

ENVIRONMENTAL AND BUILDING DECLARATION

DECORATIVE LAMINATE TYPE HGS, HGF AND HGP

CONTENTS

1 m², 0.8 mm thick decorative laminate
 type HGS, HGF and HGP weight 1050 g.

| | |
|------------------------|-------|
| Unbleached kraft paper | 530 g |
| White decor paper | 160 g |
| Phenolic resin | 200 g |
| Melamine resin | 160 g |

AREA OF USE

Decorative laminates are being used in the construction and furniture industry where high requirements are placed on the surface, e.g. design, durability, maintenance and moisture resistance. The decorative laminate is bonded to a carrier, e.g. a chip board and utilized as a decorative and resilient surface material. Formica Laminates are approved by the Swedish National Food Administration for the preparation of food stuffs.

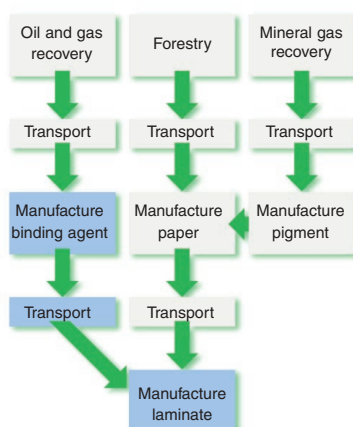
RAW MATERIALS

Raw materials of 1.8 kg weight are required to produce 1 m² decorative laminate. The values are from cradle to gate, shipping included. Emissions and waste are accounted in intervals to eliminate discrepancies between the different manufacturing sites.

| | |
|-----------------------------|-----|
| Renewable raw materials | 66% |
| Non-renewable raw materials | 34% |

Origin of raw materials

Material and haulages for the manufacture of decorative laminates are presented in aggregated form in the flowchart below. Raw materials are mainly purchased from companies in northern Europe and USA.



Blue squares indicate our own manufacture.

ENERGY CONSUMPTION

The energy consumption at the manufacture of 1 m² decorative laminate is approx. 40 MJ, distributed on:

| | |
|-------------|-----|
| Bio fuel | 31% |
| Natural gas | 22% |
| Electricity | 19% |
| Oil | 15% |
| Coal | 13% |

Emissions to water, g/m²

| | |
|---------------------|-----|
| COD | < 2 |
| Suspended materials | < 2 |
| BOD ₇ | < 1 |
| TOC | < 1 |
| Total nitrogen | < 1 |

Emissions to air, g/m²

| | |
|-------------------------|-----------|
| Carbon dioxide (fossil) | 1900–2700 |
| Organic compounds | 10–40 |
| Sulphur dioxide | < 15 |
| Nitrogen oxide | < 10 |
| Dust | < 2 |
| Carbon monoxide | < 1 |

Waste to landfill, g/m²

| | |
|-----------------|--------|
| Solid waste | 20–300 |
| Cinders and ash | < 7 |

PRODUCTION

Production sites

Finland, England and Spain.

Production process

The various layers of paper are impregnated with phenolic or melamine resin. During the subsequent pressing, the binding agents harden under high pressure and temperature. The end product is a decorative laminate with high physical and chemical resistance.

Production waste

Waste from the laminate manufacture is recovered as energy for the process.

DISTRIBUTION OF FINISHED PRODUCT

Packing

The packaging consists of corrugated paper, polythene film and plastic or metallic banding. In Sweden, Formica Skandinavien AB is a member of the REPA-register.

Carrier: Wooden pallet

Transport: Finished laminate is shipped on road or by sea freight.

THE BUILDING PHASE

The product should be protected against impact and shielded against weather.

THE USING PHASE

Decorative laminate is maintenance free except normal cleaning with water and a general detergent. The technical lifetime for most applications is 20 years.

DEMOLISHING

Decorative laminate is bonded to a carrier, e.g. wood or chipboard.

RESIDUAL PRODUCTS

Waste from construction and demolishing can be incinerated. At a complete combustion (distributed material >750°C, 5 s burning time) residual products comparable to the incineration of wood are formed. The energy content of 1 kg laminate is 20 MJ/kg, to be compared to the 13 MJ/kg of ordinary wood.

LANDFILL

The laminate is slowly degradable combined with ordinary household and industrial waste in a landfill.

INDOOR ENVIRONMENT

Allergenicity

Not applicable.

Emissions

The emissions of formaldehyde from a finished laminate product is < 0.04 mg/m³. This is to be compared with the limit of 0.13 mg/m³ for chip boards class E1. Other emissions of organic compounds are less than 20 µg/m²h, and no other single compound emits more than 5 µg/m²h.

Requirements on surrounding building materials

Not applicable.

Maintenance: Free.

Sound levels: Not applicable.

Magnetic and electric fields

Not applicable.

