



Volvo Construction Equipment

# VOLVO COMPACTION EQUIPMENT

Environmental Declaration



# ENVIRONMENTAL DECLARATION

## Compaction Equipment

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

Soil compactor model													
	SD25	SD45	SD70	SD75	SD75B	SD110	SD115/ SD135	SD115B, SD135B	SD115 High Power	SD160	SD190, SD200	SD110BA	
Engine	Kubota V2203-M	Kubota V3600-T	Kubota V3800-DI-T	Volvo D3.8	Volvo D3.8	Volvo D5D GAE3	Cummins QSB4.5	Volvo D4	Volvo D4	Volvo D6	Cummins QSB6.7	Kirloskar oil engines limited 4R 1040 TA3	
Engine power acc. to ISO 9249 SAE J1349 net	kW 31	63	74	75	55	99	97	110	110	129	129	77.2	
	Metric hp 42	86	101	102	102	135	132	150	150	175	175	105	
	Imperial hp 42	84	99	100	100	133	130	147.5	147.5	173	173	103.5	
Emission level according to US EPA & CARB	Tier 4 Interim	Tier 3	Tier 3	Tier 4 Interim	Tier 4 Final	Tier 3	Tier 3	Tier 4i	Tier 4f	Tier 4i	Tier 3	Tier 3	
Emission level within EU Directive 97/68/EC	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIB	Stage IV	Stage IIIA	Stage IIIB	Stage IV			Stage IIIA	Stage IIIA	
Transmission	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	

Asphalt compactor model							
	DD15	DD25	DD25B	DD29, DD31HF, DD38HF, CR24, CR30	DD70	DD85, DD95	DD90B
Engine	Kubota D722B	Kubota D1803-M	Volvo D1.7A	Kubota V2203M	Kubota V3600-T	Deutz TD 2011 L04W	Kirloskar oil engines limited 4R 1040 TC
Engine power acc. to ISO 9249 SAE J1349 net	kW 12	25	18.4	31	63	63	56
	Metric hp 16	34	25	42	86	86	76
	Imperial hp 16	34	25	42	84	84	75
Emission level according to US EPA & CARB	Tier 4	Tier 4 Interim	Tier 4F	Tier 4 Interim	Tier 3	Tier 3	Tier 3
Emission level within EU Directive 97/68/EC	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA
Transmission	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic

Asphalt compactor model								
	DD100	DD110B	DD120B	DD140B	DD120	DD140	PT125	PT220
Engine	Cummins QSB4.5	Volvo D4	Volvo D4	Volvo D4	Cummins QSB4.5	Cummins QSB6.7	Kubota V3600-T	Volvo D5DA3
Engine power acc. to ISO 9249 SAE J1349 net	kW 97	98	110	110	113	129	63	99
	Metric hp 132	132	148	148	154	175	86	135
	Imperial hp 130	130	146	146	152	173	84	133
Emission level according to US EPA & CARB	Tier 3	T4i	T4i	T4i	Tier 3	Tier 3	Tier 3	Tier 3
Emission level within EU Directive 97/68/EC	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA
Transmission	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic	Hydrostatic

**Manufacturer:**

Volvo Construction Equipment,  
312 Volvo Way, Shippensburg, PA

Volvo Construction Equipment  
Volvo India Private Limited  
Peenya Industrial Area  
Bangalore - 560 058, India

**Manufacturer:**

Volvo Construction Equipment,  
Kuhbrueckenstrasse 18  
31785 Hameln / Germany

**Core values**

Quality, safety and environmental care are Volvo's core values. They are designed from the beginning into the product's entire service life. This includes design and engineering, material selection, manufacturing processes, use and recycling.

**Manufacturing**

The assembly of the complete machines takes place at one of Volvo Construction Equipment's production plants. Our production facilities are all certified according to ISO 14001.

**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 or MVSS 302. 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).

Many of our components and parts are purchased from external suppliers. Volvo Construction Equipment works closely with these suppliers in order to safeguard the environmental requirements for purchased components and parts.

