# Environmental Product Declaration



In accordance with ISO 14025, ISO 21930 and EN 15804 for:

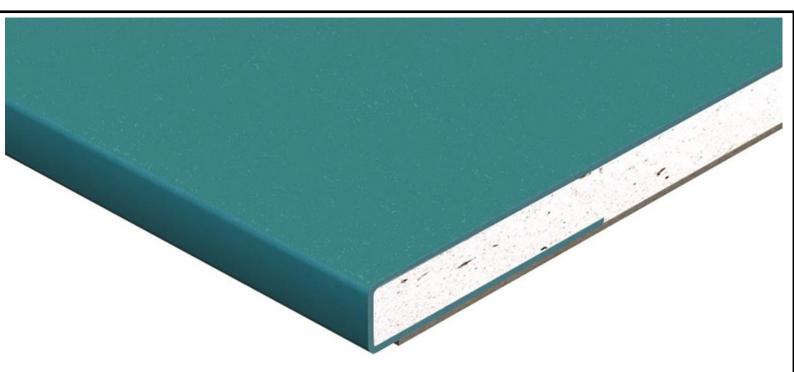
# Gyproc Bris<sup>™</sup> – Sheathing Board

# Saint-Gobain Gyproc AS

Programme operator:	The Norwegian EPD Foundation, www.epd-norge.no
Publisher:	The International EPD <sup>®</sup> System (EPD International), <u>www.environdec.com</u>
Registration numbers:	NEPD-1263-406-EN; S-P-01033
ECO EPD ref. number:	00000491
Issue date:	2017-02-24
Validity date:	2022-02-24