COMPANY INFORMATION

Formica Skandinavien AB
 Florettgatan 22, SE-254 67 Helsingborg
 Phone +46 40 61 11 00, Fax +46 40 61 11 01
 info@sverige.formica.com
 www.formica.com

ENVIRONMENTAL AND BUILDING DECLARATION

DECORATIVE LAMINATE TYPE CGS, CGF, EG OCH EGF (COMPACT)

CONTENTS

1 m² 5.2 mm thick white decorative laminate type CGS, CGF, EG och EGF, weight 7.3 kg.

| | |
|----------------------------------|---------------|
| Unbleached kraft paper | 5.0 kg |
| White decor paper | 0.3 kg |
| Phenolic resin (hardened) | 1.7 kg |
| Melamine resin (hardened) | 0.3 kg |

AREA OF USE

Decorative laminates type CGS, also called Compact, are being used in the construction and furniture industry where high requirements are placed on hygiene and moisture resistance, mechanical resistance, e.g. wall panelling in wet areas, house sidings and worktops in laboratories.

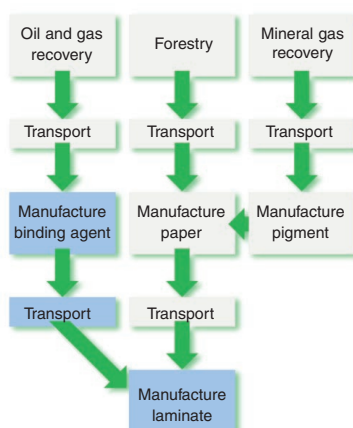
RAW MATERIALS

Raw materials of 9 kg weight are required to produce 1 m² compact laminate. The values are from cradle to gate, shipping included. Emissions and waste are accounted in intervals to eliminate discrepancies between the different manufacturing sites.

| | |
|------------------------------------|------------|
| Renewable raw materials | 73% |
| Non-renewable raw materials | 27% |

Origin of raw materials

Material and haulages for the manufacture of decorative laminates are presented in aggregated form in the flowchart below. Raw materials are mainly purchased from companies in northern Europe and USA.



Blue squares indicate our own manufacture.

ENERGY CONSUMPTION

The energy consumption at the manufacture of 1 m² decorative laminate is approx. 240 MJ, distributed on:

| | |
|-------------|-----|
| Bio fuel | 31% |
| Oil | 27% |
| Electricity | 22% |
| Natural gas | 10% |
| Coal | 10% |

Emissions to water, g/m²

| | |
|---------------------|------|
| COD | < 20 |
| Suspended materials | < 20 |
| BOD ₇ | < 8 |
| Total nitrogen | < 2 |

Emissions to air, g/m²

| | |
|------------------------|-------------|
| Carb. dioxide (fossil) | 15000–20000 |
| Organic compounds | 70–250 |
| Sulphur dioxide | < 90 |
| Nitrogen oxide | < 60 |
| Dust | < 20 |
| Carbon monoxide | < 10 |

Waste to landfill, g/m²

| | |
|-----------------|-----------|
| Solid waste | 200–1 500 |
| Cinders and ash | <40 |

PRODUCTION

Production sites

Finland, England and Spain.

Production process

The various layers of paper are impregnated with phenolic or melamine resin. During the subsequent pressing, the binding agents harden under high pressure and temperature. The end product is a decorative laminate with high physical and chemical resistance.

Production waste

Waste from the laminate manufacture is recovered as energy for the process.

DISTRIBUTION OF FINISHED PRODUCT

Packing

The packaging consists of corrugated paper, polythene film and plastic or metallic banding. In Sweden, Formica Skandinavien AB is a member of the REPA-register.

Carrier: Wooden pallet.

Transport: Finished laminate is shipped on road or by sea freight.

THE BUILDING PHASE

The product should be protected against impact and shielded against weather.

THE USING PHASE

Decorative laminate is maintenance free except normal cleaning with water and a general detergent. The technical lifetime for most applications is 20 years.

DEMOLISHING

Decorative laminate type CGS, CGF, EG och EGF consists of a compact sheet of laminate.

RESIDUAL PRODUCTS

Waste from construction and demolishing can be incinerated. At a complete combustion (distributed material >750°C, 5 s burning time) residual products comparable to the incineration of wood are formed. The energy content of 1 kg laminate is 20 MJ/kg, to be compared to the 13 MJ/kg of ordinary wood.

LANDFILL

The laminate is slowly degradable combined with ordinary household and industrial waste in a landfill.

INDOOR ENVIRONMENT

Allergenicity

Not applicable.

Emissions

The emissions of formaldehyde from a finished laminate product is < 0.04 mg/m³. This is to be compared with the limit of 0.13 mg/m³ for chip boards class E1.

Requirements on surrounding building materials

Not applicable.

Maintenance: Free.

Sound levels: Not applicable.

Magnetic and electric fields

Not applicable.

