Cat® CS12 GC

Smooth Drum Vibratory Soil Compactor

The Cat® CS12 GC features a smooth drum and is ideally suited for granular soil applications with the use of an optional padfoot shell kit for cohesive soil applications.

Superior Compaction Performance

- High weight at the drum and high amplitude deliver superior compaction performance.

Comfortable and Ergonomic Operator Station

- Simple controls are within reach.
- Outstanding visibility to the front and rear of the machine.

Proven and Exclusive Cat Features

- Includes the ultra-reliable pod-style vibratory system and sealed-for-life hitch bearing.

Reliable Cat Engine

- The Cat engine provides ample power and consistent performance.
- Standard Eco-mode reduces fuel use during normal operation.

Simple Maintenance

- Maintenance-free hitch bearings and extended maintenance intervals for vibratory system and hydraulic system provide more uptime and lower maintenance costs.

Optional Cat Compaction Control Technology

- Compaction control helps the operator determine when compaction has been completed to specification for greater productivity and uniform compaction quality.
- Scalable solutions can be configured to meet customer needs.

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
OPERATOR ENVIRONMENT		
ROPS/FOPS Canopy with Handrails/Guardrails, Floor Mat		

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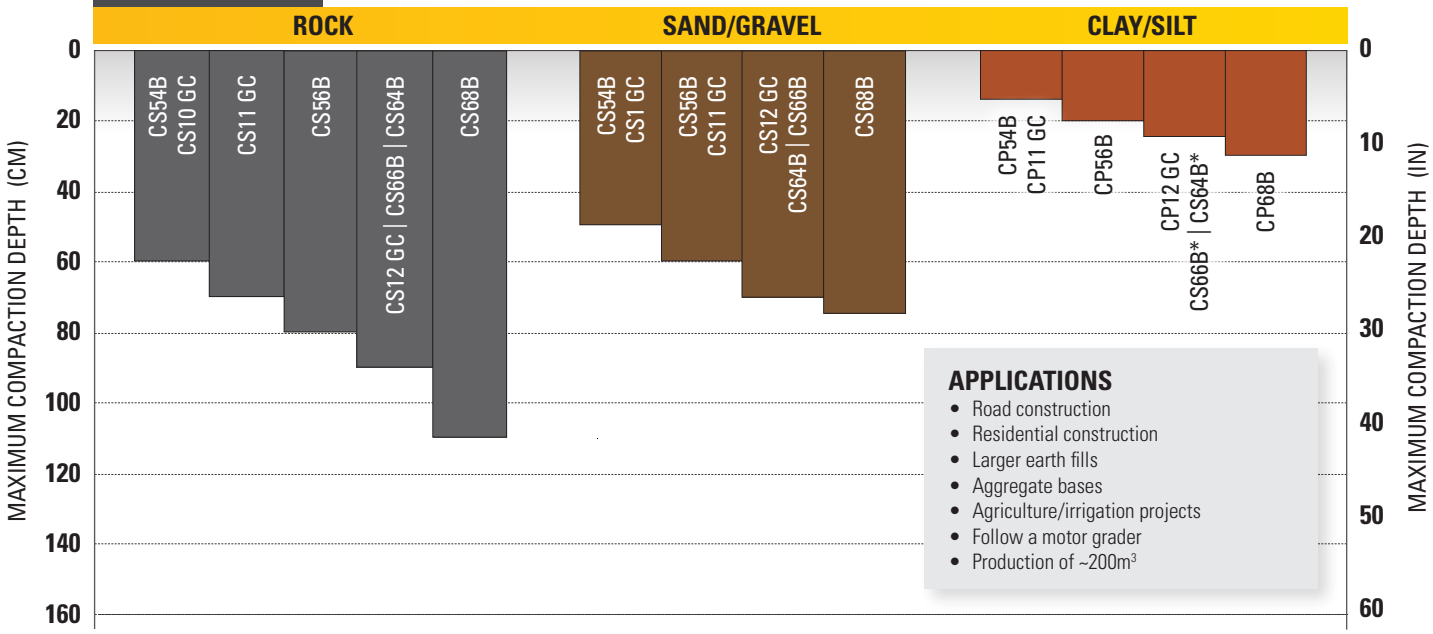
Vibratory Soil Compactor Selection Guide

10 - 15 T

Assumes density specification is 95% of Standard Proctor and can vary substantially due to different soil conditions.