Syproc Bris™ – Sheathing Board       Saint-Gobain Gypice AS Contact person:         Yogram operator: The Norwegian EPD Foundation P5 5250 Majorstuen 0303 Octo Norway P5 5250 Majorstuen 0303 Octo Norway P5 5250 Majorstuen 0303 Octo Norway Phone:       Manufacturer: Saint-Gobain Gypice AS Habornveien 59, 1630 Gamle Fredrikstad, Norge Phone:         Yogram operator: The Norwegian EPD Foundation P5 5250 Majorstuen 0303 Octo Norway Phone:       Saint-Gobain Gypice AS Manufacturer: Saint-Gobain Gypice AS Habornveien 59, 1630 Gamle Fredrikstad, Norge Phone:         Year of production: IEPD-1263-406-EN       Production: Fredrikstad, Norway         Science 447 20 35 75 00 e-mail:       Info gypice AS Habornveien 59, 1630 Gamle Fredrikstad, Norge Phone:         Weith P0-1263-406-EN       Place of production: Fredrikstad, Norway         Science 472 03 050 Norway       Place of production: Fredrikstad, Norway         Management system: ISO 14001, ISO 9001 ISO 50001, OHSAS 18001       NO 951699403         Weith Standard EN 15804 serves as core PCR IPCR 010 rev1 Building boards (12 2013)       NO 951699403         Statement of liability: Isaled plasterboard       Issue date: 24.02.2017         Statement of liability: Isaled plasterboard       Issue date: 24.02.2022         Statement of liability: Isaled plasterboard       Issue date: 24.02.2022         Statement of liability: Isaled plasterboard       Comparability: 2015	Product:	Owner of the decla	aration:
Contact person: Mailin Daborg Phone: w12625569 e-mail: methodston S255 Multiportue 0300 206 Norway Phone: w126 208 202 e-mail: Sant-Goban Gynor AS Hatomwens 59, 1330 Game Frediktidat, Norge Phone: w1269 457 500 e-mail: Millin Daborg PEriod: w146 70255569 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 e-mail: Millin Daborg PEriod: w146 709 55 75 00 PEriod: w146 709 55 95 75 00 PEriod: w146 709 55 95 75 00 PEriod: w146 709 55 95 75 00 PEriod: w146 700 75 PERIOD: w146 7			
Prone:       -+47 20264369         Prone:			
Torgram operator:       Manufacturer:         The Norwegian EPD Foundation       Bash: Gobain Cyproc AS         Packer Majoritation       Bash: Gobain Cyproc AS         Phone:       #47 23 08 82 92         Phone:       #47 26 93 57 50         Phone:       #47 69 35 75 00         Phone:       #40 60 000         ISO Dotolition:       Phone:         Phone:       #40 6000         ISO 50001       ISO 50001         ISO 16001410000       ISO 50001         ISO 16001410000       ISO 50001         ISO 1600141000       ISO 16001         ISO 1600110000		•	•
her Norwegian EPP Foundation         her Norwegian EPP Foundation         BassN Majoration 0330 Sub Norway         hone:       +47 83 08 428 93 75 00        mail:       info avpronno @lsaint-sobain.com         Plone:       +47 69 38 75 00        mail:       info avpronno @lsaint-sobain.com         Plone:       +47 69 38 75 00        mail:       info avpronno @lsaint-sobain.com         Plone:       +47 69 38 75 00        mail:       info avpronno @lsaint-sobain.com         Plone:      mail:         isfort Adont.isfort       Record production:         Record production:       Fredrikstad, Norway         Biso declaration is based on Product Category Rules:       No 95169403         Work 10 rev1 Building boards (12 2013)       No 95169403         Statement of liability:       Issue date:         Pec of study:       24 02 2017         Issue date:       24 02 2017         Declared unit:       m* of instailed plasterboard         Matin Eriandisch Product Bray not be comparable if they not comply with EN 15804 serves as the core PCR, not products may not be comparable if they not comply with EN 15804 and seen in a building context.         Valid to:       Comparability:         Leared unit:       Im* of instailed giparchon with a declaration and		e-mail:	malin.dalborg@saint-gobain.com
Bis 250 Migiorstuen 0303 Oslo Norway   Pince: 473 05 82 92   -mail: 116 opyprocno@saint-gobain.com   beclaration number: Prione:   LEPD-1263-406-EN Pince:   CO Platform reference number: Management system:   0000491 ISO 14001; 1SO 9001   ISO 14001; 1SO 9001 ISO 14001; 1SO 9001   Iso 1400; 1SO 9001 ISO 9001; ISO 9001   Iso 1400; 22017 Issue date:   Paladrend Int: Paladrenden:   m² of installed plasterboard Yalid to:   24:02:2022 Yaar of study:   Imare I Imare I   m² of Installed plasterboard Zoingame I Splaster I S		Manufacturer:	
hone: +47 63 35 75 00   beckered number: Phone:   LEPD-1263-406-EN Phone:   According and the declaration and velocity of the declaration is based on Product Category Rules:   D0000491 ISO 50001, OHSAS 18001   ISO 14007, ISO 9001 ISO 50001, OHSAS 18001   ISO 50001, OHSAS 18001 ISO 50001, OHSAS 18001   No system: ISO 14007, ISO 9001   ISO 50001, OHSAS 18001 ISO 50001, OHSAS 18001   No system: ISO 50001, OHSAS 18001   ISO 50001, OHSAS 18001 ISO 50001, OHSAS 18001   No system: No system:   ISO 14007, ISO 9001 ISO 50001, OHSAS 18001   ISO 50001, OHSAS 18001 ISO 50001, OHSAS 18001   Iso 14007, ISO 9001 ISO 50001, OHSAS 18001   Iso 14002, ISO 9001 ISO 14002, ISO 9001   Iso 14002, ISO 9001 ISO 50001, ISO 9001   Iso 14002, ISO 9001 Iso 9001, ISO 9001   Iso 14002,			
-mail: ind.ayprocenc@isaint-sobain.com  beclaration number:  EEPD-1263-406-EN  EEPD-1263-406-EN  ECD Platform reference number:  DO000491  ECD Platform reference number:  DO00049  ECD Platform reference number:  DO000491  ECD Platform reference number:  DO00049  ECD Platform reference number:			
