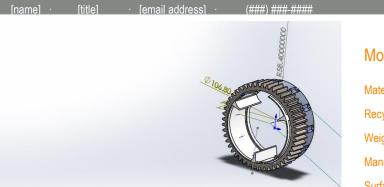
[company logo here]



[city, state here] [company url here] [company name here]



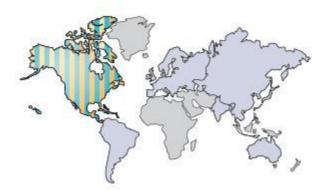
Backing and Gear 2(3) Model Name:

Material: Acrylic (Medium-high impact)

Recycled content: 0.00 % Weight: 97.91 g

Manufacturing process: Injection Molded Surface Area: 64932.55 mm²

Built to last: 1.0 year Duration of use: 1.0 year



Manufacturing Region

The choice of manufacturing region determines the energy sources and technologies used in the modeled material creation and manufacturing steps of the product's life cycle.

Use Region

The use region is used to determine the energy sources consumed during the product's use phase (if applicable) and the destination for the product at its end-of-life. Together with the manufacturing region, the use region is also used to estimate the environmental impacts associated with transporting the product from its manufacturing location to its use location.

Summary

Learn more about Life Cycle Assessment 🧼

Model Name:

Backing and Gear 2(3)

Material:

Acrylic (Medium-high impact)

Weight: Surface Area: 97.91 g 64932.55 mm² Manufacturing process: Injection Molded

Recycled content:

0.00 %

Built to last:
Duration of use:

1.0 year 1.0 year

Material

Acrylic (Medium-high

impact)

0.00 %

Material Unit Cost

2.80 USD/kg

Manufacturing

Region:

Process:

North America Injection Molded 1.8E-3 kWh/lbs

Electricity consumption: 1.8E-3 kWh/lk Natural gas consumption: 0.00 BTU/lbs

Scrap rate: 2.0 %
Built to last: 1.0 year
Part is painted: No Paint

Use

Region:
Duration of use:

North America

1.0 year

Transportation

Truck distance: 2600 km
Train distance: 0.00 km
Ship distance: 0.00 km

Airplane Distance:

0.00 km

End of Life

Recycled: 33 % Incinerated: 13 % Landfill: 54 %

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Model Name:

Backing and Gear 2(3)

Material:

Acrylic (Medium-high impact)

Surface Area:

64932.55 mm²

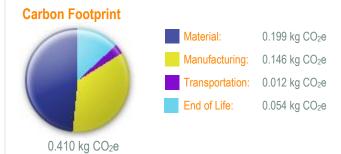
Injection Molded

Recycled content:

0.00 %

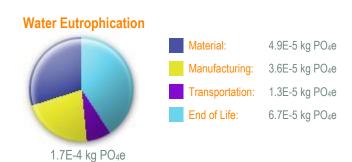
Built to last:
Duration of use:
1.0 year

Environmental Impact (calculated using CML impact assessment methodology)









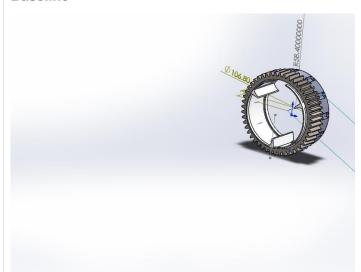
Material Financial Impact 0.30 USD

Comments

Click here for alternative units such as 'Miles Driven in a Car'



Baseline



Model Name: Backing and Gear 2(3)

Material: Polyether Polyol

Recycled content: 0.00 % Weight: 98 g

Manufacturing process: Injection Molded

Surface Area: 64932.55 mm²

Built to last: 1.0 year

Duration of use: 1.0 year



Manufacturing Region

The choice of manufacturing region determines the energy sources and technologies used in the modeled material creation and manufacturing steps of the product's life cycle.

Use Region

The use region is used to determine the energy sources consumed during the product's use phase (if applicable) and the destination for the product at its end-of-life. Together with the manufacturing region, the use region is also used to estimate the environmental impacts associated with transporting the product from its manufacturing location to its use location.