**Specification of paint**

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.

Machine parts	Paint type	Paint description	Chlorine	Pre-treatment
Frames, drums, and structural steel	Solvent	HAPS-free (hazardous air pollutants) vegetable-based polyester epoxy	No	Blasting
ROPS, steel tanks, and sheet metal	Powder	Superdurable polyester TGIC (triglycidyl isocyanurate)	No	Iron-phosphatizing

# ENVIRONMENTAL DECLARATION

## Emissions

### Emission levels

	Power range (kW)	NO x + HC (g/kWh)	NMHC	NO x (g/kWh)	PM (g/kWh)	CO (g/kWh)
EU Directive 97/ 68 / EC, Stage 3A	19 – 37	7.5			0.6	5.5
EU Directive 97/ 68 / EC, Stage 3A	37 – 75	4.7			0.4	5.0
EU Directive 97/ 68 / EC, Stage 3A	75 – 130	4.0			0.3	5.0
EU Directive 97/ 68 / EC, Stage 3A	130 – 560	4.0			0.2	3.5
US EPA Tier 3 US EPA	19 – 37	7.5			0.6	5.5
US EPA Tier 3 US EPA	37 – 75	4.7			0.4	5.0
US EPA Tier 3 US EPA	75 – 130	4.0			0.3	5.0
US EPA Tier 3 US EPA	130 – 560	4.0			0.2	3.5
EU Directive 97/ 68 / EC, Stage 3B	37 - 56	4.7			0.025	5.0
EU Directive 2010/26/EU, Stage IV	56 – 130		0.19	0.4	0.025	5.0
US EPA Tier 4 CARB	8 – 19	7.5			0.4	6.6
US EPA Tier 4 CARB	19 – 37	4.7			0.03	5.5
US EPA Tier 4 CARB	37 - 56	4.7			0.03	5.0
US EPA Tier 4 CARB	56 – 130		0.19	0.4	0.02	5.0

### Sound levels

In accordance with the requirements of Machinery Directive 2006/42/EC, the following values were measured: These measurements were recorded in accordance with the requirements of ISO 6394, ISO 6395 and ISO 6396 with the engine running at manufacturer's rated speed.

	Engine Tier	Sound Level w/ Open ROPS		Sound Level w/ CAB		Sound Power Level Lwa
		Operator ear Lp		Operator ear Lp		
		Engine Only	Vibration On	Engine Only	Vibration On	
		dB (A)	dB (A)	dB (A)	dB (A)	dB (A)
SD25	Tier 4 / Stage IIIA	88	88			106
SD45	Tier 3 / Stage IIIA	88	88			106
SD70	Tier 3 / Stage IIIA	86	87	78	79	107
SD75	Tier 4i / Stage IIIB		88		74	107
SD105	Tier 3 / Stage IIIA	-	-	79	80	111
SD110BA	Tier 3 / Stage IIIA	Testing In progress	Testing In progress	NA	NA	Testing In progress
SD115 D4	Tier 4i / Stage IIIB		88		77	108
SD115 D6 High Power	Tier 4i / Stage IIIB		89		78	109
SD130	Tier 3 / Stage IIIA	86	87	78	79	109
SD135	Tier 3 / Stage IIIA	86	87	78	79	109
SD160	Tier 3 / Stage IIIA	92	92	84	85	112
SD190/ SD200	Tier 3 / Stage IIIA	90	92	81	83	113

