Environmental Product Declaration

10500 Series™ 3-Drawer Pedestal

Product Description

Find a multi-purpose storage solution with this three-drawer Pedestal. Featuring two box drawers for supplies, one file drawer for documents, and casters for quick and easy room rearrangement, this pedestal fits into any desk, return or credenza shell, and can be moved anywhere in the workstation.

Functional Unit

The primary function of HON® 10500 Series 3-Drawer Pedestal is to store office-based materials and supplies in an office setting. As a storage device with retractable storage areas (3 drawers), the functional unit is 0.15m³ of storage capacity, serving the function of storage for a 10-year period. The 3-Drawer Pedestal provides a total storage capacity of 0.056m³. The reference flow for the modeling system is one complete storage unit and the results are normalized to 0.15m³ of storage capacity.

About HON

We're inspired by the way you work — and the ways that's changing.

The technology you use. The chair you sit in. And the spaces you choose to get it all done. Because the way you work inspires our work. We're dedicated to design and devoted to budget. We believe that well designed office furniture not only looks great, but makes you and your workers feel great, too. That's why everything we build is designed with purpose and motivated by change. Our products are simple, affordable and do exactly what they're meant to — day in and day out — to help you work smarter, work better and work your way.

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EPD Program Operator

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Product Category Rule

BIFMA PCR for Storage: UNCPC 3812
June 30, 2021

EPD Number and Period of Validity

SCS-EPD-06356
September 4, 2020 through
September 3, 2025

HON®

Declaration Owner:	The HON Company
Address:	200 Oak Street, Muscatine, IA 52761
Declaration Number:	SCS-EPD-06356
Declaration Validity Period:	September 4, 2020 through September 3, 2025
Program Operator:	SCS Global Services
Declaration URL Link:	https://www.scsglobalservices.com/certified-green-products-guide
LCA Practitioner:	Lila Taheraly and Aditi Suresh
LCA Software:	OpenLCA v1.9
Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071	☐ Internal ☑ External
LCA Reviewer:	Tom Gloria, PhD, Industrial Ecology Consultants
Product Category Rule:	BIFMA PCR for Storage: UNCPC 3812
PCR Review conducted by:	Thomas P. Gloria, Ph.D. (Chair), Industrial Ecology Consultants
Independent verification of the declaration and data, according to ISO 14025 and the PCR	☐ Internal ☑ External
EPD Verifier:	Tom Gloria, PhD, Industrial Ecology Consultants
Declaration Contents:	

Disclaimers: This EPD conforms to ISO 14025, 14040, and 14044.

Scope of Results Reported: The PCR requirements limit the scope of the LCA metrics such that the results exclude environmental and social performance benchmarks and thresholds, and exclude impacts from the depletion of natural resources, land use ecological impacts, ocean impacts related to greenhouse gas emissions, risks from hazardous wastes and impacts linked to hazardous chemical emissions.

Accuracy of Results: Due to PCR constraints, this EPD provides estimations of potential impacts that are inherently limited in terms of accuracy.

Comparability: The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

Product Specifications

HON's 10500 Series™ 3-Drawer Pedestal includes two box drawers for supplies, and one file drawer for documents. Quick and easy to move within a workstation or between workstations. Premium, multi-ply laminate stands up to scratches, spills, stains and boiling liquids, and holds up under heavy use. Metal-to-metal fastening system for precise fit and unsurpassed durability. Durable inner-frame construction stands up to the stress of frequent moving and relocation. Concealed drawer handles for an uncluttered look. Fully assembled and ready to use; no need to fasten to desk shell. Casters promote quick and easy room rearrangement. Standard counterweight helps stabilize the center of gravity when a drawer is opened.

The HON® 10500 Series 3-Drawer Pedestal, assembled at the Oak Laminate facility in Muscatine, Iowa, is primarily constructed using particleboard, steel, fiberboard, zinc, plastic and adhesives. The HON® 10500 Series 3-Drawer Pedestal passes the ANSI/BIFMA X5.9 tests, demonstrating a minimum expected lifetime of 10 years under specified conditions. This unit contains 5% post-consumer and 72% pre-consumer recycled content.

Table 1. The HON 10500 Series™ 3-Drawer Pedestal product information.

