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Model Name: Modular Gamepad

Material: Recycled plastic

Recycled content: 83.0 %

Weight: 352.76 g

Manufacturing process: Custom

34552.34 mm² Surface Area:

Built to last: 5.0 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 🧼



Sustainability Report

Model Name:

Modular Gamepad

Material:

Recycled plastic

Weight: Surface Area: 352.76 g

Manufacturing process:

Injection Molded

Recycled content:

Not Defined

83.00 %

Built to last: Duration of use: 34552.34 mm² 5.0 year

5.0 year 1.0 year

Material Recycled plastic 83.00 %

Material Unit Cost

Manufacturing Use

Region: Asia Process: Custom

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

Scrap rate: 2.0 % Built to last: 5.0 year

Part is painted: Yes (Powder Coated)

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Region:
Duration of use:

Europe

1.0 year

Transportation

Truck distance: 78 km
Train distance: 0.00 km
Ship distance: 1.6E+4 km
Airplane Distance: 0.00 km

End of Life

Recycled: 83 % Incinerated: 12 % Landfill: 5.0 %

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Sustainability Report

Modular Gamepad

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83.00 %

Built to last: Duration of use: 5.0 year 1.0 year

Environmental Impact (calculated using CML impact assessment methodology)

Carbon Footprint



Material: Manufacturing:

Transportation:

End of Life:

0.573 kg CO₂e

0.801 kg CO₂e 0.015 kg CO₂e

0.068 kg CO₂e

Total Energy Consumed

26 MJ



Material: 18 MJ

Manufacturing: 7.4 MJ

Transportation: 0.192 MJ

End of Life: 0.052 MJ

Air Acidification



0.013 kg SO₂e

- Material: 1.9E-3 kg SO₂e
- Manufacturing: 0.011 kg SO₂e
- Transportation: 4.6E-4 kg SO₂e
- End of Life: 5.0E-5 kg SO₂e

Water Eutrophication



6.7E-4 kg PO₄e

- Material: 1.8E-4 kg PO₄e
- Manufacturing: 4.2E-4 kg PO₄e
- Transportation: 4.5E-5 kg PO₄e
- End of Life: 3.1E-5 kg PO₄e

Material Financial Impact Not Defined

Comments

SOLIDWORKS





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 🧼





