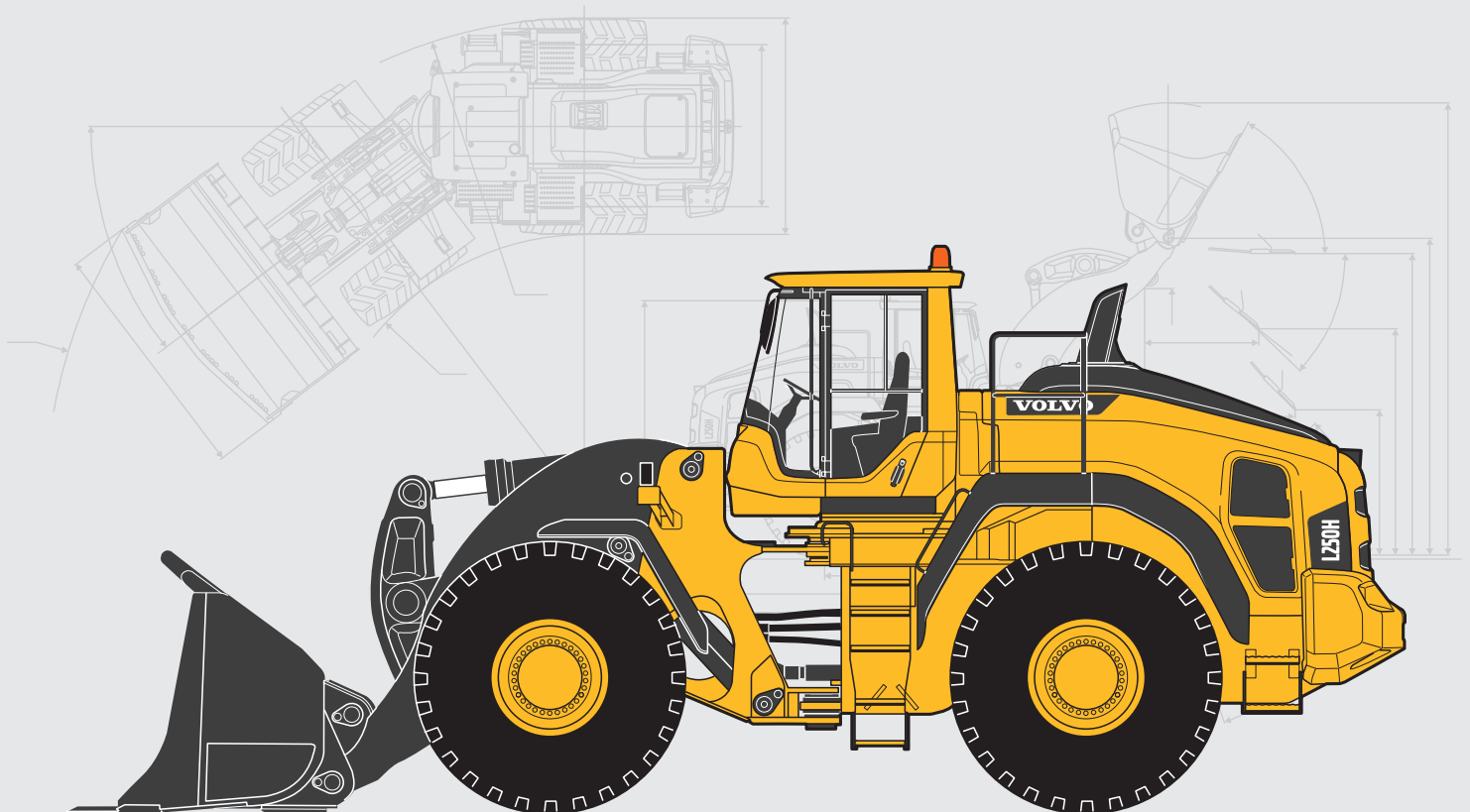




Volvo Construction Equipment

# VOLVO WHEEL LOADERS

Environmental Declaration



# Environmental Declaration

## Wheel Loaders

The following information is specified by the manufacturer and applies to machines when they are delivered/leave the factory. For other technical information, see product specification as well as the Operator's Manual.

Manufacturer:

Volvo Construction Equipment AB  
SE-631 85 Eskilstuna  
Sweden

Model	Unit	L60H	L70H	L90H	L110H	L120H
Engine type		Volvo D6J	Volvo D6J	Volvo D6J	Volvo D8J	Volvo D8J
Engine power, acc. to ISO 9249, SAE J1349 net	kW	123	127	137	191	203
	Metric hp	167	173	186	260	276
	Imperial hp	165	170	174	256	272
Transmission		HTE 125	HTE 125	HTE 125	HTE206	HTE206
Model	Unit	L150H	L180H	L220H	L250H	L350F
Engine type		Volvo D13J	Volvo D13J	Volvo D13J	Volvo D13J	Volvo D16E LAE3
Engine power, acc. to ISO 9249, SAE J1349 net	kW	220	246	274	291	394
	Metric hp	299	334	373	396	536
	Imperial hp	295	330	368	391	528
Transmission		HTL 221	HTL 221	HTL 307	HTL 307	HTE 400

## Core values

Along with quality and safety, caring for the environment is one of Volvo's core values. This means that Volvo Construction Equipment works with an overall perspective of the products that extends throughout their entire life cycle. This includes engineering and design, material selection, manufacturing processes, use, and recycling.

