



# ***Life Cycle Impact Reduction Action Plan***

For LEED version 4.1 credit:  
Environmental Product Declarations, Option 2  
(BD+C and ID+C rating systems)

---

*Company:*

***Knauf di Knauf S.r.l S.a.s***

*Products Included:*

***Kasa 12,5 mm  
plasterboards***

***Build on us.***

## Life Cycle Impact Reduction Action Plan Report

### Impact information and Reduction Summary

| <b>Manufacturer:</b>  | Knauf di Knauf S.r.l S.a.s  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
|---|---|-----------------------------|-----------------------------|--|--|-------------------|--|--|-----------------------------|-----------------------------|--|--|--|-----------------------------|-----------------------------|--|--|--|-----------------------------|-----------------------------|--|--|--|-----------------------------|--|--|---|--|--|
| <b>Manufacturer Contact Information:</b>  | <a href="mailto:paola.andrisano@knauf.com">paola.andrisano@knauf.com</a>  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Product Name:</b>  | KASA 12,5 mm plasterboard, manufactured by Knauf di Knauf S.r.l. S.a.s.   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Product Type:</b>  | Commercial Building Product   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Product Description:</b>   | Building product designed for use in the residential sector   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Location where the product was manufactured:</b>   | Castellina Marittima (PI), Italy  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Title of the Life Cycle Assessment/ Environmental Product Declaration that the Assessment is Based Upon:</b> | Life Cycle Assessment delle lastre in cartongesso:<br>GKB, GKI, GKF, A-ZERO, F-ZERO, DIAMANT, KASA, FLEXILASTRA<br>Prodotti da: Knauf di Knauf S.r.l. S.a.s. Stabilimento di Castellina Marittima (Pisa), Italia  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Life Cycle Assessment/ Environmental Product Declaration Type:</b>   | <input type="checkbox"/> Publicly available, critically reviewed LCA (conforming to ISO 14044)<br><input type="checkbox"/> Internally verified LCA with a product specific EPD (conforming to ISO 14025, EN 15804, or ISO 21930)<br><input checked="" type="checkbox"/> Product specific Type III EPD (external verification of LCA and EPD)  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Link to publicly available LCA or EPD</b>  | <a href="https://sostenibilita.knauf.it/EPD.aspx">https://sostenibilita.knauf.it/EPD.aspx</a>   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>LCA Framework/PCR</b>  | PCR 2012:01 Construction products and construction services, Version 2.3  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Date of LCA or EPD:</b>  | EPD 2020/05/06  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Scope:</b>   | <table border="1"> <thead> <tr> <th>Product stage</th> <th>Construction process stage</th> <th colspan="2">Use stage - No impacts</th> <th>End of Life stage</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> A1</td> <td><input checked="" type="checkbox"/> A4</td> <td><input type="checkbox"/> B1</td> <td><input type="checkbox"/> B5</td> <td><input checked="" type="checkbox"/> C1</td> </tr> <tr> <td><input checked="" type="checkbox"/> A2</td> <td><input checked="" type="checkbox"/> A5</td> <td><input type="checkbox"/> B2</td> <td><input type="checkbox"/> B6</td> <td><input checked="" type="checkbox"/> C2</td> </tr> <tr> <td><input checked="" type="checkbox"/> A3</td> <td></td> <td><input type="checkbox"/> B3</td> <td><input type="checkbox"/> B7</td> <td><input type="checkbox"/> C3 - Not applicable</td> </tr> <tr> <td></td> <td></td> <td><input type="checkbox"/> B4</td> <td></td> <td><input checked="" type="checkbox"/> C4</td> </tr> </tbody> </table> | Product stage               | Construction process stage  | Use stage - No impacts                       |  | End of Life stage | <input checked="" type="checkbox"/> A1 | <input checked="" type="checkbox"/> A4 | <input type="checkbox"/> B1 | <input type="checkbox"/> B5 | <input checked="" type="checkbox"/> C1 | <input checked="" type="checkbox"/> A2 | <input checked="" type="checkbox"/> A5 | <input type="checkbox"/> B2 | <input type="checkbox"/> B6 | <input checked="" type="checkbox"/> C2 | <input checked="" type="checkbox"/> A3 |  | <input type="checkbox"/> B3 | <input type="checkbox"/> B7 | <input type="checkbox"/> C3 - Not applicable |  |  | <input type="checkbox"/> B4 |  | <input checked="" type="checkbox"/> C4 | <input type="checkbox"/> Module D: Future, reuse, recycling or energy recovery potentials – <b>Not applicable</b> |  |  |
| Product stage   | Construction process stage  | Use stage - No impacts      |                             | End of Life stage                            |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <input checked="" type="checkbox"/> A1  | <input checked="" type="checkbox"/> A4  | <input type="checkbox"/> B1 | <input type="checkbox"/> B5 | <input checked="" type="checkbox"/> C1       |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <input checked="" type="checkbox"/> A2  | <input checked="" type="checkbox"/> A5  | <input type="checkbox"/> B2 | <input type="checkbox"/> B6 | <input checked="" type="checkbox"/> C2       |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <input checked="" type="checkbox"/> A3  |   | <input type="checkbox"/> B3 | <input type="checkbox"/> B7 | <input type="checkbox"/> C3 - Not applicable |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
|   |   | <input type="checkbox"/> B4 |                             | <input checked="" type="checkbox"/> C4       |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Describe how the scope of the product LCA or EPD aligns with actions identified in this Action Plan</b>      | The Knauf Group has set important targets in terms of reducing the environmental impacts of all its production activities. The themes on which these goals are identified are: circular economy, reduction of CO <sub>2</sub> emissions, reduction of chemicals in products, and reduction of water and energy consumption.   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>LCA Software and Version:</b>  | SIMAPRO 9   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>LCA Dataset:</b>   | Ecoinvent 3.5 Database  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Action Plan Creation Date:</b>   | November 10, 2023   |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Action Plan Expiration Date:</b><br>(must be 4 years or less)  | April 22, 2025  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |
| <b>Is this Action Plan applicable to all products listed in the corresponding LCA or EPD, or only a subset?</b> | Yes, 100%. The Action Plan is applicable to all plasterboard thicknesses indicated in the corresponding EPD manufactured by Knauf di Knauf S.r.l. S.a.s. since the Castellina Marittima (PI) facility is our only manufacturing location for this product.  |                             |                             |  |  |                   |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |                             |  |  |  |                             |  |  |   |  |  |