Product Dimensions (W x D x H)	Storage Volume (m^3)	Number of Storage Units to Fulfill the Functional Unit
15.6” x 22.8” x 28”	0.056	2.69

Materials Composition

Table 2. Material composition of the 10500 Series™ 3-Drawer Pedestal. Results are shown on a mass basis and as a percent of total.

Material Classification	(kg/unit)	(kg/ Functional Unit[1])	Percent of Total
Particleboard	31	82	80%
Steel	4.5	12	12%
Medium Density Fiberboard (MDF)	1.3	3.4	3.3%
Galvanized Steel	1.2	3.1	3.0%
Plastic	0.46	1.2	1.2%
Zinc	0.22	0.58	0.6%
Adhesive	0.08	0.21	0.2%
Wood	0.08	0.22	0.2%
Thermally Fused Laminate (TFL)	0.003	0.004	0.004%
Total	**38**	**103**	**100%**

[1]The Functional Unit is defined as 0.15m^3 of storage capacity for a ten-year period.

Table 3. Packaging material composition of 10500 Series™ 3-Drawer Pedestal. Results are shown on a mass basis, and as a percent of total.

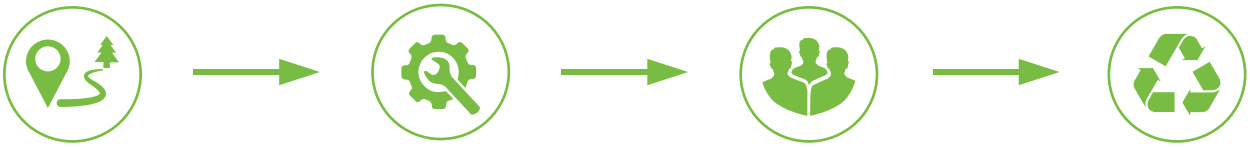
Packaging Material	(kg/unit)	(kg/ Functional Unit[1])	Percent of Total
Paper/Corrugated Paperboard	2.4	6.3	76%
Sticker Paper	0.02	0.05	1%
Adhesive	0.71	1.9	23%
Polyethylene Foam	0.02	0.05	1%
Total Packaging	**3.1**	**8.4**	**100%**

[1]The Functional Unit is defined as 0.15m^3 of storage capacity for a ten-year period.

Life Cycle Assessment Stages

Figure 1 below is a representation of the life cycle of the 10500 Series™ 3-Drawer Pedestal. The system boundary is cradle-to-grave and includes resource extraction and processing, product manufacture and assembly, distribution/transport, use and maintenance, and end-of-life.

Figure 1. Life cycle diagram for HON 10500 Series™ 3-Drawer Pedestal.



Materials

This stage includes raw materials extraction and transformation, as well as transport of parts and semi-manufactured parts to the production site in Muscatine, Iowa.

Production

Some raw materials are transformed and finished. All manufactured and supplied parts are assembled. Final products are packaged for shipment.

Delivery, Installation & Use

Transport from Muscatine to the final customer. For this EPD, transportation to major US markets were considered. Use, maintenance, and regular cleaning of the product over the 10 year period was included. HON recommends cleaning with low-impact materials and our products typically require minimal maintenance during their warranted lifetime.

End of Life

HON designs its products to be easily disassembled and recycled. End of life impacts were considered, including transport to waste treatment and recycling facilities. Emissions considered include disposal of product in a landfill or from incineration.

Life Cycle Inventory

The life cycle inventory (LCI) flows by life cycle stage of the 10500 Series™ 3-Drawer Pedestal are shown in Tables 4-8.

