable secondary fuels  | MJ, net calorific value | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00  | 0,0E+00 |
| Net use of fresh water  | m <sup>3</sup>          | 4,5E-01 | 4,5E-01 | 9,1E-05 | 1,9E-04 | 4,6E-05 | 5,8E-04 | -1,3E-03 | 4,5E-01 |

| Waste categories and output flows | Unit | A1-A3 | A1    | A2      | A3      | A4      | C4      | D        | Total    |
|-----------------------------------|------|-------|-------|---------|---------|---------|---------|----------|----------|
| Hazardous waste disposed          | kg   | 0     | 0     | 0       | 0       | 0       | 0       | 0        | 0,00     |
| Non-hazardous waste disposed      | kg   | 18,9  | 18,9  | 0,005   | 0,03    | 0,002   | 0,3     | -0,08    | 19,21    |
| Radioactive waste disposed        | kg   | 0,007 | 0,007 | 2,6E-06 | 1,2E-05 | 7,9E-07 | 1,4E-05 | -4,9E-05 | 7,20E-03 |

The results are presented per square meter of textile. Comma is used as a decimal separator