Beclaration number:       Place of production:         IEPD-1283-406-EN       Fredrikstad, Norway         Stop Platform reference number:       Management system:         0000491       ISO 14001, ISO 3001         Nis declaration is based on Product Category Rules:       Organisation no:         EVEN Standard EM 15804 sorves as core PCR       Organisation no:         IPCR 010 rev1 Building boards (12 2013)       NO 951699403         Itatement of liability:       Issue date:         The owner of the declaration shall be liable for the declaration shall be liable for the declaration shall be liable for the declaration and evidences.       24.02.2017         Valid to:       24.02.2022         Valid to:       24.02.2022         Valid to:       2015         Declared unit:       Year of study:         m* of installed plasterboard       2015         Declared unit with option:       Comparability:         EEPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         unctional unit:       The EPD has been worked out by:         unctional unit:       The EPD Norm EN 15804 serves as the coree PCR.         moperation the declaration and data, according 180 (140 party verifier:       external         uiter and core ploy (Lindeparted verifier approved by EPD       Approved			
IEEPD-1263-406-EN       Fredrikstad, Norway         IEEDD-1263-406-EN       Fredrikstad, Norway         IEEDD-1263-406-EN       Management system: ISO 14001, ISO 9001 ISO 50001, OHSAS 18001         ISO 14001, ISO 9001 ISO 50001, OHSAS 18001       ISO 50001, OHSAS 18001         Iso 14001, ISO 9001 ISO 50001, OHSAS 18001       Organisation no: NO 951699403         Internation and evidences.       Iso 9001 ISO 50001, OHSAS 18001         Internation and evidences.       Iso 901699403         Valid to: 24 02.2017       24 02 2017         Valid to: 24 02 2022       24 02 2022         Declared unit: m* of Installed plasterboard       Year of study: 2015         Declared unit: m* of Installed Systroc Bris™ – Sheathing Board, with a sference service life of 60 years       Comparability: EPD of construction products may not be comparable if they not comply with EN 15804 serves as the core PCR. rependent verifiestarion in a building context.         Intercent IN 15604 serves as the core PCR. rependent verifiestarion in the declaration and data, according 180(140252010)       Intercent of the declaration and data, according 180(140252010)         Intercent Internation IN (Independent verifier approved by EPD       Approved         Matin Eriandsson IV, (Independent verifier approved by EPD       Matin Eriandsson IV, (Independent verifier approved by EPD	mail: post@epd-norge.no	e-mail:	info.gyprocno@saint-gobain.com
Sco Platform reference number:       Management system::         00000491       ISO 14001, ISO 9001         No Standard EN 15604 serves as core PCR       Organisation no:         IEN Standard EN 15604 serves as core PCR       No 951699403         IPCR 010 rev1 Building boards (12 2013)       Issue date:         itatement of liability:       issue date:         The owner of the declaration shall be liable for the methyling information. He cycle       Issue date:         24 02.2017       24 02.2017         Valid to:       24 02.2022         Valid to:       24 02.2022         Valid to:       2015         Declared unit:       Year of study:         m² of installed plasterboard       2015         Declared unit:       Comparability:         EFD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         unctional unit:       The EPD has been worked out by:         m² of installed Gypric Bits <sup>Th</sup> – Sheathing Board, with a efference service life of 60 years       The EPD has been worked out by:         JSO14025.2010       internal       internal         internal       internal       internal         Martin Erfandsson IVL (Integreparted wordent working approved by EPD       Approved			
00000491       ISO 14001, ISO 9001 ISO 50001, OHSAS 18001         his declaration is based on Product Category Rules: EHN Standard EN 15804 serves as core PCR IPCR 010 rev1 Building boards (12 2013)       Organisation no: NO 951699403         Statement of liability: Ine owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not leable with repet to manufacturer information, life cycle sasessment data and evidences.       Issue date: 24.02.2017         Velid to: 24.02.2022       24.02.2022         Declared unit: m² of installed plasterboard       Year of study: 2015         Declared unit: m² of installed plasterboard       Comparability: EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         Variational unit: m² of installed Cyproc Brs <sup>m2</sup> - Sheathing Board, with a efference service life of 60 years       The EPD has been worked out by: James Cobb, Central SHEAR, Saint Gobain Cyproc Mattin Effandsson IVL (Independent verifier approved by EPD Interd party verifier: Wathout Effandsson IVL (Independent verifier approved by EPD         Martin Effandsson IVL (Independent verifier approved by EPD       Approved	IEPD-1263-406-EN	Fredrikstad, Norway	/