	Engine Tier	Sound Level	Sound Level	Sound Power
		Operator ear LeqA (Engine Only)	Operator ear LeqA (Vibration on)	(Lw) (Vibration on)
		dB (A)	dB (A)	dB (A)
DD15	Tier 4i/ SIIIA	85	86	106
DD25	Tier 4i/ SIIIA		86,5	106
DD25B	Tier 4F/ SIIIA	86,5	87,7	106
CR24 / CR30	Tier 4i/ SIIIA	81		
DD29	Tier 4i/ SIIIA	84	88	109
DD31HF	Tier 4i/ SIIIA	85	88	109
DD38HF	Tier 4i/ SIIIA	81	87	109
DD70	Tier 3/ SIIIA	88,5	90,3	110
DD85 / DD95	Tier 3/ SIIIA	78,5		109
DD90B	Tier 3 / Stage IIIA	Testing In progress	Testing In progress	Testing In progress
DD100	Tier 3/ SIIIA	88	95	
DD120	Tier 3/ SIIIA	88	95	115
DD110B	Tier 4i / Stage IIIB	91	98,5	115
DD120B/DD140B	Tier 4i / Stage IIIB	80	96	115
DD140	Tier 3/ SIIIA	88	93	113
PT125	Tier 3/ S IIIA	88		
PT240	Tier 3/ S IIIA	83		105

## **Emissions**

The engine emission value is meeting with the limit value according to according to EU Directive 97/68/EC 2010/26/EU, Stage IIIA, Stage IIIB.

The engine emission value is meeting with the limit value according to US requirements: US EPA Tier 3, Tier4i and CARB US EPA.

Exhaust emissions are measured as specific emissions in g/ kWh according to ISO 8178-1 and ISO 8178-4, cycle C1.

A family engine (parent engine) is certified within an engine family.

The parent engine is the engine with the highest fuel injection volume at maximum torque. Engines with the same design or similar technology will then belong to this family. Therefore, the values required by law are only given for the parent engine.

\*Emission standards are applied to each machine in accordance with the emission requirements.

## **Operator's environment (enclosed cab)**

Incoming air for the cab first passes through a pre-filter which separates coarser particles, and then through the main filter in to the cab. Up to 90% of all air can be recirculated through the main filter. This creates an overpressure in the cab, which results in a cleaner work environment.

## **Service**

There are dedicated hoses supplied with many machines for easier draining and also to reduce the risk of spilling engine or hydraulic oil.

For venting air from engine, transmission, fuel tank and hydraulic oil tank, there is a breather filter to reduce any occurrence of oil mist.

The fuel tank cap seals tightly to prevent fuel leaks in case of machine turn-over / rollover.

The transmission, hydraulic oil tank, and fuel tank breathers have a check valve to minimize leaks in case of machine turn-over / rollover.

For service intervals and other maintenance, see applicable maintenance label or operator's manuals for each respective 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. We recommend the following oils; these are also available as options. Besides we refer to the respective operator's manual.

## **Tires**

Tires without high-aromatic oil (HA-oils) are available from our suppliers by special order. HA-oils that result from tire wear is a contaminant to aquatic organisms.

## **Recycling**

Volvo Compact Excavators are designed from the beginning for recycling at the end of their useful life cycle. Materials can be reused in new Volvo Construction Equipment or other products.

Most of our plastic parts are marked for recycling according to Volvo Standards 5052,41, 5042,411 as well as 5052,412. Materials included in the machine are distributed according to the following tables (page 6 and 7).