Table 4. Average air emissions by life cycle stage for the the 10500 Series™ 3-Drawer Pedestal. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Sulfur Dioxide (SO_2)	kg	**0.40**	0.25	0.14	9.8×10^{-3}	2.1×10^{-3}
Nitrogen Oxides (NO_x)	kg	**0.43**	0.30	9.5×10^{-2}	3.0×10^{-2}	7.7×10^{-3}
Carbon Dioxide, fossil (CO_2)	kg	**169**	104	56	6.7	1.5
Carbon Dioxide, biogenic (CO_2)	kg	**43**	17	7.8	4.3×10^{-2}	18
Methane (CH_4)	kg	**0.62**	0.32	0.16	4.9×10^{-3}	0.13
Nitrous Oxide (N_20)	kg	**4.9×10^{-3}**	2.5×10^{-3}	2.0×10^{-3}	1.5×10^{-4}	2.2×10^{-4}
Carbon Monoxide (CO)	kg	**0.70**	0.63	4.7×10^{-2}	1.4×10^{-2}	4.9×10^{-3}

Table 5. Water emissions by life cycle stage for the 10500 Series™ 3-Drawer Pedestal. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Phosphates	kg	**0.42**	0.20	0.22	1.7×10^{-3}	8.1×10^{-4}
Nitrates	kg	**0.15**	4.9×10^{-2}	8.9×10^{-2}	8.3×10^{-4}	7.5×10^{-3}
Dioxin	kg	**-**	-	-	-	-
Arsenic	kg	**1.2×10^{-3}**	8.9×10^{-4}	3.0×10^{-4}	5.9×10^{-6}	2.9×10^{-5}
Lead	kg	**1.8×10^{-2}**	6.5×10^{-3}	9.3×10^{-3}	5.1×10^{-5}	2.5×10^{-3}
Mercury	kg	**5.2×10^{-5}**	1.2×10^{-5}	2.4×10^{-5}	1.3×10^{-7}	1.6×10^{-5}
Cadmium	kg	**4.3×10^{-6}**	3.7×10^{-6}	5.0×10^{-7}	7.0×10^{-8}	2.6×10^{-8}
Chromium	kg	**4.8×10^{-3}**	3.1×10^{-3}	1.6×10^{-3}	2.6×10^{-5}	2.7×10^{-5}

Life Cycle Inventory (continued)

Table 6. Average water usage by life cycle stage for the 10500 Series™ 3-Drawer Pedestal. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Water Consumption	kg	**4,100**	1,700	2,400	21	5

Table 7. Average energy usage by life cycle stage for the 10500 Series™ 3-Drawer Pedestal. Results are shown in MJ per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Primary Energy Demand	MJ	**3,300**	2,300	880	105	19
Fossil Fuels	MJ	**1,800**	1,100	630	100	18
Nuclear	MJ	**500**	360	140	1.6	0.5
Renewable Energy	MJ	**940**	820	110	1.2	0.32
Miscellaneous Fuels	MJ	**0.2**	0.1	0.1	0.03	1.7×10^{-4}

Table 8. Average waste type by life cycle stage for the 10500 Series™ 3-Drawer Pedestal. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Incineration w/ Energy Recovery	kg	**18**	INA	2.7	INA	15
Incineration w/o Energy Recovery	kg	**0**	INA	0	INA	0
Recycling	kg	**31**	INA	10	INA	21
Hazardous	kg	**6.8×10^{-3}**	4.9×10^{-3}	1.8×10^{-3}	6.4×10^{-5}	1.8×10^{-5}
Non-Hazardous (Landfill)	kg	**114**	33	17	9.4	56

Table 9. Translation of LCA results to familiar activities for select aggregated inventory results for 10500 Series™ 3-Drawer Pedestal.

Category Indicator	Life Cycle Impact Assessment for 0.15 m^3 of storage volume, maintained for 10-years	Life Cycle Impact Assessment for 1 storage unit, maintained for 10-years	Basis of Calculation	0.15 m^3 of storage volume, maintained for 10-years	1 storage unit, maintained for 10-years
Net Water Consumption	4.1 m^3	1.5 m^3	Number of cycles run in a dishwasher[1]	93	35
Primary Energy Demand	3,300 MJ	1,200 MJ	Number of days operating a refrigerator[2]	173	64
Energy Resource Depletion (SCS-002)	1,200 MJ eq	440 MJ eq	Number of days operating a refrigerator[2]	63	23

[1]The net water use estimate is based on Energy Star-rated dishwashers and also considers the upstream water required to generate electricity to run the dishwasher. https://www.energystar.gov/index.cfm?c=dishwash.pr_crit_dishwashers

[2]The primary energy demand estimate is based on the energy consumption for Energy Star refrigerators, using a US average electricity supply mix, and also considers the upstream energy demand for electricity generation in US. https://www.energystar.gov/index.cfm?fuseaction=refrig.calculator