**Table or Summary of Largest Life Cycle Impacts identified in the Analysis (must include GWP):**

|   |                  | 2020          | 2022          | 2022/2020   |
|---|------------------|---------------|---------------|-------------|
|   |                  | KASA 12,5 mm  | KASA 12,5 mm  | %           |
| <b>GLOBAL WARMING</b><br>KG CO <sub>2</sub> EQ/DU   | Product A1-A3    | 2,58          | 2,46          |             |
|   | Transport A4     | 0,8           | 0,695         |             |
|   | Installation A5  | 0,06          | 0,597         |             |
|   | Use (B)          | 0             | 0             |             |
|   | End of cycle (C) | 0,13          | 0,13          |             |
|   | <b>Tot</b>       | <b>3,57</b>   | <b>3,34</b>   | <b>94%</b>  |
| <b>NOW RENEWABLE RESOURCES CONSUMPTION</b><br>MJ/DU | Product A1-A3    | 38,7          | 37,3          |             |
|   | Transport A4     | 12,06         | 10,4          |             |
|   | Installation A5  | 0,78          | 0,743         |             |
|   | Use (B)          | 0             | 0             |             |
|   | End of cycle (C) | 2,73          | 2,66          |             |
|   | <b>Tot</b>       | <b>54,27</b>  | <b>51,10</b>  | <b>94%</b>  |
| <b>ENERGY CONSUMPTION</b><br>MJ/DU                  | Product A1-A3    | 43,08         | 41,4          |             |
|   | Transport A4     | 12,53         | 10,7          |             |
|   | Installation A5  | 0,87          | 0,828         |             |
|   | Use (B)          | 0             | 0             |             |
|   | End of cycle (C) | 2,83          | 2,72          |             |
|   | <b>Tot</b>       | <b>59,30</b>  | <b>55,65</b>  | <b>94%</b>  |
| <b>WATER CONSUMPTION</b><br>M3/DU                   | Product A1-A3    | 0,0185        | 0,0188        |             |
|   | Transport A4     | 0,0025        | 0,001         |             |
|   | Installation A5  | 0,0025        | 0,000424      |             |
|   | Use (B)          | 0             | 0             |             |
|   | End of cycle (C) | 0,0021        | 0,00177       |             |
|   | <b>Tot</b>       | <b>0,0263</b> | <b>0,0220</b> | <b>93%</b>  |
| <b>WASTE PRODUCTION</b><br>KG/DU                    | Product A1-A3    | 0,17          | 0,159         |             |
|   | Transport A4     | 0,59          | 0,511         |             |
|   | Installation A5  | 0,26          | 0,261         |             |
|   | Use (B)          | 0             | 0             |             |
|   | End of cycle (C) | 10,85         | 10,9          |             |
|   | <b>Tot</b>       | <b>11,87</b>  | <b>11,83</b>  | <b>100%</b> |

