



## Environmental Product Declaration

# 10500 Series™ 2-Drawer Lateral

### Product Description

Tackle workspace organization with this two-drawer lateral file. It features ball-bearing drawer suspensions and accommodates the largest number of files, increasing storage capacity while saving floorspace.

### Functional Unit

The primary function of HON® 10500 Series 2-Drawer Lateral is to store office-based materials and supplies in an office setting. As a storage device with retractable storage areas (2 drawers), the functional unit is 0.15m<sup>3</sup> of storage capacity, serving the function of storage for a 10-year period. The 2-Drawer Lateral provides a total storage capacity of 0.15m<sup>3</sup>. The reference flow for the modeling system is one complete storage unit and the results are normalized to 0.15m<sup>3</sup> 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-06357  
September 4, 2020 through  
September 3, 2025

# HON®

<b>Declaration Owner:</b>	The HON Company
<b>Address:</b>	200 Oak Street, Muscatine, IA 52761
<b>Declaration Number:</b>	SCS-EPD-06357
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<b>Declaration URL Link:</b>	<a href="https://www.scsglobalservices.com/certified-green-products-guide">https://www.scsglobalservices.com/certified-green-products-guide</a>
<b>LCA Practitioner:</b>	Lila Taheraly and Aditi Suresh
<b>LCA Software:</b>	OpenLCA v1.9
<b>Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071</b>	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
<b>LCA Reviewer:</b>	 <hr/> Tom Gloria, PhD, Industrial Ecology Consultants
<b>Product Category Rule:</b>	BIFMA PCR for Storage: UNCPC 3812
<b>PCR Review conducted by:</b>	Thomas P. Gloria, Ph.D. (Chair), Industrial Ecology Consultants
<b>Independent verification of the declaration and data, according to ISO 14025 and the PCR</b>	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
<b>EPD Verifier:</b>	 <hr/> Tom Gloria, PhD, Industrial Ecology Consultants
<b>Declaration Contents:</b>	Product and Company Information.....1 Product Specifications.....3 Material Composition.....3 Life Cycle Assessment Stages.....4 Life Cycle Inventory.....4 Life Cycle Impact Assessment.....5 Additional Environmental Information.....6 References.....7
<p><i>Disclaimers: This EPD conforms to ISO 14025, 14040, and 14044.</i></p> <p><i>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.</i></p> <p><i>Accuracy of Results: Due to PCR constraints, this EPD provides estimations of potential impacts that are inherently limited in terms of accuracy.</i></p> <p><i>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.</i></p>	

## Product Specifications

HON's 10500 Series™ 2-Drawer Lateral accommodates the largest volume of filing in an efficient format that saves floorspace. Robust construction using metal-to-metal fasteners and wood dowels for a solid feel and lasting performance. Desks and storage can be combined to support executives, professionals, administrators, and technology workers. Premium, multi-ply laminate stands up to scratches, spills, stains and boiling liquids, and holds up under heavy use. Durable inner-frame construction stands up to the stress of frequent moving and relocation. Woodgrain, solid and patterned surface materials in over 90 combinations let you customize your office environment.

The HON® 10500 Series 2-Drawer Lateral, assembled at the Oak Laminate facility in Muscatine, Iowa, is primarily constructed using particleboard, steel, plastic, zinc and adhesives. The HON® 10500 Series 2-Drawer Lateral passes the ANSI/BIFMA X5.9 test, demonstrating a minimum expected lifetime of 10 years under specified conditions. This unit contains 2% post-consumer and 79% pre-consumer recycled content.

Table 1. The HON 10500 Series™ 2-Drawer Lateral product information.

Product Dimensions (W x D x H)	Storage Volume (m <sup>3</sup> )	Number of Storage Units to Fulfill the Functional Unit
36" x 20" x 29.5"	0.15	1.03

## Materials Composition

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

Material Classification	(kg/unit)	(kg/ Functional Unit <sup>1</sup> )	Percent of Total
Particleboard	75	78	91%
Steel	5.0	5.1	6.0%
Plastic	1.4	1.4	1.7%
Zinc	0.34	0.35	0.4%
Adhesive	0.59	0.61	0.7%
Wood	0.12	0.13	0.1%
Thermally Fused Laminate (TFL)	0.003	0.003	0.004%
<b>Total</b>	<b>83</b>	<b>85</b>	<b>100%</b>

<sup>1</sup>The Functional Unit is defined as 0.15m<sup>3</sup> of storage capacity for a ten-year period.