## Manufacturers

Manufacturing of the main components, transmissions, drive axles and cabs, as well as assembly of the complete backhoe loader, takes place at Volvo Construction Equipment's production facilities. All of these are certified according to ISO 14001.

A lot of our components and parts are purchased from suppliers. We work in close cooperation with our suppliers to ensure that purchased components and parts meet our environmental requirements.

## Declarations

Upholstery and other interiors in the cab do not contain mercury.

Plastics and other interior materials are fire-classed according to Volvo standard 104-0001. Brake pads do not contain mercury, cadmium, or asbestos. Tires do not contain highly aromatic oils (HA-oils) in the tread. The whole machine does not contain any cadmium or asbestos. Refrigerant of the type R134A (1,8-2,1 kg/4.0 - 4.6 lbs) is used if the machine is equipped with air conditioning (option).

## Paint and Surface Treatment

In order to reduce solvent emissions, the machines are painted using powder paints and water-based paints. To reduce consumption of water and chemicals, cleaning and recirculation takes place during the pretreatment processes in the factories.

### Specification of paint

Main components	Paint type	Chlorine	Pre-treatment
<b>L60H-L250H</b>			
Cab	Axles	no	Zinc-nickel-manganate-phosphatizing
Axles and transmission	Transmission	no	Iron-phosphatizing
Frame	Frame	yes	Iron-phosphatizing
<b>L350F</b>			
Cab	Powder	no	Zinc-phosphatizing
Axles	Primer: Phenol-alkyd paint (solvent-based) Top coat: Polyurethane paint (solvent-based)	no	Blasting
Transmission	Solvent	no	Degrease
Frame	Solvent	yes	Blasting

# Environmental Declaration

## Engine/emissions for L350F

The engine is certified through official testing according to EU Directive 97/68/EC, stage 3A. The engine is certified according to US requirements: US EPA Tier 3 and California Tier 3. No aftertreatment of exhausts (catalytic converter, particle filter, etc.) is needed in order to fulfil legal requirements. Exhaust emissions are measured as specific emissions in g/kWh according to ISO 8178-1 and ISO 8178-4, run cycle C1. All engines fulfil the legal requirements as outlined below.

## Model L350F

Emission levels	Power range (kW)	CO (g/kWh)	NOx + HC (g/kWh)	PM (g/kWh)
EU Directive 97/68/EC, Stage 3A 4.0 0.3 5.0 75-130	75-130	5.0	4.0	0.3
EU Directive 97/68/EC, Stage 3A 4.0 0.2 3.5 130-560	130-560	3.5	4.0	0.2
US EPA Tier 3 + CARB Tier 3 US EPA 4.0 0.3 5.0 75-130	75-130	5.0	4.0	0.3
US EPA Tier 3 + CARB Tier 3 US EPA 4.0 0.2 3.5 130-560	130-560	3.5	4.0	0.2

The load-sensing working hydraulics contribute to lower fuel consumption by demand controlled hydraulic oil flow.

## Engine/emissions for L60H-L250H

The engine is certified through official testing according to EU Directive 97/68/EC, stage IV. The engine is certified according to US requirements: US EPA and CARB Tier 4f.

## Model L60H-L250H

To comply with the regulated PM-levels, a DPF (Diesel Particulate Filter) is used as an exhaust aftertreatment system. Exhaust emissions are measured as specific emissions in g/kWh according to NRSC and NRTC for EU as well as RMC (C1) and NRTC for US. All engines fulfil the legal requirements as outlined below.

Emission levels	Power range (kW)	CO (g/kWh)	NMHC g/kWh	NOx (g/kWh)	PM g/kWh
EU Directive 97/68/EC, Stage IV	130-560	3.5	0.19	0.4	0.025
US EPA and CARB Tier 4f	130-560	3.5	0.19	0.4	0.02

## Sound levels

If the machine is specified for sale within the EU, it is certified according to EU Directive 2000/14/EC (external sound level) with supplement 2005/88/EC. A decal with external sound level and inner sound pressure is also provided on the machine.

Model	L60H	L70H	L90H	L110H	L120H
External sound power level, dB(A)	104	105	105	106	106
Sound pressure level, LpA dB(A)	68	68	68	68	68
Model	L150H	L180H	L220H	L250H	L350F
External sound power level, dB(A)	108	108	109	109	111
Sound pressure level, LpA dB(A)	69	70	70	70	72

## **Operator's environment**

Incoming air from the cab first passes through a pre-filter which separates larger particles and then passes via the main filter in to the cab. 60-90% of all air recirculates and is filtered again. Approx. 10% is always fresh air, giving an overpressure in the cab, making sure that no air enters the cab except through the filter system. This provides a cleaner working environment. All air, both recirculated and fresh air, is always filtered in the main filter.