Figure 1 - Comparison of potential environmental impacts between 2020 and 2022, values referring to 1 m<sup>2</sup> of KASA 12,5 mm plasterboard.

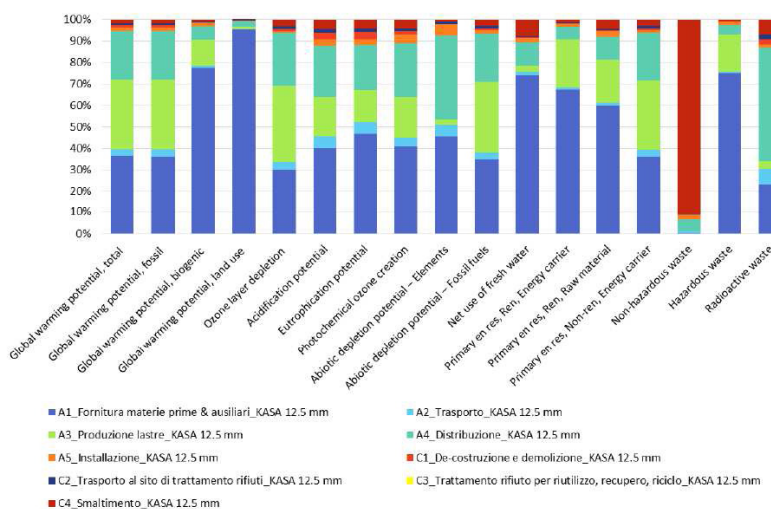


Figure 2 - Impacts by life cycle stages referred to 1 m<sup>2</sup> of KASA 12,5 mm plasterboard.