Table 3. Packaging material composition of 10500 Series™ 2-Drawer Lateral. Results are shown on a mass basis, and as a percent of total.

Packaging Material	(kg/unit)	(kg/ Functional Unit <sup>1</sup> )	Percent of Total
Paper/Corrugated Paperboard	4.9	5.1	96%
Sticker Paper	0.01	0.01	0.2%
Adhesive	0.09	0.09	2%
Polyethylene Film	0.08	0.08	2%
Polyethylene Foam	0.02	0.02	0.4%
<b>Total Packaging</b>	<b>5.1</b>	<b>5.3</b>	<b>100%</b>

<sup>1</sup>The Functional Unit is defined as 0.15m<sup>3</sup> 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™ 2-Drawer Lateral. 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™ 2-Drawer Lateral.



## Life Cycle Inventory

The life cycle inventory (LCI) flows by life cycle stage of the 10500 Series™ 2-Drawer Lateral are shown in Tables 4-8.

Table 4. Average air emissions by life cycle stage for the the 10500 Series™ 2-Drawer Lateral. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Sulfur Dioxide (SO <sub>2</sub> )	kg	<b>0.27</b>	0.15	0.10	7.8 x 10 <sup>-3</sup>	1.8 x 10 <sup>-3</sup>
Nitrogen Oxides (NO <sub>x</sub> )	kg	<b>0.30</b>	0.20	6.9 x 10 <sup>-2</sup>	2.4 x 10 <sup>-2</sup>	6.7 x 10 <sup>-3</sup>
Carbon Dioxide, fossil (CO <sub>2</sub> )	kg	<b>120</b>	70	43	5.3	1.4
Carbon Dioxide, biogenic (CO <sub>2</sub> )	kg	<b>36</b>	13	6.2	2.7 x 10 <sup>-2</sup>	16
Methane (CH <sub>4</sub> )	kg	<b>0.44</b>	0.20	0.12	3.9 x 10 <sup>-3</sup>	0.12
Nitrous Oxide (N <sub>2</sub> O)	kg	<b>3.6 x 10<sup>-3</sup></b>	1.7 x 10 <sup>-3</sup>	1.6 x 10 <sup>-3</sup>	1.1 x 10 <sup>-4</sup>	2.1 x 10 <sup>-4</sup>
Carbon Monoxide (CO)	kg	<b>0.38</b>	0.34	2.9 x 10 <sup>-2</sup>	1.1 x 10 <sup>-2</sup>	4.1 x 10 <sup>-3</sup>

Table 5. Water emissions by life cycle stage for the 10500 Series™ 2-Drawer Lateral. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Phosphates	kg	<b>0.29</b>	0.11	0.17	1.3 x 10 <sup>-3</sup>	6.7 x 10 <sup>-4</sup>
Nitrates	kg	<b>0.11</b>	3.2 x 10 <sup>-2</sup>	7.1 x 10 <sup>-2</sup>	5.3 x 10 <sup>-4</sup>	6.8 x 10 <sup>-3</sup>
Dioxin	kg	-	-	-	-	-
Arsenic	kg	<b>7.3 x 10<sup>-4</sup></b>	4.5 x 10 <sup>-4</sup>	2.4 x 10 <sup>-4</sup>	4.7 x 10 <sup>-6</sup>	2.6 x 10 <sup>-5</sup>
Lead	kg	<b>1.4 x 10<sup>-2</sup></b>	4.7 x 10 <sup>-3</sup>	7.4 x 10 <sup>-3</sup>	4.0 x 10 <sup>-5</sup>	2.1 x 10 <sup>-3</sup>
Mercury	kg	<b>4.1 x 10<sup>-5</sup></b>	7.3 x 10 <sup>-6</sup>	1.9 x 10 <sup>-5</sup>	1.0 x 10 <sup>-7</sup>	1.5 x 10 <sup>-5</sup>
Cadmium	kg	<b>2.3 x 10<sup>-6</sup></b>	1.9 x 10 <sup>-6</sup>	3.9 x 10 <sup>-7</sup>	5.6 x 10 <sup>-8</sup>	2.3 x 10 <sup>-8</sup>
Chromium	kg	<b>3.0 x 10<sup>-3</sup></b>	1.7 x 10 <sup>-3</sup>	1.3 x 10 <sup>-3</sup>	2.0 x 10 <sup>-5</sup>	1.4 x 10 <sup>-5</sup>

## Life Cycle Inventory (continued)

Table 6. Average water usage by life cycle stage for the 10500 Series™ 2-Drawer Lateral. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Water Consumption	kg	<b>3,200</b>	1,200	2,000	17	5