00000491       ISO 14001, ISO 9001 ISO 50001, OHSAS 18001         This declaration is based on Product Category Rules: ERN Standard EN 15804 serves as core PCR PCR 010 rev1 Building boards (12 2013)       Organisation no: NO 951699403         Statement of liability: The conver of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not leable with repet to manufacturer information, life cycle issessment data and evidences.       Issue date: 24.02.2017         Declared unit: m² of installed plasterboard       Year of study: 2015         Declared unit: m² of installed plasterboard       Comparability: EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         Statement N1 15804 serves as the core PCR reffication: The CEN Norm EN 15804 serves as the core PCR. rdpepender verification of the declaration and data, according is 014025.2010       Third party verifier: Underwore Martin Erlandsson IVL (Independent verifier approved by EPD         Martin Erlandsson IVL (Independent verifier approved by EPD       Approved	CO Platform reference number:	Management syste	em:
This declaration is based on Product Category Rules:       Dreating information and evidences:         The Standard EN 15804 serves as core PCR       NO 951699403         NO 951699403       NO 951699403         Statement of lability:       Issue date:         The owner of the declaration shall be liable for the inderiving information and evidence. EPD Norway shall not the liable with respect to manufacturer information, life cycle issessment data and evidences.       Valid to:         24.02.2022       Valid to:       24.02.2022         Declared unit:       "of installed plasterboard       Year of study:         m <sup>2</sup> of installed plasterboard       2015         Declared unit:       "for installed Gyproc Bris <sup>M</sup> – Sheathing Board, with a eference service life of 60 years       The EPD has been worked out by:         "m <sup>2</sup> of installed Gyproc Bris <sup>M</sup> – Sheathing Board, with a eference service life of 60 years       The EPD has been worked out by:         "Intro party verifie:       James Cobb, Central SHEAR, Saint Gobain Gyproc         "Approved       "Approved         Martin Erfandsson NVL (independent verifier approved by EPD       Martin Erfandsson NVL (independent verifier approved by EPD	0000491	ISO 14001, ISO 900	01
EN Standard EN 15804 serves as core PCR       NO 951699403         IPCR 010 rev1 Building boards (12 2013)       Issue date:         Statement of liability:       Issue date:         The owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not te liable with respect to manufacturer information, life cycle issessment data and evidences.       Issue date:         24.02.2022       24.02.2022         Declared unit:       Year of study:         m² of installed plasterboard       2015         Declared unit:       Comparability:         EPD of construction products may not be comparable if they not comptivitient for installed Gyproc Bris™ – Sheathing Board, with a efference service life of 60 years       The EPD has been worked out by:         'Indication:       The EPD has been worked out by:       James Cobb, Central SHEAR, Saint Gobain Gyproc         'Ferification:       External       Image: Addition of the declaration and data, according o 15014025:2010       external         'Disolation:       Image: Addition of the declaration and data, according o 15014025:2010       Approved         Martin Erlandsson IVL (independent verifier approved by EPD       Halaon Hauan         Martin Erlandsson IVL       Halaon Hauan			
WPCR 010 rev1 Building boards (12 2013)         Statement of liability:         The owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle issessment data and evidences.         Valid to:         24.02.2017         Valid to:         24.02.2022         Declared unit:         m² of installed plasterboard         Declared unit with option:         Comparability:         EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         Sunctional unit:         m² of installed Gyproc Bris <sup>™</sup> – Sheathing Board, with a eference service life of 60 years         Martification:         The EPD has been worked out by:         James Cobb, Central SHEAR, Saint Gobain Gyproc         Material unit:         m² of installed Gyproc Bris <sup>™</sup> – Sheathing Board, with a eference service life of 60 years         Material unit:         The EPD has been worked out by:         James Cobb, Central SHEAR, Saint Gobain Gyproc         Material unit:         Third party verifier:         Material         Matrin Erlandsson IVL (independent verifier approved by EPD         Matrin Erlandsson IVL (independent verifier approved by EPD			
The owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not the liable with respect to manufacturer information, life cycle issessment data and evidences. 24.02.2017   Declared unit: Year of study:   m² of installed plasterboard 2015   Declared unit with option:   Declared unit: Comparability:   EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.   Functional unit: The EPD has been worked out by:   m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years   Perification:   m² of installed serves as the core PCR, ndependent verification of the declaration and data, according o ISO14025 2010   Image: Internal Image: Image		NO 951699403	
The owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not the liable with respect to manufacturer information, life cycle issessment data and evidences. 24.02.2017   Declared unit: Year of study:   m² of installed plasterboard 2015   Declared unit with option:   Declared unit: Comparability:   EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.   Functional unit: The EPD has been worked out by:   m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years   Perification:   m² of installed serves as the core PCR, ndependent verification of the declaration and data, according o ISO14025 2010   Image: Internal Image: Image	statement of liability:	Issue date:	
24.02.2022         Declared unit:         m² of installed plasterboard         Declared unit with option:         Declared unit with option:         Gunctional unit:         m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years         Merification:         The CEN Norm EN 15804 serves as the core PCR. Independent verification of the declaration and data, according to ISO14025:2010         Third party verifier:         Martin Erlandsson IVL (Independent verifier approved by EPD	The owner of the declaration shall be liable for the inderlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle issessment data and evidences.	24.02.2017	
Meclared unit:       Year of study:         main of installed plasterboard       2015         Meclared unit with option:       Comparability:         Munctional unit:       EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         Munctional unit:       The EPD has been worked out by:         main of installed Gyproc Bris™ – Sheathing Board, with a seference service life of 60 years       The EPD has been worked out by:         Martin Erlandsson IVL (Independent verification and data, according biologia Science)       Martin Erlandsson IVL (Independent verifier approved by EPD)         Martin Erlandsson IVL (Independent verifier approved by EPD)       Approved		Valid to:	
m² of installed plasterboard       2015         Declared unit with option:       Comparability:         EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.         Functional unit:       The EPD has been worked out by:         m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years       The EPD has been worked out by:         James Cobb, Central SHEAR, Saint Gobain Gyproc       James Cobb, Central SHEAR, Saint Gobain Gyproc         /erification:       The CEN Norm EN 15804 serves as the core PCR.         The proved       Comparability:         /erification:       external         Third party verifier:       external         Martin Erlandsson IVL (Independent verifier approved by EPD       Haken Hauan		24.02.2022	
Declared unit with option:       Comparability:         Functional unit:       EPD of construction products may not be comparable if they not complex with EN 15804 and seen in a building context.         m <sup>2</sup> of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years       EPD has been worked out by:         derification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         herification:       Image: Antimetric Comparability:         he CEN Norm EN 15804 serves as the core PCR.       Mathematic Comparability:         heternal       Image: Antimetric Comparability:         Image: Internal       Image: Antimetric Comparability:         Mathin Erlandsson IVL (Independent verifier approved by EPD)       Hakon Hauan	Declared unit:	Year of study:	
Functional unit:       Image: State of the	m² of installed plasterboard	2015	
Sunctional unit:       m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years       The EPD has been worked out by:         James Cobb, Central SHEAR, Saint Gobain Gyproc         /erification:         The CEN Norm EN 15804 serves as the core PCR.         ndependent verification of the declaration and data, according o ISO14025:2010	Declared unit with option:	Comparability:	
m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         /erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc			
m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         /erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc         /reference service life of 60 years       James Cobb, Central SHEAR, Saint Gobain Gyproc         //erification:       James Cobb, Central SHEAR, Saint Gobain Gyproc		The FPD has been	worked out by:
Verification:         The CEN Norm EN 15804 serves as the core PCR.         Independent verification of the declaration and data, according         Image: Internal	m² of installed Gyproc Bris™ – Sheathing Board, with a eference service life of 60 years		
The CEN Norm EN 15804 serves as the core PCR. Independent verification of the declaration and data, according I internal I external Third party verifier: Vital (undependent verifier approved by EPD Martin Erlandsson IVL (Independent verifier approved by EPD		Sum	Lade Gyproc
D ISO14025:2010         Image: Internal inter	he CEN Norm EN 15804 serves as the core PCR.		
Approved       Third party verifier:       Image: Approved       Image: Approved       Martin Erlandsson IVL (Independent verifier approved by EPD			
Martin Erlandsson IVL (Independent verifier approved by EPD Håkon Hauan		Approved	
Martin Erlandsson IVL (Independent verifier approved by EPD Håkon Hauan			Heb L
Martin Enandsson We (independent vermer approved by Er D	1. Manteres and		119th 1 Jaugy
Managing Director of EULI Nanuou			