APPLICATIONS

- Road construction
- Residential construction
- Larger earth fills
- Aggregate bases
- Agriculture/irrigation projects
- Follow a motor grader
- Production of ~200m^3

Rock
Smooth drum, high amplitude moving to low amplitude when approaching compaction, 4-8 passes

Size: Less than 50 mm (2 in) diameter

Sand/Gravel
Smooth drum, high amplitude moving to low amplitude when approaching compaction, 4-6 passes

Clay/Silt
Padfoot and smooth drum application (for smoothing), 4-10 passes. Compaction in cohesive soils strongly depends on moisture content.

* Smooth drum model equipped with padfoot shell kit

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Technical Specifications

Engine - Power Train		
Engine Model	Cat C3.6	
Emissions	US EPA Tier 4 Final EU Stage V	
Engine Power ISO 14396:2002	90.0 kW	121.0 hp
Gross Power SAE J1995:2014	91.7 kW	123.0 hp
Net Power ISO 9249:2014*	83.7 kW	112.2 hp
Net Power SAE J1349:2011*	82.9 kW	111.2 hp
Displacement	3.6 L	219.7 in^3
Stroke	120 mm	4.7 in
Bore	98 mm	3.9 in
Max. Travel Speed (Forward or Reverse)	11 km/h	6.84 mph
Theoretical Gradeability, with or without vibration**		50%

Vibratory System Specifications		
Nominal Amplitude - High	2.0 mm	0.079 in
Frequency at High Idle	30.0 Hz	1800 vpm
Frequency at Eco-Mode	28.6 Hz	1716 vpm
Nominal Amplitude - Low	1.0 mm	0.039 in
Frequency at High Idle	33 Hz	1980 vpm
Frequency at Eco-Mode	31.5 Hz	1890 vpm
Centrifugal Force		
Maximum	250 kN	56,200 lb
Minimum	149 kN	33,500 lb
Static Linear Load		
w/ ROPS/FOPS canopy	36.0 kg/cm	201.8 lb/in
w/ ROPS/FOPS cab	36.2 kg/cm	202.9 lbs/in
French classification, data/class w/ ROPS/FOPS cab	51.3	VM3

* Net power advertised is the power available at the engine flywheel when equipped with a fan at maximum speed, air cleaner, clean emissions module, and alternator.

** Actual gradeability may vary based on site conditions and machine configuration. Refer to the Operation and Maintenance Manual for more information.

*** Standard operating weight considers full fuel tank, 75 kg operator, flotation tires, smooth drum, and cab with A/C.

Service Refill Capacities		
Fuel Tank, total capacity	213 L	56.3 gal
Diesel Exhaust Fuel refill capacity	19 L	5.0 gal
Cooling System	18.5 L	4.9 gal
Engine Oil w/ Filter	11.6 L	3.1 gal
Eccentric Weight Housings (combined)	26 L	6.9 gal
Axle and Final Drives	10 L	2.6 gal
Hydraulic Tank (service refill)	23 L	6.1 gal

Weights		
Operating Weight w/ ROPS/FOPS Canopy	12 501 kg	27,560 lb
w/ Oval Padfoot Shell Kit	13 169 kg	29,033 lb
w/ Square Padfoot Shell Kit	13 328 kg	29,383 lb
w/ Padfoot Bumper, no shell	11 652 kg	25,688 lb
Operating Weight w/ ROPS/FOPS Cab***	12 655 kg	27,900 lb
w/ Oval Padfoot Shell Kit	13 323 kg	29,372 lb
w/ Square Padfoot Shell Kit	13 482 kg	29,723 lb
w/ Padfoot Bumper, no shell	11 806 kg	26,028 lb
Weight at Drum w/ ROPS/FOPS Canopy	7691 kg	16,955 lb
w/ Oval Padfoot Shell Kit	7979 kg	17,590 lb
w/ Square Padfoot Shell Kit	8138 kg	17,940 lb
w/ Padfoot Bumper, no shell	6462 kg	14,245 lb
Weight at Drum w/ ROPS/FOPS Cab	7734 kg	17,051 lb
w/ Oval Padfoot Shell Kit	8022 kg	17,685 lb
w/ Square Padfoot Shell Kit	8181 kg	18,036 lb
w/ Padfoot Bumper, no shell	6505 kg	14,341 lb

