

## ENVIRONMENTAL PRODUCT DECLARATION

Gustafs designs and produces the Gustafs Linear System™ cautiously paying attention to both production and market demands. One of the primary objectives of the production is to achieve a high level of environmental friendliness where production methods, use of raw material and transports of both raw material and end-user applications are objectives taken into consideration.

The Gustafs Linear System™ consists of two elements; The linear Ribs and the mounting system.

### PRODUCT

Name	Gustafs Linear System™
Type	Fibre Gypsum Ribs, for covering walls and ceilings indoors
Manufacturer	Gustafs Scandinavia AB
Produced	In Gustafs, Sweden

### CONTENTS DECLARATION

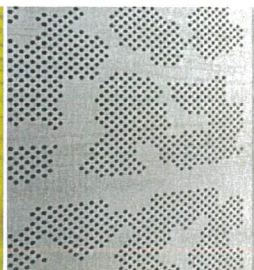
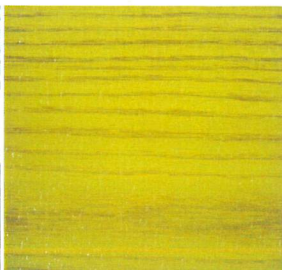
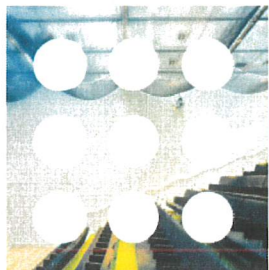
*(Content percentages in weight)*

Fibre Gypsum	Calcium sulphate 74,5%, CAS-nr: 10101-41-1, Classification NA Calcium carbonate 1,5%, CAS-nr: 471-34-1, Classification NA Cellulose 17%, CAS-nr: 9004-34-6, Classification NA Potato starch 0,4%, CAS-nr: -, Classification NA Silicon 0,4%, CAS-nr: -, Classification NA Water 1,5%, CAS-nr: 7732-18-5, Classification NA
Wood, veneer	3 %, CAS-nr: -, Classification NA
Adhesive	< 1 %, see below for further details
Lacquer	< 0,3 %, see below for further details

The raw material for the wooden parts GLS Ribs comes from suppliers located at a distance in the range of 20-280 km from the Gustafs factory and transport is carried out by road truck. The suppliers of the fibre gypsum material are located 1200 km from Gustafs.

### PRODUCT EMISSIONS

TVOC	160 µg/m²h, Chamber, SS-EN ISO 16000-9:2006
Formaldehyde	0,05 mg/m²h, Chamber, SS-EN ISO 16000-9:2006
Added Formaldehyde	No added formaldehyde during the production of the Ribs



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#### ADHESIVE SYSTEM

##### Chemical content

Propylene Carbonate 0,00002% (weight)  
CAS 34590-94-8 / Classification Xi, R36  
Aluminiumchlorid-Hexahydrat 0,00002% (weight)  
CAS 7784-13-6 / Classification C, R34  
AND  
o-(p-isocyanatbenzyl)fenyliisocyanat 0,0002% (weight)  
CAS 5873-54-1  
Classification Xn, R20, 40-48/20, R42/43, Xi, R36/37/38  
4,4'-metylendifenyldiisocyanat 0,00001% (weight)  
CAS 101-68-8  
Classification Xn, R20-40-48/20, R42/43, Xi, R36/37/38

#### LACQUER SYSTEM

##### Chemical content

Dipropylenglykolmonomethylether 0,00000000012% (weight)  
CAS 34590-94-8

#### INSTALLATION SYSTEM

##### Name

Capax

##### Material

Aluminium

##### Production

Extrusion

##### Dimensions

Ceiling, suspending profile L = 3100 mm  
Ceiling, distance profile L = 3120 mm  
Ceiling, rail joint L = 300 mm  
Wall, all profiles L = 2400 mm

All dimensions for all profiles and installation drawings can be downloaded from [gustafs.com/downloads](http://gustafs.com/downloads)

#### PRODUCTION ENERGI USE

100% of the energy used for the production of the Gustafs Ribs comes from renewable sources.

94-98% of the energy comes from water, in average 19,8 kWh/m<sup>2</sup> of installed Ribs.

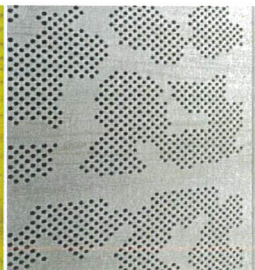
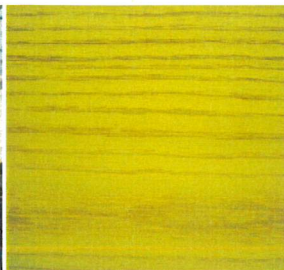
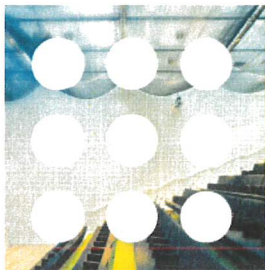
2-6% of the energy comes from wind, in average 0,2 kWh/m<sup>2</sup> of installed Ribs.