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## Recycling

Soil compactor model		SD25	SD25 Padfoot	SD45	SD45 Padfoot	SD70	SD70 Padfoot	SD75	SD75 Padfoot	SD75B	SD75B Padfoot
Units (rounded)											
Steel / iron	kg	2 157	2 273	4 156	4 479	6 232	7 107	6492	7 108	6492	7 108
Copper	kg	6	6	7	7	9	9	9	9	9	9
Aluminum	kg	9	9	11	11	14	14	14	14	14	14
Lead batteries	kg	18	18	18	18	18	18	18	18	18	18
Polymer materials and rubber	kg	55	55	104	104	152	152	152	152	152	152
Tires	kg	36	36	70	70	130	130	130	130	130	130
Fluids, oils and chemicals	kg	73	73	110	110	123	123	123	123	123	123
Other	kg	124	130	236	253	352	398	365	397	365	397
Total*	kg	2 478	2 600	4 712	5 052	7 030	7 951	7 303	7 951	7 303	7 951
Steel / iron	lbs	4,755	5,011	9,162	9,875	13,739	15,668	14,312	15,670	14,312	15,670
Copper	lbs	13	13	15	15	20	20	20	20	20	20
Aluminum	lbs	20	20	24	24	31	31	31	31	31	31
Lead batteries	lbs	40	40	40	40	40	40	40	40	40	40
Polymer materials and rubber	lbs	121	121	229	229	335	335	335	335	335	335
Tires	lbs	79	79	154	154	287	287	287	287	287	287
Fluids, oils and chemicals	lbs	161	161	253	253	271	271	271	271	271	271
Other	lbs	273	287	520	558	776	877	805	875	805	875
Total*	lbs	5,463	5,732	10,388	11,138	15,498	17,529	16,100	17,529	16,100	17,529
Soil compactor model		SD105	SD105 Padfoot	SD110	SD110BA	SD115	SD115 Padfoot	SD115B	SD115B Padfoot	SD115 High-Power	SD115 High-Power Padfoot
Units (rounded)											
Steel / iron	kg	9 821	10 651	9 790	8 728	10 146	10 705	10 146	10 705	9 470	9 952
Copper	kg	18	18	18	30	18	18	18	18	18	18
Aluminum	kg	21	21	21	121	21	21	21	21	21	21
Lead batteries	kg	36	36	36	40	36	36	36	36	36	36
Polymer materials and rubber	kg	202	202	202	149	202	202	202	202	202	202
Tires	kg	317	317	317	240	317	317	317	317	317	317
Fluids, oils and chemicals	kg	117	117	117	142	117	117	117	117	117	117
Other	kg	495	534	624	536	634	710	634	710	535	561
Total*	kg	11 027	11 896	11 125	11 000	11 491	12 126	11 491	12 126	10 716	11 224
Steel / iron	lbs	21,625	23,482	21,538	19,202	22,368	23,600	22,368	23,600	20,878	21,940
Copper	lbs	40	40	40	66	40	40	40	40	40	40
Aluminum	lbs	46	46	46	266	46	46	46	46	46	46
Lead batteries	lbs	79	79	79	88	79	79	79	79	79	79
Polymer materials and rubber	lbs	445	445	445	328	445	445	445	445	445	445
Tires	lbs	699	699	699	528	699	699	699	699	699	699
Fluids, oils and chemicals	lbs	258	258	258	312	258	258	258	258	258	258
Other	lbs	1,118	1,177	1,376	1,179	1,398	1,565	1,398	1,565	1,180	1,237
Total*	lbs	24,310	26,226	24,475	24,200	25,333	26,733	25,333	26,733	23,625	24,745
Soil compactor model		SD130 Padfoot	SD135	SD135 Padfoot	SD135B	SD135B Padfoot	SD160	SD160 Padfoot	SD190	SD190 Padfoot	SD200 Padfoot
Units (rounded)											
Steel / iron	kg	10 485	11 201	14 326	11 201	14 326	15 143	17 025	18 493	18 278	22 150
Copper	kg	18	18	18	18	18	18	18	18	18	18
Aluminum	kg	21	21	21	21	21	21	21	21	21	21
Lead batteries	kg	36	36	36	36	36	36	36	36	36	36
Polymer materials and rubber	kg	202	202	202	202	202	202	202	202	202	202
Tires	kg	317	317	317	317	317	317	317	317	317	317
Fluids, oils and chemicals	kg	117	117	117	117	117	117	171	171	171	171
Other	kg	677	764	790	764	790	517	1 485	1 013	1002	2 170
Total*	kg	11 873	12 676	15 827	12 676	15 827	16 371	19 275	20 271	20 045	25 085
Steel / iron	lbs	23,115	24,694	31,583	24,694	31,583	33,385	37,534	40,770	40,296	48,832
Copper	lbs	40	40	40	40	40	40	40	40	40	40
Aluminum	lbs	46	46	46	46	46	46	46	46	46	46
Lead batteries	lbs	79	79	79	79	79	79	79	79	79	79
Polymer materials and rubber	lbs	445	445	445	445	445	445	445	445	445	445
Tires	lbs	699	699	699	699	699	699	699	699	699	699
Fluids, oils and chemicals	lbs	258	258	258	258	258	258	377	377	377	377
Other	lbs	1,493	1,684	1,742	1,684	1,742	1,140	3,274	2,233	2,209	4,784
Total*	lbs	26,175	27,946	34,893	27,946	34,893	36,092	42,494	44,690	44,192	55,303