Table 7. Average energy usage by life cycle stage for the 10500 Series™ 2-Drawer Lateral. Results are shown in MJ per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Primary Energy Demand	MJ	<b>2,600</b>	1,800	650	84	16
Fossil Fuels	MJ	<b>1,300</b>	750	450	82	15
Nuclear	MJ	<b>420</b>	310	110	1.3	0.4
Renewable Energy	MJ	<b>830</b>	740	88	0.91	0.27
Miscellaneous Fuels	MJ	<b>0.2</b>	0.1	0.1	0.01	1.3 x 10 <sup>-4</sup>

Table 8. Average waste type by life cycle stage for the 10500 Series™ 2-Drawer Lateral. Results are shown in kg per functional unit.

Parameter	Unit	Total	Material Acquisition	Production	Delivery, Installation & Use	Disposal
Incineration w/ Energy Recovery	kg	<b>14</b>	INA	2.2	INA	12
Incineration w/o Energy Recovery	kg	<b>0</b>	INA	0	INA	0
Recycling	kg	<b>24</b>	INA	8.4	INA	16
Hazardous	kg	<b>4.4 x 10<sup>-3</sup></b>	3.0 x 10 <sup>-3</sup>	1.4 x 10 <sup>-3</sup>	5.1 x 10 <sup>-5</sup>	1.6 x 10 <sup>-5</sup>
Non-Hazardous (Landfill)	kg	<b>89</b>	22	13	7.5	47

Table 9. Translation of LCA results to familiar activities for select aggregated inventory results for 10500 Series™ 2-Drawer Lateral.

Category Indicator	Life Cycle Impact Assessment for 0.15 m <sup>3</sup> 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 <sup>3</sup> of storage volume, maintained for 10-years	1 storage unit, maintained for 10-years
Net Water Consumption	3.2 m <sup>3</sup>	3.1 m <sup>3</sup>	Number of cycles run in a dishwasher <sup>1</sup>	71	69
Primary Energy Demand	2,600 MJ	2,500 MJ	Number of days operating a refrigerator <sup>2</sup>	135	131
Energy Resource Depletion (SCS-002)	780 MJ eq	760 MJ eq	Number of days operating a refrigerator <sup>2</sup>	41	40






<sup>1</sup>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](https://www.energystar.gov/index.cfm?c=dishwash.pr_crit_dishwashers)

<sup>2</sup>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?fu-section=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.

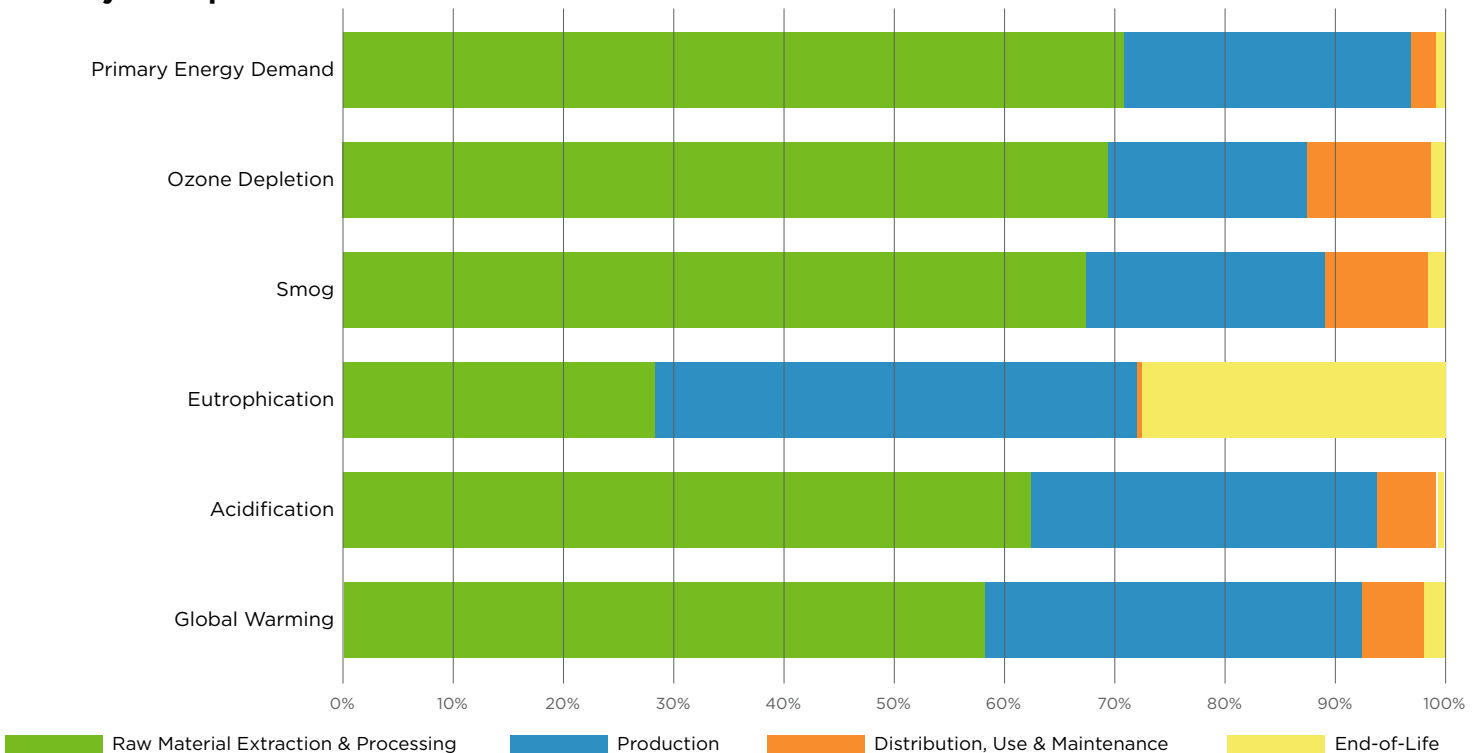
Table 10. Average life cycle impact assessment results for 10500 Series™ 2-Drawer Lateral. Results are shown per functional unit (0.15 m<sup>3</sup> storage capacity). Results for 1 storage unit are shown in parenthesis.