Comments

Backing and Gear 2(3)

Material:

Polyether Polyol

Weight: Surface Area: 98 g 64932.55 mm² Manufacturing process: Injection Molded

Recycled content:

0.00 %

Built to last:

1.0 year

Material

Region:

Polyether Polyol

Duration of use:

1.0 year

Material Unit Cost

Not Defined

Manufacturing

Asia

Process: Electricity consumption:

Injection Molded 1.8E-3 kWh/lbs Natural gas consumption: 0.00 BTU/lbs Scrap rate:

Built to last: Part is painted: 1.0 year

2.0 %

No Paint

0.00 km

Truck distance: Train distance:

Transportation

0.00 km Ship distance: 1.2E+4 km Airplane Distance: 0.00 km

Use

0.00 %

Region:

North America

Duration of use:

1.0 year

End of Life

Recycled: Incinerated:

33 % 13 %

Landfill:

54 %

Comments

SOLIDWORKS

Sustainability Report Backing and Gear 2(3) Material: Polyether Polyol Weight: 98 g Manufacturing process: Surface Area: 64932.55 mm² Injection Molded Recycled content: Built to last: 1.0 year 0.00 % Duration of use: 1.0 year Original Design: New Design: **Environmental Impact Comparison** Better Baseline Worse **Carbon Footprint - Comparison Total Energy Consumed - Comparison** Acrylic (Medium-high impact): 0.410 kg CO2e Acrylic (Medium-high impact): 6.4 MJ Total Total Polyether Polyol: 1.2 kg CO₂e Polyether Polyol: 16 MJ **Air Acidification - Comparison Water Eutrophication - Comparison** Acrylic (Medium-high impact): 1.4E-3 kg SO₂e Acrylic (Medium-high impact): 1.7E-4 kg PO₄e Total Total Polyether Polyol: 4.7E-3 kg SO₂e Polyether Polyol: 6.6E-4 kg PO₄e **Material Financial Impact** 0.30 USD Not Defined Comparison Comments

Click here for alternative units such as 'Miles Driven in a Car'



Sustainability Report





Glossary

Air Acidification - Sulfur dioxide, nitrous oxides other acidic emissions to air cause an increase in the acidity of rainwater, which in turn acidifies lakes and soil. These acids can make the land and water toxic for plants and aquatic life. Acid rain can also slowly dissolve manmade building materials such as concrete. This impact is typically measured in units of either kg sulfur dioxide equivalent (SO₂), or moles H+ equivalent.

Carbon Footprint - Carbon-dioxide and other gasses which result from the burning of fossil fuels accumulate in the atmosphere which in turn increases the earth's average temperature. Carbon footprint acts as a proxy for the larger impact factor referred to as Global Warming Potential (GWP). Global warming is blamed for problems like loss of glaciers, extinction of species, and more extreme weather, among others.

Total Energy Consumed - A measure of the non-renewable energy sources associated with the part's lifecycle in units of megajoules (MJ). This impact includes not only the electricity or fuels used during the product's lifecycle, but also the upstream energy required to obtain and process these fuels, and the embodied energy of materials which would be released if burned. Total Energy Consumed is expressed as the net calorific value of energy demand from non-renewable resources (e.g. petroleum, natural gas, etc.). Efficiencies in energy conversion (e.g. power, heat, steam, etc.) are taken into account.

Water Eutrophication - When an over abundance of nutrients are added to a water ecosystem, eutrophication occurs. Nitrogen and phosphorous from waste water and agricultural fertilizers causes an overabundance of algae to bloom, which then depletes the water of oxygen and results in the death of both plant and animal life. This impact is typically measured in either kg phosphate equivalent (PO₄) or kg nitrogen (N) equivalent.

Life Cycle Assessment (LCA) - This is a method to quantitatively assess the environmental impact of a product throughout its entire lifecycle, from the procurement of the raw materials, through the production, distribution, use, disposal and recycling of that product.

Material Financial Impact - This is the financial impact associated with the material only. The mass of the model is multiplied by the financial impact unit (units of currency/units of mass) to calculate the financial impact (in units of currency).

Learn more about Life Cycle Assessment