Life Cycle Impact Assessment

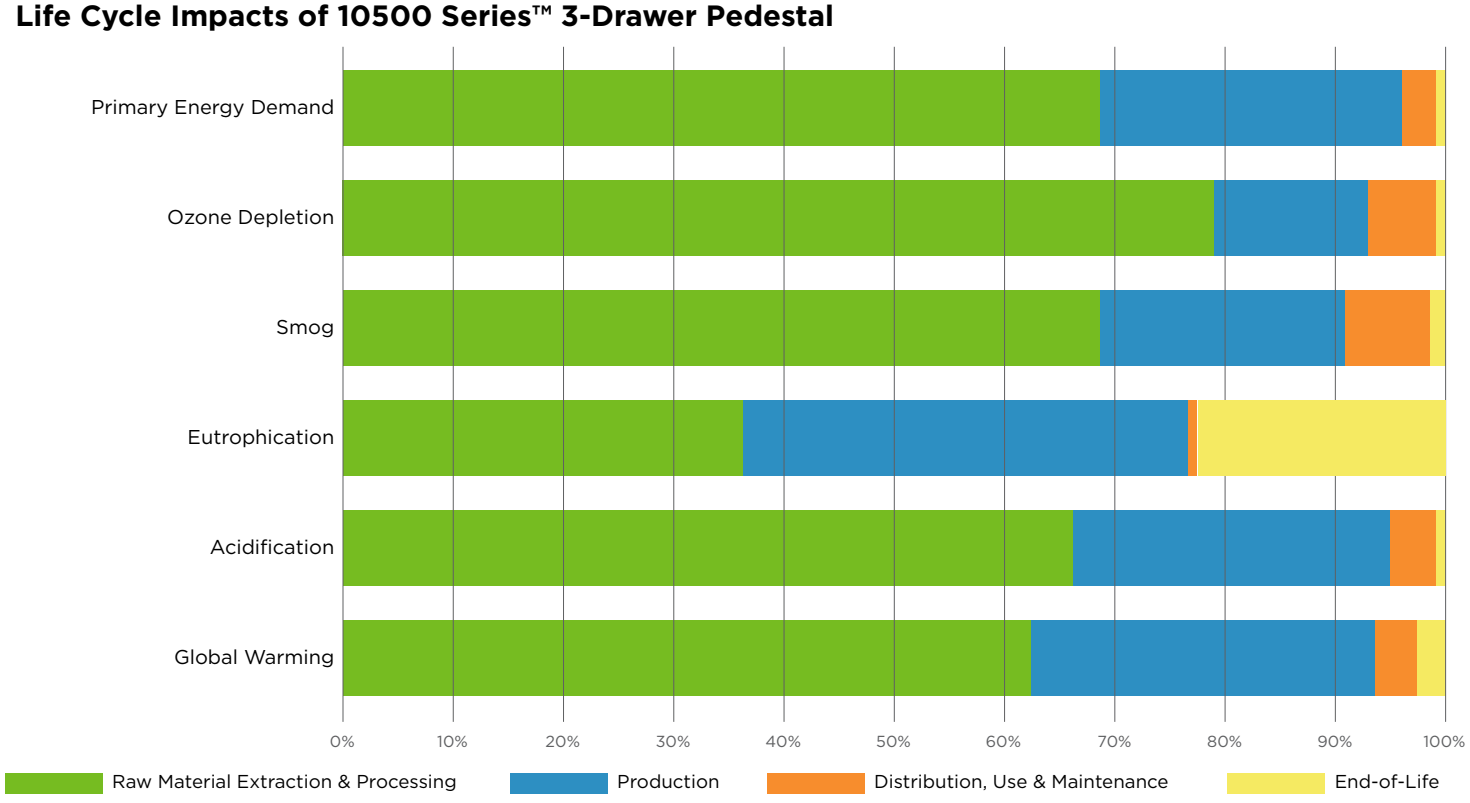
Impact category indicators are calculated using the TRACI 2.0 characterization methods, including acidification potential, eutrophication potential, photochemical ozone creation potential, ozone depletion potential, and global warming potential 100-year time horizon based on IPCC 2013.