# Product

# Product description:

Gyproc GUB Bris is a 9,5 mm thick sheathing plasterboard with an impregnated core and an impregnated surface to minimize the boards water absorption. The sheathing plasterboard is used in external wall constructions, and is airtight, moisture- and water repellent, diffusion open, and gives fire protection. The board is suitable as sheathing on outside of external constructions under permanent cladding, when the construction is expected to be exposed to weather conditions over a longer period.

The plasterboards have straight paper lined long edges and short edges sawn straight. It is available in 1200 mm width (GUB 9) for external solutions.

#### Product specification:

Materials	kg	%
Stucco	5.723	79%
Paper liner	0.318	4%
Other additives	0.385	5%
Water	0.774	11%
Total	7.2	100%

# Technical data:

The weight of the declared unit is 7.2 kg, with a thickness of 9.5 mm

SINTEF Technical approval – TG20473. For more information from the product data sheet, see www.gyproc.no

# Market:

Norway

# Reference service life, product:

60 years. This 60 year value is the amount of time that we recommend our products last for without refurbishment, and corresponds to standard building design life

#### Reference service life, building:

60 years

# LCA: Calculation rules

# Functional unit:

1 m² of installed Gyproc Bris™ – Sheathing Board, with a reference service life of 60 years

#### System boundary:

Figure 1 (below) is a flow diagram illustrating the system boundary from A1 - C4. Module D has not been modelled in this EPD. Biogenic carbon has not been included in the system boundary.

# Figure 1 - Flow diagram of the life cycle stages from raw material extraction (A1) through to end-of-life



#### Data quality:

Product specific data was collected at the Fredrikstad plant in Norway in 2015. The data has been modelled using the TEAM software. Background data used is from CML 3.9. Ecoinvent v2.2 data is used having been adapted for use in TEAM by Ecobilan

# Cut-off criteria:

All major raw materials and all the essential energy is included. The production process for raw materials and energy flows that are included with very small amounts (<1%) are not included. This cut-off rule does not apply for hazardous materials and substances.

# Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

# LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

The module A4 refers to transport from the manufacturer all the way through delivery to the construction site. The transport distances are representative of delivery to Norway only, and represents the average journey of a delivery a product to a construction site.

# Transport from production place to user (A4)

Туре	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Value (l/tkm)
Truck	77	26000 kg capacity	276	0.01	3
Boat	77	Freight ship	924	<0.01	3

The module A5 refers to installation of the functional unit of the product into the building using the auxilliary materials below:

#### Assembly (A5)

	Unit	Value
Screws	per m <sup>2</sup>	8
Jointing tape	m per m <sup>2</sup>	0
Jointing compound	kg/m <sup>2</sup>	0
Material loss	%	5

B1 - B7 - all modules in this phase have been assessed, but it is assumed that no maintainance, repair, replacement or refurbishment of the product will be necessary during the reference service life. Therefore, no impacts are associated with this stage.