Bi-products of wood and paper are used for energy, mainly for heating.

#### PRODUCTION WASTE MANAGEMENT

Gypsum is disposed of in accordance with environmental regulations.

wood and paper waste are used for energy and heating of the factory.



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## PRODUCTION WORKING ENVIRONMENT

We take great care in our production to minimise our workers exposure to any possible hazardous environment. Our safety program takes into account injury threats from lifting heavy materials, exposure to potentially dangerous chemicals and machine operation procedures. Not only do we fulfil standards in working environment legislation but aspire to exceed, with a wide margin, the aims of the existing legislation by setting new higher standards for our working environment. This is achieved by participation of co-workers in regular safety inspections and meetings.

## FACTORY EMISSIONS, DISPOSAL AND HEATING

Existing emission to the air from gluing and lacquering is less than the stipulated concession agreement and the VOC emission is 0,043 kg/m<sup>2</sup> of installed Ribs.

Our factory environment is characterised by a high awareness of employee participation in material recycling. Throughout the factory there are clearly designated stations for selective material disposal. No refuse or disposal material leaves the factory unsorted or pre-designated. Despite a predetermined annual concession volume for controlled legal emission we aim to utilise under 60% the permissible emission volume of the limit. This can be achieved by using, where possible, lacquers and paint which are water-based or other have other environmentally acceptable solutions. The overall heating source of the factory is fed to a large extent with recycled wood and paper materials generated as spillage in the production. This not only contributes to reducing the need for alternative energy sources but also reduces the quantity of disposable refuse.

## DISTRIBUTION

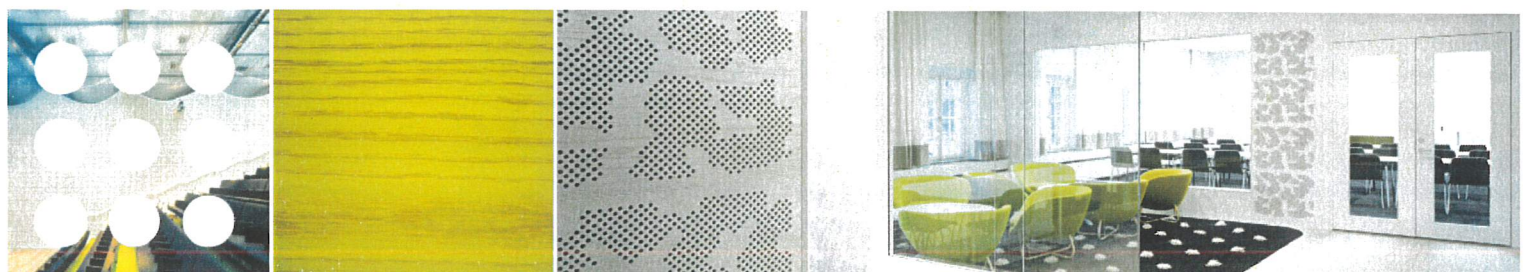
For transport of raw materials and finished products, car and boat transportation is used. Finished products are distributed directly to the building site. Packaging consists of wood and cardboard. Wood pallets are re-used.

## TRANSPORT AND PACKAGING

Our transport coordination partners for our in-coming and out-going goods are associated to us through a cost efficient logistic agreement. The agreement takes into consideration the total cost for fuel and energy in relationship the quantities transported. This relationship is reviewed annually in order to seek potentially better transport solutions and reduce the overall fuel and energy costs. All packaging materials used in association with transport are either re-useable or can be recycled.

## CONSTRUCTION

When fixing, there are no emissions harmful to the environment. The fixing is made with electrical hand tools. Any Gypsum and woodchip dust is collected and disposed of in accordance with environmental regulations.





## USAGE PHASE

No environmentally dangerous emissions occur when managing and maintaining Gustafs Linear System™. No energy is needed for the usage of the Ribs. The lifespan is estimated to more than 50 years.

## DEMOLITION AND BI-PRODUCTS

No environmentally dangerous emissions occur at demolition. When demounted, the aluminium profiles can be re-used. Wood batons are used for energy and Ribs are deposited.

## END USER

Gustafs Linear System™ is designed to fulfil the end users wishes of an aesthetic appearance and their need to reduce fire risk. Our product has an expected life span of 50 years or more. During that time the product will not contribute to any environmental contamination either through emissions or material break down. Due to the extremely low formaldehyde content of the constituent materials there are almost no measurable emissions over time. The natural woods and gypsum Ribs are of such a constitution and construction that there is no perceivable risk for material degeneration over the life span.

In the event of material disposal the Ribs can be safely ploughed into a waste disposal ground and the aluminium profiles recycled. No other materials are involved.

Ruben Krouwel

CEO

Gustafs, 20-08-2018