Table 10. Average life cycle impact assessment results for 10500 Series™ 3-Drawer Pedestal. Results are shown per functional unit (0.15 m^3 storage capacity). Results for 1 storage unit are shown in parenthesis.

Impact Category	Unit	Total	Material Acquisition	Production	Distribution, Installation & Use	Disposal
IPCC Global Warming Potential - 100 year	kg CO_2 eq	**194 (72)**	119 (44)	62 (23)	6.9 (2.6)	5.3 (2.0)
Acidification Potential	mol H+ eq.	**41 (15)**	27 (10)	12 (4.5)	1.7 (0.64)	0.42 (0.16)
Eutrophication Potential	kg N eq	**1.6 (0.58)**	0.55 (0.21)	0.63 (0.23)	7.9×10^{-3} (2.9×10^{-3})	0.36 (0.13)
Photochemical Ozone Creation Potential	kg O_3 eq	**11 (4.1)**	7.6 (2.8)	2.4 (0.88)	0.75 (0.28)	0.19 (7.1×10^{-2})
Ozone Depletion Potential	kg CFC-11 eq	**2.7×10^{-5} (1.0×10^{-5})**	2.1×10^{-5} (7.8×10^{-6})	3.7×10^{-6} (1.4×10^{-6})	1.8×10^{-6} (6.6×10^{-7})	3.0×10^{-7} (1.1×10^{-7})

On assessing the percentage contribution by life cycle phase, it is evident that the raw material extraction and processing phase is the most dominant phase with significant environmental impacts across category indicators. The manufacturing phase also contributes measurably to the eutrophication, global warming and acidification potential indicators.

Figure 2. Contribution analysis graph representing % contribution to each impact category indicator by life cycle phase.



Life Cycle Impact Assessment (continued)

Additional life cycle impact results are reported in Table 11 below as optional parameters of concern. These impacts are calculated using the SCS-002 framework, which complements the ISO 14044 standard for LCA with additional guidance on conducting a more comprehensive impact assessment.

Table 11. Life cycle impact assessment results for the 10500 Series™ 3-Drawer Pedestal, according to SCS-002 standard.

Impact Category (SCS-002 Parameters)	Unit	Life Cycle Impact Results for 0.15m³ of Storage Capacity	Life Cycle Impact Results for 1 Storage Unit
Global Climate Change	kg CO_2 eq	257	96
Ocean Acidification	kg H_2CO_3 eq	75	28
Energy Resource Depletion	MJ eq	1,200	440

Select impact category indicators are equated on the basis of the number of miles driven in a typical passenger vehicle, or number of days of refrigerator operation, to help consumers make more informed choices regarding purchase of commercial furniture.

Table 12. Translation of LCA results to familiar activities for select aggregated inventory results for the 10500 Series™ 3-Drawer Pedestal.

Category Indicator	Life Cycle Impact Assessment results for 0.15 m³ of storage volume, maintained for 10-years	Life Cycle Impact Assessment results for 1 unit of storage, maintained for 10-years	Basis of Calculation	0.15 m³ of storage, maintained for 10-years	1 storage unit, maintained for 10-years
Global Warming Potential (IPCC, 100 year time horizon)	194 kg CO_2 eq	72 kg CO_2 eq	Number of miles driven in a typical passenger vehicle[3]	466	173
Global Climate Change (SCS-002)	257 kg CO_2 eq	96 kg CO_2 eq	Number of miles driven in a typical passenger vehicle[3]	575	215

[3] Average vehicle miles traveled are estimated using average US fuel economies for passenger vehicles and light trucks and the amount of carbon dioxide emitted per gallon of motor gasoline burned. https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references

Additional Environmental Information

HON makes it a priority to design product and implement processes that reduce our collective impact on the environment. HON is proud to support sustainable initiatives in the building industry as a member of the U.S. Green Building Council (USGBC).

HON 10500 Series Storage is LEVEL® 3 certified to the ANSI/BIFMA e3 Furniture Sustainability Standard and SCS Indoor Advantage™ Gold certified for indoor air quality. HON 10500 Series has the ability to contribute to several credits in the LEED® green building program and the WELL Building Standard®.

References

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