# Use phase (B1 - B5)

	Unit	Value
B1 - use		0
B2 - maintainance	kg	0
B3 - repair	kg	0
B4 - Replacement	m <sup>3</sup>	0
B5 - Refurbishment	kWh	0

# Operational energy (B6) and water consumption (B7)

	Unit	Value
Not relevant		

The end-of-life stage includes C1, de-construction, demolition, C2, transport to waste processing, C3, waste processing for reuse, recovery and/or recycling, C4, disposal, including provision and all transport, provision of all materials, products and related energy and water for reuse. The present scenario has been established via contact with relevant stakeholders. **End of Life (C1, C3, C4)** 

	Unit	Value
Hazardous waste disposed	%	0
Collected as mixed construction waste	%	0
Reuse	%	0
Recycling	%	58
Energy recovery	%	2
To landfill	%	40

#### Transport to waste processing (C2)

Туре	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Value (I/tkm)
Truck	77	26000 kg capacity	32	0.09	3

# LCA: Results

MNA (Module Not Assessed). Where a dash is present in the results table, the indicator has not been assessed. All results are per functional unit, which is 1 m<sup>2</sup> of installed Gyproc® Normal – Standard Plasterboard, with a reference service life of 60 years. CML has been used as the impact model. Specific data has been supplied by the plant, and generic data come from the DEAM and Ecoinvent databases. All emissions to air, water, and soil, and all materials and energy used have been included, with the exception of long-term emissions (>100 years).

Syste	System boundaries (X=included, MND= module not declared, MNR=module not relevant)															
Pro	Product stage		Assemby stage			Use stage					En	d of life	e stage	9	Beyond the system boundaries	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling- potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
х	х	х	х	х	х	х	х	х	х	MNR	MNR	х	х	х	х	MND

Environme	Environmental impact												
Parameter	Unit	A1 - A3	A4	A5	B1 - B5	C1	C2	C3	C4				
GWP	kg CO <sub>2</sub> -eqv	1.70E+00	2.50E-01	1.80E-01	0.00E+00	2.40E-02	1.80E-02	7.20E-02	0.00E+00				
ODP	kg CFC11-eqv	8.60E-08	9.20E-08	1.70E-08	0.00E+00	2.90E-09	1.30E-08	1.70E-08	0.00E+00				
POCP	kg C <sub>2</sub> H <sub>4</sub> -eqv	8.50E-04	1.40E-04	8.40E-05	0.00E+00	5.30E-05	8.10E-06	3.00E-05	0.00E+00				
AP	kg SO <sub>2</sub> -eqv	4.60E-03	2.80E-03	7.20E-04	0.00E+00	1.80E-04	1.10E-04	4.00E-04	0.00E+00				
EP	kg PO₄ <sup>3-</sup> -eqv	1.10E-03	2.30E-04	1.20E-04	0.00E+00	4.20E-05	2.70E-05	4.80E-05	6.60E-05				
ADPM	kg Sb-eqv	1.10E-06	2.90E-11	6.20E-08	0.00E+00	3.70E-09	4.00E-12	1.10E-09	0.00E+00				
ADPE	MJ	4.10E+01	3.10E+00	4.00E+00	0.00E+00	3.30E-01	2.30E-01	1.20E+00	0.00E+00				

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

Resource u	lse								
Parameter	Unit	A1 - A3	A4	A5	B1 - B5	C1	C2	C3	C4
RPEE	MJ	3.20E+00	1.50E-03	3.00E-01	0.00E+00	1.40E-03	1.20E-04	8.50E-02	0.00E+00
RPEM	MJ	7.10E+00	-	-	-	-	-	-	-
TPE	MJ	1.03E+01	1.50E-03	3.00E-01	0.00E+00	1.40E-03	1.20E-04	8.50E-02	0.00E+00
NRPE	MJ	3.70E+01	3.10E+00	3.70E+00	0.00E+00	3.30E-01	2.30E-01	1.20E+00	0.00E+00
NRPM	MJ	1.39E+01	-	-	-	-	-	-	-
TRPE	MJ	5.09E+01	3.10E+00	3.70E+00	0.00E+00	3.30E-01	2.30E-01	1.20E+00	0.00E+00
SM	kg	1.80E+00	0.00E+00	1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-
W	m³	9.80E-03	1.60E-04	1.30E-03	0.00E+00	4.40E-05	2.20E-05	1.30E-04	0.00E+00

"-" means indicates indicator not assessed (INA)