|  | <p>Figure 1 shows the environmental performance of plasterboards KASA 12.5 mm. In the categories of Global Warming, Non Renewable Resources Consumption, Energy Consumption and Water Consumption there is an average improvement of 6% points. There was no change in Waste Production. Overall, the environmental performance of plasterboards KASA 12.5 mm showed a positive trend.</p> <p>Figure 2 shows the environmental impacts referring to the life cycle of the KASA 12.5mm slab. The processes that contribute most to the impacts are modules A1-A3, with a contribution ranging between 64% and 96% for all impact categories. This is followed by the transportation phase in module A4 of the finished product with an average percentage of 18 percent. Regarding transport in modules A2 and C2, the contribution to impacts is no more than 7 percent.</p> <p>The installation phase (module A5) has a negligible contribution on impact categories, less than 5%. Regarding the total energy consumption, the phases of raw material supply/useful materials and slab production (modules A1 - A3) contribute the most, with a maximum percentage of 91%.</p> <p>The same trend in results occurs with regard to the category of water resource consumption, in which modules A1 - A3 are the largest contributors to impacts, participating with a percentage of 78 percent. Waste generation does not follow the same trend as the environmental impacts described above. Since the entire product is sent to landfill, the phase that contributes most to the impacts is the waste landfilling phase (module C4), with an average contribution on the impact categories of 7 percent.</p> |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
|--|---|-------|-----|--------------------------------------|-----------------------|------------------------------------|-----------------------|---|------------------|------------------|--|----------------------|--|-------|-------------------------------------|-------|---|
| <p><b>Narrative Description of the Impact Areas Targeted for Reduction</b> (must include specific steps, dates, and timeline for completion, and include why/why not GWP is targeted for reduction and include a numeric impact reduction target. Actions must correspond to impact modules analyzed in the LCA or EPD):</p> | <p>The Sustainability project in Knauf involved the setting up of eight working groups with the aim of defining a shared strategy covering different topics: the circular economy, the reduction of chemicals and the amount of water used in factories, the goal of zero waste sent to landfill and the reduction of CO<sub>2</sub> emissions covering all three scopes. In order to achieve the targets, set in the area of emissions, Knauf has mapped all its factories worldwide with the aim of gaining a detailed knowledge of CO<sub>2</sub> emissions, both per individual production site and in overall terms. The monitoring is necessary to identify critical areas and implement measures to reduce emissions.</p> <table border="1" data-bbox="592 1032 1214 1391"> <thead> <tr> <th>GOALS</th> <th>KPI</th> </tr> </thead> <tbody> <tr> <td>CO<sub>2</sub> Emission (Scope 1&amp;2)</td> <td>50% reduction by 2032</td> </tr> <tr> <td>CO<sub>2</sub> Emission (Scope 3)</td> <td>30% reduction by 2032</td> </tr> <tr> <td>CO<sub>2</sub> Emission (Scope 1, 2 &amp; 3)</td> <td>Net zero by 2045</td> </tr> <tr> <td>Circular Economy</td> <td>Promoting the circular economy in all plants</td> </tr> <tr> <td>Chemicals of concern</td> <td>Zero products containing chemicals by 2032</td> </tr> <tr> <td>Waste</td> <td>Zero waste sent to landfill by 2032</td> </tr> <tr> <td>Water</td> <td>2% annual reduction in water resource consumption</td> </tr> </tbody> </table>   | GOALS | KPI | CO <sub>2</sub> Emission (Scope 1&2) | 50% reduction by 2032 | CO <sub>2</sub> Emission (Scope 3) | 30% reduction by 2032 | CO <sub>2</sub> Emission (Scope 1, 2 & 3) | Net zero by 2045 | Circular Economy | Promoting the circular economy in all plants | Chemicals of concern | Zero products containing chemicals by 2032 | Waste | Zero waste sent to landfill by 2032 | Water | 2% annual reduction in water resource consumption |
| GOALS  | KPI   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| CO <sub>2</sub> Emission (Scope 1&2)   | 50% reduction by 2032   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| CO <sub>2</sub> Emission (Scope 3)   | 30% reduction by 2032   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| CO <sub>2</sub> Emission (Scope 1, 2 & 3)  | Net zero by 2045  |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| Circular Economy   | Promoting the circular economy in all plants  |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| Chemicals of concern   | Zero products containing chemicals by 2032  |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| Waste  | Zero waste sent to landfill by 2032   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| Water  | 2% annual reduction in water resource consumption   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| <p><b>This Action Plan was prepared by:</b><br/>(must be prepared by someone with experience conducting product-specific LCAs)</p>   | <p>Marharyta Litvinava - Sustainability Specialist</p>  |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |
| <p><b>This Action Plan was confirmed by an executive of the manufacturer:</b></p>  | <p>Paola Andrisano - Sustainability Manager</p>   |       |     |                                      |                       |                                    |                       |   |                  |                  |  |                      |  |       |                                     |       |   |

# KNAUF

## **KNAUF di Knauf S.r.l. s.a.s.**

**Sede legale e Stab.to: Castellina Marittima (PI)** - 56040 Via Livornese 20  
Tel. 050 69211 - Fax 050 692301

**Stab.to Gambassi Terme (FI)** - 50050 Località Treschi  
Tel. 0571 6307 - Fax 0571 678014

**Knauf Milano - Rozzano (MI)** - 20089 Via Alberelle, 72  
Tel. 02 52823711 - Fax 02 52823730

C.F. e CCIAA di Pisa 00050890524 - P.I. 02470860269 - R.E.A. 115078 -  
Cod. Dest. SDI CS8NOAM - Cap. Soc. Int. Vers. Euro 20.000.000  
UNICREDIT SPA - Roma - IBAN IT10K0200805364000102098066  
BIC/Swift UNCRITMM

Internet: [www.knauf.it](http://www.knauf.it) E-mail: [knauf@knauf.it](mailto:knauf@knauf.it)

*La documentazione e/o il parere tecnico forniti non costituiscono in nessun caso una proposta contrattuale, ne' un'attestazione di conformità di prodotti rispetto ad eventuali richieste ricevute, ma solo una indicazione circa uno o più determinati prodotti/sistemi che il destinatario dovrà verificare e valutare alla luce della propria esigenza progettuale specifica.*

**Build on us.**