## **Service**

Special hoses are supplied with the machines to facilitate draining and to reduce the risk of spilling engine oil and hydraulic oil. There is a breather filter to reduce oil mist for venting axles, transmission, and hydraulic oil tank. Front and rear axles as well as hydraulic tank have a protective valve in the breather filter to minimize leakage in case of a roll-over or turn-over.

The tank cap closes tight to prevent fuel leaks in case of a roll-over/turn-over. All engines have a system for cleaning the crankcase ventilation's emissions of oil particles.

For service intervals and other maintenance, see the Operator's Manual for each machine model.

## **Oils and fluids**

Ethylene glycol coolant is filled at the factory. Biologically degradable oil for the hydraulic system is available as an option.

Volvo Construction Equipment recommends the following: Volvo Biodegradable Hydraulic Oil.

If the Volvo oil is not available, please contact your Volvo dealer

## **Tires**

Tires without high-aromatic oils (HA-oils) are available from our suppliers.

## **Recycling**

Thoroughly planned recycling of the machine is the foundation for ending the life cycle and for being able to recycle materials for use in new Volvo wheel loaders or other products. According to our calculations, the machine is recyclable to 95% by weight. The majority of our plastic parts are marked for recycling according to Volvo standard 103 0002; 5052,41; 5052,411, and 5052,412.

# Environmental Declaration

## Recycling

The materials included in machines are divided into the following approximate weights:

Model	Units (rounded)	L60H	L70H	L90H	L110H	L120H
Steel & Iron	kg	9 700	11 200	12 850	15 090	15 900
	lb	21,285	24,692	28,329	33,268	35,054
Copper	kg	43	43	43	45	45
	lb	95	95	95	99	99
Aluminium	kg	40	40	40	90	90
	lb	88	88	88	198	198
Bronze bushings	kg	18	18	18	32	33
	lb	40	40	40	73	73
Lead batteries	kg	60	60	60	91	91
	lb	132	132	132	201	201
Glass	kg	74	74	74	74	74
	lb	163	163	163	163	163
Polymer materials & rubber	kg	184	184	184	215	215
	lb	406	406	406	474	474
Tires	kg	896	896	896	1 224	1 200
	lb	1,975	1,975	1,975	2,698	2,646
Fluids, oils & chemicals	kg	410	420	430	630	630
	lb	904	926	948	1,389	1,389
Other	kg	575	630	740	909	922
	lb	1,268	1,389	1,631	2,004	2,033
<b>Total*</b>	<b>kg</b>	<b>12 000</b>	<b>13 565</b>	<b>15 335</b>	<b>18 400</b>	<b>19 200</b>
	<b>lb</b>	<b>26,455</b>	<b>29,906</b>	<b>33,808</b>	<b>40,565</b>	<b>42,329</b>
<b>Recycling quota</b>	<b>%</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>95</b>

Model	Units (rounded)	L150H	L180H	L220H	L250H	L350F
Steel & Iron	kg	19 280	21 865	25 850	28 350	42 150
	lb	42,505	48,204	56,990	62,501	92,925
Copper	kg	47	47	47	47	49
	lb	104	104	104	104	108
Aluminium	kg	160	160	160	160	200
	lb	353	353	353	353	441
Bronze bushings	kg	35	35	35	50	46
	lb	77	77	77	110	101
Lead batteries	kg	92	92	92	92	83
	lb	203	203	203	203	183
Glass	kg	74	74	74	74	74
	lb	163	163	163	163	163
Polymer materials & rubber	kg	170	175	194	194	170
	lb	375	386	428	428	375
Tires	kg	1 728	1 728	2 732	3 920	4 420
	lb	3,810	3,810	6,023	8,642	9,744
Fluids, oils & chemicals	kg	750	750	860	860	1 420
	lb	1,653	1,653	1,896	1,896	3,131
Other	kg	1 264	1 424	1 456	1 653	2 088
	lb	2,787	3,139	3,210	3,644	4,603
<b>Total*</b>	<b>kg</b>	<b>23 600</b>	<b>26 350</b>	<b>31 500</b>	<b>35 400</b>	<b>50 700</b>
	<b>lb</b>	<b>52,029</b>	<b>58,092</b>	<b>69,446</b>	<b>78,044</b>	<b>111,774</b>
<b>Recycling quota</b>	<b>%</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>95</b>

\* Varies depending on equipment, e.g., tires and bucket.

The calculation of the weights is based on defined machines. Variations are caused by different equipment. These material fractions can be recycled (material recycled and energy recycled) where possible.

### **Producer responsibility**

In most countries today, the producer has a responsibility for its products, applicable to components such as batteries, tires, etc. There are special regulations for these components.

For further information, contact your dealer.

Machine model: \_\_\_\_\_ Place for stamp

Delivery date: \_\_\_\_\_

Machine's serial number: \_\_\_\_\_

Engine Type: \_\_\_\_\_

Engine's manufacturing number: \_\_\_\_\_

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