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; W Use of net fresh water

End of life - Waste									
Parameter	Unit	A1 - A3	A4	A5	B1 - B5	C1	C2	C3	C4
HW	kg	3.30E-02	3.70E-05	2.00E-03	0.00E+00	0.00E+00	5.10E-06	9.00E-06	0.00E+00
NHW	kg	7.00E-02	2.40E-04	5.80E-01	0.00E+00	0.00E+00	2.60E-05	1.40E+00	1.40E+00
RW	kg	3.10E-05	2.60E-05	5.70E-06	0.00E+00	0.00E+00	3.60E-06	8.80E-06	0.00E+00

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

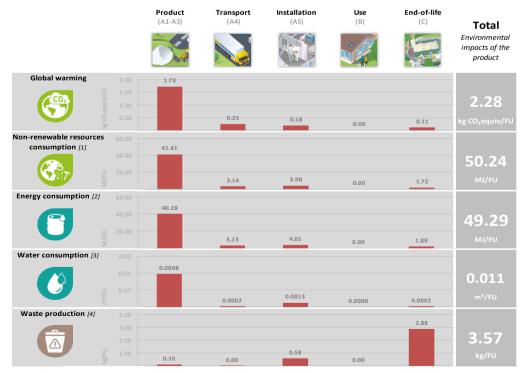
End of life - Output flow									
Parameter	Unit	A1 - A3	A4	A5	B1 - B5	C1	C2	C3	C4
CR	kg	-	-	-	-	-	-	-	-
MR	kg	4.50E-02	9.20E-07	1.30E-01	0.00E+00	0.00E+00	1.30E-07	4.40E+00	0.00E+00
MER	kg	-	-	-	-	-	-	-	-
EEE	MJ	3.30E-08	9.00E-10	2.10E-05	0.00E+00	0.00E+00	1.30E-10	7.80E-16	0.00E+00
ETE	MJ	-	-	-	-	-	-	-	_

"-" means indicates indicator not assessed (INA)

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Reading example:  $9,0 \text{ E-}03 = 9,0*10^{-3} = 0,009$ 

# Figure 2: A summary graph illustrating the impact of 1 m2 of product (FU)



# Additional Norwegian requirements

# Greenhous gas emission from the use of electricity in the manufacturing phase

The electricity mix used for these calculations was a dataset from Ecoinvent v2.2 and was specific to Norway. The dataset includes import, production of transmission lines, direct emissions and losses in the grid.

Data source	Amount	Unit
Econinvent v2.2 (june 2010)	16.1	g CO <sub>2</sub> -eqv/kWh

#### **Dangerous substances**

I The product contains no substances given by the REACH Candidate list or the Norwegian priority list

The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.

- The product contain dangerous substances, more then 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.
- The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskiften, Annex III), see table.

# Indoor environment

The product meets the requirements for low emissions (M1) according to EN15251: 2007 Appendix E.

#### **Carbon footprint**

Carbon footprint has not been worked out for the product.

Bibliography	
ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	Environmental management - Life cycle assessment - Requirements and guidelines
EN 15804:2012+A1:2013	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
ISO 21930:2007	Sustainability in building construction - Environmental declaration of building products
ISO 14001: 2004	Environmental Management Systems - requirements with guidance for use
ISO 50001: 2011	Energy Management - requirements with guidance for use
EN 520: 2009	Gypsum plasterboards - Definitions, requirements and test methods
Ecoinvent	Ecoinvent v2.2 Database
The Norwegian EPD Foundation	NPCR 010 rev 1 - Building Boards, 2013
Gyproc, Central SHEAR	LCI/LCA report exemplefied by Gyproc® Normal – Standard Plasterboard Project Report

epd-norge.no	Program holder and publisher The Norwegian EPD Foundation	Phone:	+47 23 08 82 92
epd-norge.no	Post Box 5250 Majorstuen, 0303 Oslo	e-mail:	post@epd-norge.no
®	Norway	web	www.epd-norge.no
	Owner & Author of the declaration	Phone:	+46 702654569
<b>Gyproc</b>	Saint-Gobain Gyproc AS	E-mail:	malin.dalborg@saint-gobain.com
SAINT-GOBAIN	Habornveien 59, 1630 Gamle Fredrikstad	Web:	www.gyproc.no
SAINI-GOBAIN	Norway		