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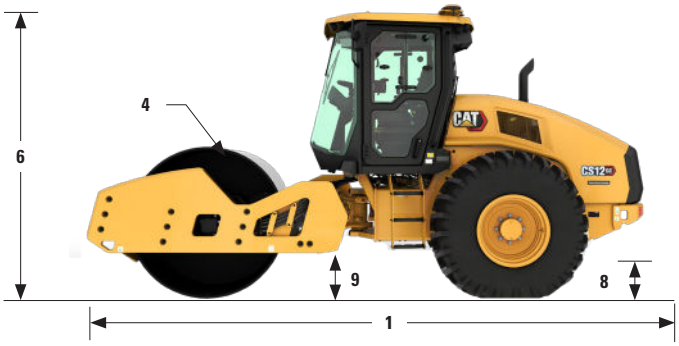
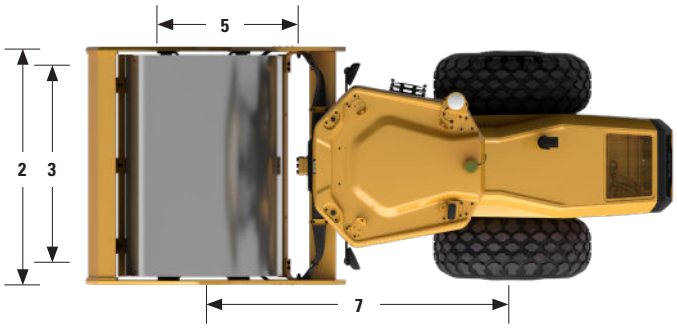
Technical Specifications

Dimensions			
1	Overall Length	5.70 m	18.71 ft
2	Overall Width	2.30 m	7.53 ft
3	Drum Width	2134 mm	84 in
4	Drum Shell Thickness	25 mm	0.98 in
5	Drum Diameter	1535 mm	60.4 in
6	Overall Height	3.0 m	9.8 ft
	w/ Padfoot Shell Kit option	3.03 m	9.93 ft
7	Wheelbase	3.0 m	9.8 ft
8	Ground Clearance	518 mm	20.4 in
9	Curb Clearance	492 mm	19.4 in
	Inside Turning Radius	3.86 m	12.7 ft
	Hitch Articulation Angle	34°	
	Hitch Oscillation Angle	15°	

Optional Padfoot Shell Kit Specifications		
Number of Pads	120	
Pad Height, oval pads	89.8 mm	3.5 in
Pad Face Area, oval pads	63.5 cm^2	9.8 in^2
Pad Height, square pads	89.8 mm	3.5 in
Pad Face Area, square pads	105.7 cm^2	16.4 in^2
Number of Chevrons	16	





Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit www.caterpillar.com/en/company/sustainability.html.

ENGINE

- The Cat C3.6 is available in configurations that meet U.S. EPA Tier 4 Final and EU Stage V emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)
  - ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

AIR CONDITIONING SYSTEM

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.2 kg (4.9 lb) of refrigerant, which has a CO_2 equivalent of 3.146 metric tonnes (3.468 tons).

PAINT

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
  - Barium < 0.01%
  - Cadmium < 0.01%
  - Chromium < 0.01%
  - Lead < 0.01%

SOUND PERFORMANCE

With cooling fan speed at maximum value:

Operator Sound Pressure Level (ISO 6396:2008) – 76 dB(A)

Exterior Sound Power Level (ISO 6395:2008) – 109 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

OILS AND FLUIDS

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat BIO HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

FEATURES AND TECHNOLOGY

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
  - Standard eco-mode limits engine RPM, lowering overall fuel consumption by up to 10% compared to high idle
  - Optional compaction control reduces unnecessary passes, contributing to lower overall fuel consumption
  - Extended maintenance intervals reduce fluid and filter consumption
  - Auto engine idle shutdown reduces unproductive hours and fuel burned

RECYCLING

- The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Material Type	Weight Percentage
Steel	71.29%
Iron	11.72%
Other	6.48%
Fluid	3.67%
Uncategorized	3.58%
Nonferrous Metal	1.56%
Rubber	0.85%
Plastic	0.56%
Mixed Metal	0.28%
Mixed Nonmetallic	0.01%
Total	100.00%

- A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance End-of-Life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability – Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused or both.

  All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.

  Because of variations of product configurations, the following value in the table may vary.

Recyclability – 96%

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For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment.
See your Cat dealer for available options.

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