\* Varies depending on equipment, e.g., options and field kits

## Recycling

Asphalt compactor model		DD15	DD25	DD25B	DD29	DD31HF	DD38HF	DD70	DD85	DD90B	DD110B
Units (rounded)											
Steel / iron	kg	1 172	1 960	2330	2 170	2 270	3 057	5 671	7 410	7 186	8 158
Copper	kg	3	5	5	3	3	3	12	12	52	12
Aluminum	kg	20	25	25	20	20	20	10	10	50	10
Lead batteries	kg	18	18	18	19	19	19	18	36	40	36
Polymer materials and rubber	kg	94	102	102	145	145	145	166	239	258	239
Fluids, oils and chemicals	kg	63	91	91	153	153	153	120	150	150	194
Other	kg	72	249	249	130	140	180	316	403	414	455
Total*	kg	1 442	2 450	2620	2 640	2 750	3 577	6 313	8 260	8 550	9 104
Steel / iron	lb	2,584	4,321	4695	4,784	5,005	6,740	12,502	16,336	15,809	17,985
Copper	lb	7	11	11	7	7	7	27	27	115	27
Aluminum	lb	44	55	55	44	44	44	22	22	110	22
Lead batteries	lb	40	40	40	42	42	42	40	79	88	79
Polymer materials and rubber	lb	207	225	225	320	320	320	366	527	567	527
Fluids, oils and chemicals	lb	139	201	201	337	337	337	265	331	330	428
Other	lb	159	549	549	287	309	397	697	889	911	1,003
Total*	lb	3,179	5,401	5776	5,820	6,063	7,886	13,918	18,210	18,810	20,071

Asphalt compactor model		DD95	DD100	DD120B	DD120	DD140B	DD140	DD140H-FA	PT125	PT220
Units (rounded)										
Steel / iron	kg	8 220	9 907	10 472	10 472	11 725	11 725	11 725	3 303	12 075
Copper	kg	12	12	11	11	10	10	10	6	10
Aluminum	kg	10	10	68	68	8	8	8	5	8
Lead batteries	kg	36	36	36	36	36	36	36	21	36
Polymer materials and rubber	kg	239	239	396	396	358	358	358	450	528
Fluids, oils and chemicals	kg	194	194	263	263	241	241	241	240	241
Other	kg	450	450	590	590	650	650	650	100	345
Total*	kg	9 160	10 025	11 836	11 836	13 028	13 028	13 028	4 125	13 343
Steel / iron	lb	18,122	19,974	23,087	23,087	25,849	25,849	25,849	7,267	26,565
Copper	lb	27	27	24,811	24,811	22	22	22	13	22
Aluminum	lb	22	22	150	150	18	18	18	11	18
Lead batteries	lb	79	79	79	79	79	79	79	46	79
Polymer materials and rubber	lb	527	527	873	873	789	789	789	990	1,382
Fluids, oils and chemicals	lb	428	428	580	580	531	531	531	529	531
Other	lb	992	992	1,301	1,301	1,433	1,433	1,433	220	759
Total*	lb	20,194	22,055	26,094	26,094	28,722	28,722	28,722	9,075	29,355

\* Varies depending on equipment, e.g., options and field kits

Weights are approximate.

These material fractions can be recycled (material and energy recycling) where such recycling possibilities are available.

## Producer responsibility

In many countries there is a producer responsibility that concerns our 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: \_\_\_\_\_

**VOLVO**

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