COMPANY INFORMATION

Formica Skandinavien AB
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 Phone +46 40 41 11 00, Fax +46 40 41 11 01
 info@formica.com
 www.formica.com

ENVIRONMENTAL AND BUILDING DECLARATION

FORMICA ORIGINAL WORKTOP

CONTENTS

1 m² 30 mm thick Formica ORIGINAL Worktop (20.9 kg).

| | |
|--------------------------------------|----------------|
| Decorative lam. (type HGP) | 1.0 kg |
| Chipboard (E1-standard) | 19.5 kg |
| Backing veneer (reverse side) | 0.2 kg |
| Glue (polyvinylacetate) | 0.2 kg |

AREA OF USE

Formica Original Worktop is used where high requirements are placed on a hygienic working area, wear resistance and spots. The worktop is approved by the Swedish National Food Administration for the preparation of food stuffs and is used as worktop in industrial areas and in dwellings.

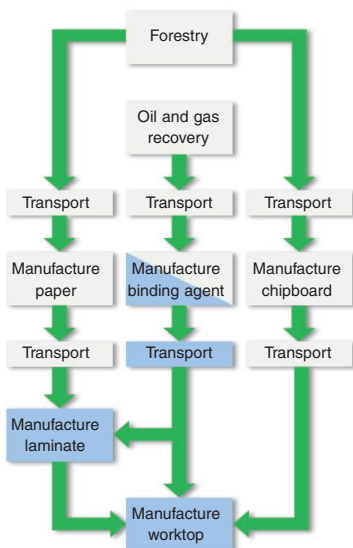
RAW MATERIALS

Raw materials of 54 kg weight are required to produce 1 m² worktop. The values are from cradle to gate, shipping included. Emissions and waste may vary between the different manufacturing sites. The highest value is accounted.

| | |
|------------------------------------|------------|
| Renewable raw materials | 84% |
| Non-renewable raw materials | 16% |

Origin of raw materials

Material and haulages for the manufacture of decorative laminates are presented in aggregated form in the flowchart below. Raw materials are mainly purchased from companies in northern Europe and USA.



Blue squares indicate our own manufacture.

ENERGY CONSUMPTION

The energy consumption at the manufacture of 1m² Formica Original Worktop is approx. 260 MJ, distributed on:

| | |
|-------------|-----|
| Bio fuel | 80% |
| Natural gas | 10% |
| Electricity | 5% |
| Oil | 5% |

Emissions to water, g/m²

| | |
|---------------------|-----|
| COD | <10 |
| Total nitrogen | < 7 |
| Suspended materials | < 3 |
| BOD ₇ | < 3 |
| TOC | < 2 |

Emissions to air, g/m²

| | |
|-------------------------|---------|
| Carbon dioxide (fossil) | < 13000 |
| Nitrogen oxides | < 70 |
| Organic compounds | < 30 |
| Sulphur dioxide | < 30 |
| Dust | < 30 |
| Carbon monoxide | < 20 |

Waste to landfill, g/m²

| | |
|-----------------|-------|
| Solid waste | < 500 |
| Cinders and ash | < 80 |

PRODUCTION

Production sites

Sweden, Finland and England.

Production process

At the manufacture, a surface layer of decorative laminate is bonded to the chipboard's upside and a water resistant backing veneer to the board's downside. A water dispersible polyvinylacetate glue is used for the bonding process. The decorative laminate consists of layers of paper impregnated with phenolic or melamine resin. During the subsequent pressing, the binding agents harden under high pressure and temperature. The end product is a decorative laminate with high physical and chemical resistance.

Production waste

Waste from the manufacture is recovered as energy for the process. Glue waste is returned to the source.

DISTRIBUTION OF FINISHED PRODUCT

Packing: The packaging consists of corrugated paper, polythene film and plastic or metallic banding. In Sweden, Formica Skandinavien AB is a member of the REPA-register.

Carrier: Wooden pallet

Transport: Finished worktops are shipped on road or by sea freight.

THE BUILDING PHASE

The product should be protected against impact and shielded against weather.

THE USING PHASE

The worktop is maintenance free except normal cleaning with water and a general detergent. The technical lifetime for most applications is 20 years.

DEMOLISHING

The worktop consists of a chipboard with decorative laminate bonded to the upside and backing veneer to the downside.

RESIDUAL PRODUCTS

Waste from construction and demolishing can be incinerated. At a complete combustion (distributed material >750°C, 5 s burning time) residual products comparable to the incineration of wood are formed. The energy content of 1 kg worktop is 20 MJ/kg, to be compared to the 13 MJ/kg of ordinary wood.

LANDFILL

The worktop is slowly degradable combined with ordinary household and industrial waste in a landfill.

INDOOR ENVIRONMENT

Allergenicity

Not applicable.

Emissions

The emissions of formaldehyde from a finished laminate product is < 0.05 mg/m³. This is to be compared with the limit of 0.13 mg/m³ for chip boards class E1. Other emissions of organic compounds are less than 20 µg/m²h, and no other single compounds emits more than 5 µg/m²h.

Requirements on surrounding building materials

Not applicable.

Maintenance: Free.

Sound levels: Not applicable.

Magnetic and electric fields

Not applicable.

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