

# Environmental Product Declaration

## General pallet collar

### The Company

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Nefab Production Runemo AB is  
 - licensed under the Swedish  
 Environmental Protection Act  
 - a member of a packaging collection ass.  
 - is certified according to ISO 9001.  
 - is certified according to ISO 14001.

### The Product

This EPD relates to NEFAB RePak, type-P a dimensionally flexible, lightweight pallet collar system that provides excellent volume utilization and ergonomically compatible handling for transportation between parties with continuous flows of goods. The product is based on steel components custom-designed and manufactured by Nefab, including hinges that clamp together the sheat-material (usually plywood). The containers are designed to withstand years of handling in logistic systems. Service lives of more than 100 cycles have been reported. The packing of the product is made with a wooden crate, stretchable film, reusable packing from Nefab or according to the costumers specifications.

This EPD is allocated per kg packing. The packing in this EPD is produced by Nefab Production Runemo AB, Sweden.

Materials	kg/kg packaging
Plywood * exterior	0,86
Steelstrip	0,14
Wood**	-
Adhesives	-
Paint	-
Lac	-
Polyethen	-
Spanseth	-
Felt/plastic innerpackaging	-
<b>Total</b>	<b>1,00</b>

\* Moisture content ca 7%

\*\* Moisture content ca 18 %

- not a part of product declared

### Transportation

Plywood, steel and wood account for more than 98% of transportation in tonkm, consequently only the requirements for transporting these goods to NPR, Sweden are reported.

(Local <30 km, regional 30-100 km and long distans >100 km.)

Mode of transp.	tonkm/kg pack.
Train	1,10
Car, local	0,00
Car, regional	-
Car, long distance	0,44
Ship	0,19
Aeroplane	-

### Recovery

#### Reuse

NEFAB RePak is designed to be reused a large number of times.

#### Recycling

After careful disassembly the plywood sides may be reused.  
 Metal waste may be converted.

#### Energy recovery

Products which have served their time may be devided into wood and metal components and the wood can be used as fuel in sufficient ovens. Due to its low moisture content (ca 7 %) this fuel has a higher calorific value than ordinary wood fuel (moisture content ca 20%).

Landfill is not a recycling option and should be avoided.

### Environmental profile

This environmental profile applies to a NEFAB RePak, type-P, a flexible, collapsible pallet collar as described above produced at the Mantorp plant. Emission data includes internal transportation and energy use. Data is allocated per kg of product produced at the Mantorp plant. Emission data from several suppliers are not available and consequently are not included in the environmental profile.

### Emission to air (1,2,3)

	g/kg packing
CO <sub>2</sub>	20,14
CO	0,06
HC	0,02
NO <sub>x</sub>	0,23
SO <sub>2</sub>	0,02
VOC	0,04
Particles	0,01

### Emission to ground and water

In the production NPR does not generate any direct emission to ground water.

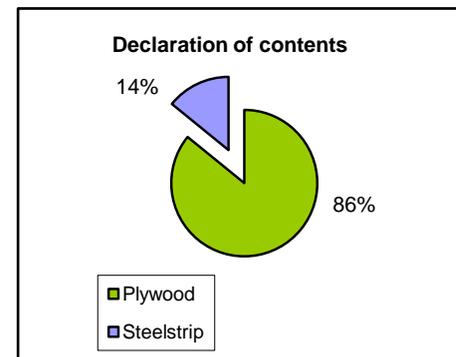
### Waste management

	g/kg packing
Ashes <sup>1</sup>	0,15
Hazardous waste <sup>2</sup>	4,19
Ind. waste unsorted <sup>1</sup>	7,58
Ind. waste combustible <sup>3</sup>	2,64
Wood <sup>3</sup>	109,82
Steel <sup>4</sup>	21,61

<sup>1</sup> to landfill, <sup>2</sup> to licensed custody  
<sup>3</sup> to comb. in heating plant, <sup>4</sup> to conversion

### Energy use

	MJ/kg packing
Oil	0,02
Diesel	0,10
Biofuel	0,15
El. (Swedish mix)	0,88
<b>Total</b>	<b>1,14</b>



### References

Calculations are based on internal data from 1997 and on the following Swedish publications:

- (1) SPF, Emissionsmätning vid eldning av bark o. plywood vid Bollnäs Värmeverksanl. i Arbrå, Sveriges Provnings- och Forskningsinst., 1995
- (2) SNV, Luftföroreningar från arbetsfordon - Handlingslinjer, Statens Naturvårdsverk, Rapport 3765, 1990
- (3) EDB Väst, Dokumentation av Emissionsdatabasen för utsläpp till luft, Länsstyrelsen i Göteborgs och Bohus län, 1994