Impact Category	Unit	Total	Material Acquisition	Production	Distribution, Installation & Use	Disposal
 IPCC Global Warming Potential - 100 year	kg CO <sub>2</sub> eq	<b>136</b> (132)	78 (76)	47 (46)	5.5 (5.3)	4.7 (4.6)
 Acidification Potential	mol H <sup>+</sup> eq	<b>28</b> (27)	18 (17)	9.0 (8.7)	1.4 (1.3)	0.37 (0.36)
 Eutrophication Potential	kg N eq	<b>1.2</b> (1.1)	0.32 (0.31)	0.50 (0.49)	6.3 x 10 <sup>-3</sup> (6.1 x 10 <sup>-3</sup> )	0.33 (0.32)
 Photochemical Ozone Creation Potential	kg O <sub>3</sub> eq	<b>7.6</b> (7.3)	5.1 (4.9)	1.7 (1.7)	0.60 (0.58)	0.17 (0.16)
 Ozone Depletion Potential	kg CFC-11 eq	<b>1.3 x 10<sup>-5</sup></b> (1.3 x 10 <sup>-5</sup> )	9.0 x 10 <sup>-6</sup> (8.8 x 10 <sup>-6</sup> )	2.4 x 10 <sup>-6</sup> (2.3 x 10 <sup>-6</sup> )	1.4 x 10 <sup>-6</sup> (1.4 x 10 <sup>-6</sup> )	2.5 x 10 <sup>-7</sup> (2.4 x 10 <sup>-7</sup> )

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 Impacts of 10500 Series™ 2-Drawer Lateral



## 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™ 2-Drawer Lateral, according to SCS-002 standard.

Impact Category (SCS-002 Parameters)	Unit	Life Cycle Impact Results for 0.15m <sup>3</sup> of Storage Capacity	Life Cycle Impact Results for 1 Storage Unit
Global Climate Change	kg CO <sub>2</sub> eq	187	181
Ocean Acidification	kg H <sub>2</sub> CO <sub>3</sub> eq	55	54
Energy Resource Depletion	MJ eq	780	760

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™ 2-Drawer Lateral.

Category Indicator	Life Cycle Impact Assessment results for 0.15 m <sup>3</sup> 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 m <sup>3</sup> of storage, maintained for 10-years	1 storage unit, maintained for 10-years
Global Warming Potential (IPCC, 100 year time horizon)	136 kg CO <sub>2</sub> eq	132 kg CO <sub>2</sub> eq	Number of miles driven in a typical passenger vehicle <sup>3</sup>	327	317
Global Climate Change (SCS-002)	187 kg CO <sub>2</sub> eq	181 kg CO <sub>2</sub> eq	Number of miles driven in a typical passenger vehicle <sup>3</sup>	423	405

<sup>3</sup>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®.

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