

Laptop

Product Category: Electronics

Specifications:

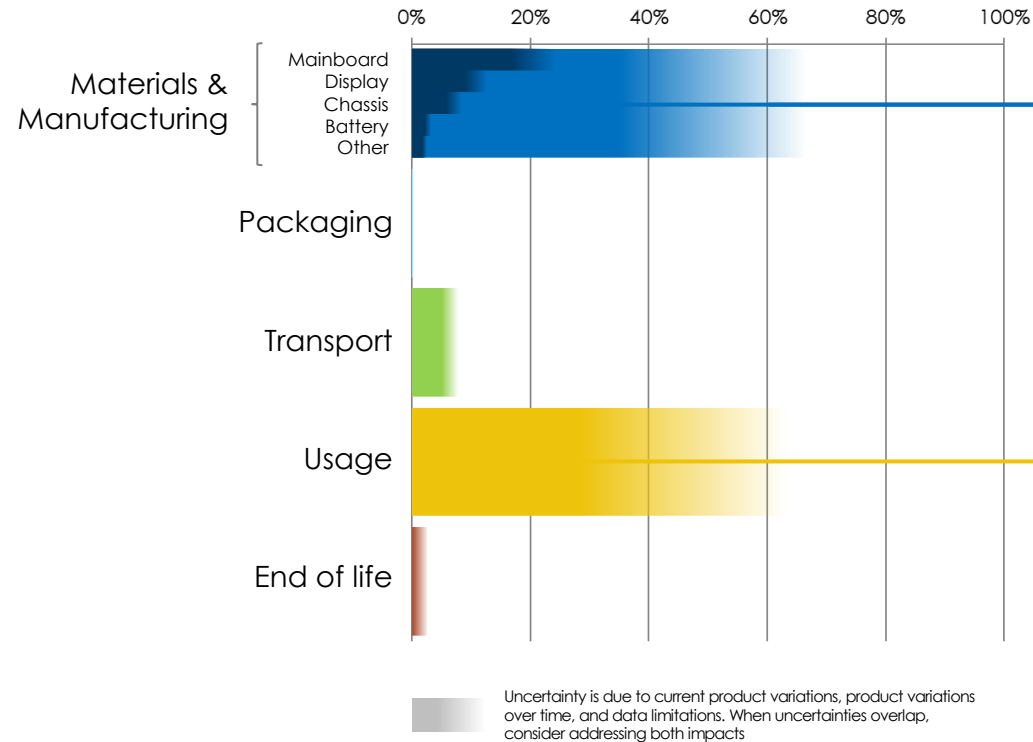
- 15" LCD Screen
- 1.5 – 2.5 GHz CPU
- 500 MB – 1.5 TB Hard drive
- Weight: 5 – 8 lbs

Lifetime: 2 – 4 years

Usage: 4 – 6 hrs use, 18 – 20 hrs idle per day

Functional Unit: Impact per hour of usage

Lifetime impact by percent



Sustainable Design Strategies

Design for durability
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Design for repair, upgrade, and recycling
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Design for energy efficiency
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Data from:

- Tekwawa, M., Miyamoto, S., & Inaba, A. (1997, May). Life cycle assessment; an approach to environmentally friendly PCs. *Proceedings of the 1997 IEEE International Symposium on Electronics and the Environment. ISEE-1997* (pp. 125-130). IEEE. <https://doi.org/10.1109/ISEE.1997.605287>
- IVF (2007) European Commission DG TREN Preparatory studies for eco-design requirements of EuPs. IVF Report 07004. Laptop used in office.
- O'Connell, S., & Stutz, M. (2010, May). Product carbon footprint (PCF) assessment of Dell laptop-Results and recommendations. *Proceedings of the 2010 IEEE international symposium on sustainable systems and technology* (pp. 1-6). IEEE.
- Deng, L., Babbitt, C. W., & Williams, E. D. (2011). Economic-balance hybrid LCA extended with uncertainty analysis: case study of a laptop computer. *Journal of Cleaner Production*, 19(11), 1198-1206.
- Apple (2019, May). MacBook Pro 15-inch Environmental Report. Retrieved February 6, 2020 from https://www.apple.com/environment/pdf/products/notebooks/15-inch_MacBookPro_PER_may2019.pdf
- Missing data on packaging in some publications supplemented by calculations using the Idemat 2020 and Ecolvent 3-5 database.