
# COMPACT

CAT COMPACTION CONTROL

# MACHINE DRIVE POWER

A **Cat® Connect** technology for FOUR-DRUM SOIL COMPACTORS

CAT®


# HIGH PRODUCTIVITY, CONSISTENT QUALITY.

The key to soil compaction is getting the job done quickly, to exact specification. When the job calls for productivity, you need a high production 4-drum compactor system with advanced compaction measurement technology like Machine Drive Power to help you consistently meet compaction targets faster, more uniformly, and in fewer passes—saving you time, fuel, and costly rework.

# MACHINE DRIVE POWER.

## ACCURATE. RELIABLE. VERSATILE.

***MDP (Machine Drive Power)*** *is an innovative new technology that measures the load bearing strength of soil, giving operators the confidence to know when an area meets compaction specification, and the job gets done right.*

**MDP is less variable** than other soil compactor measurement technologies because it is a more direct means of assessing load bearing strength, providing confidence that the materials will support the load

**MDP measures what matters**, making it more relevant and useful on the job site. Unlike accelerometer based systems that often measure below the lift being compacted, MDP measures at a depth that is closer to the thickness of a typical lift, meaning you are measuring the material you are compacting – that's what matters on the jobsite.

**MDP is more versatile**, making it usable on a wider range of applications

- MDP works in all soil types: granular, semi-cohesive and cohesive
- MDP works on all machine configurations: Single Drum, Four-Drum, Smooth Drum, Padfoot
- MDP works independent of a vibratory system, making it useful in static drum situations

# HOW DOES MDP WORK?

MDP focuses on load-bearing strength, not on soil density. It works on the principle of rolling resistance.

Imagine pushing a loaded wheelbarrow over a concrete sidewalk, and then through soft garden soil. Minimal effort is required to push the wheelbarrow on the concrete, but a lot of effort is needed to push it through the soil.

This is because the concrete is stiffer and has higher load bearing strength, supporting the wheel firmly rather than sagging under its weight.

MDP **measures** the amount of **power** required for the soil compactor to propel over the soil, providing an indication of **load bearing strength**.

The wheelbarrow rolls easily on the smooth, stiff concrete.

The wheelbarrow sinks into the soil, requiring more effort.

## 1 SET UP A COMPACTION VALUE

- Compact a lift in a test section until there is no appreciable change in the MDP value.

**OR**

- Compact an area proven to meet compaction specifications.

In either case, refer to the display in the cab for the MDP value.

Constructing a test section.

## 2 COMPACT

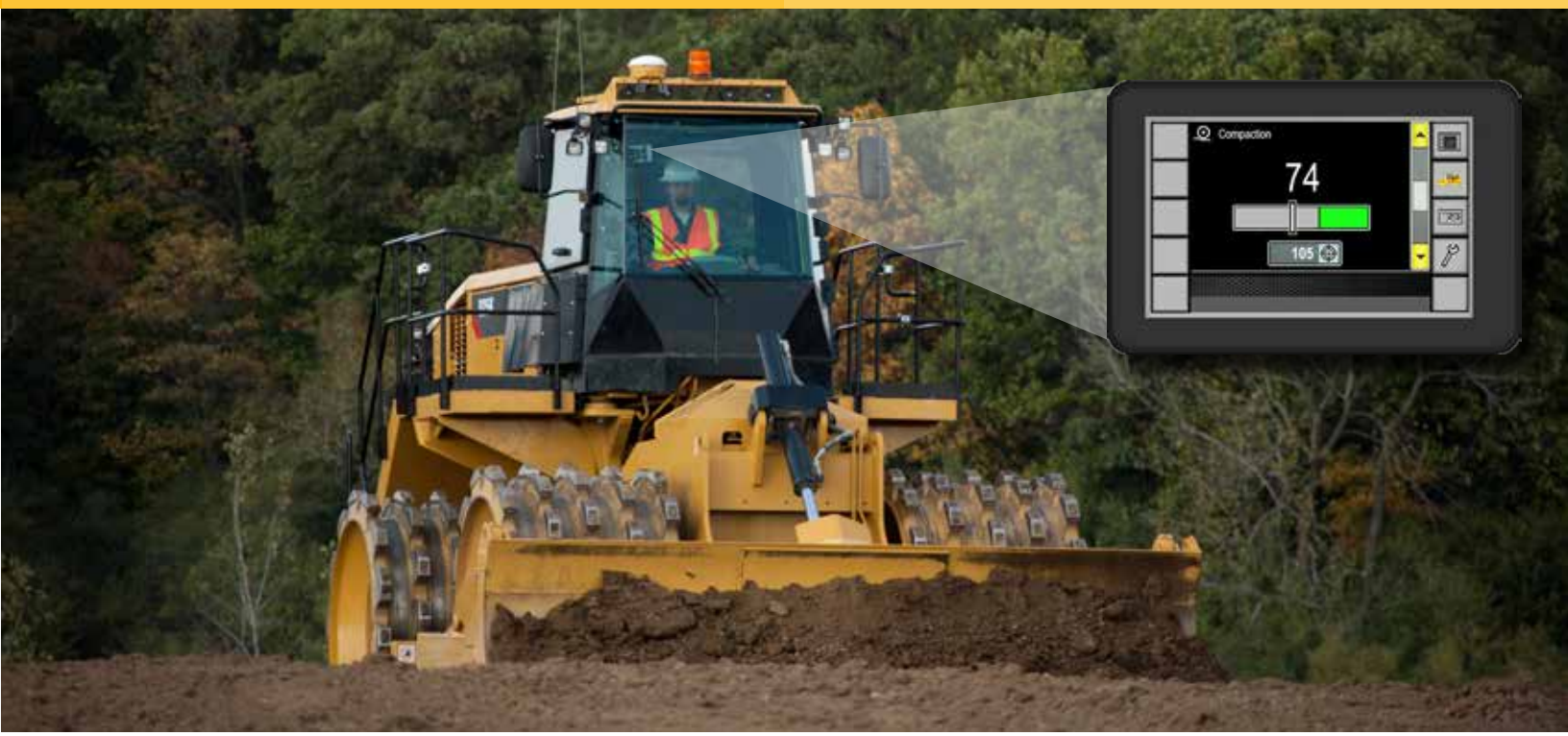
- Compact the soil, using the MDP value as your target.
- Make passes until the MDP reading slider is within the green “Acceptance Zone” on the display.

Be alert for localized areas of lower MDP readings. The lower readings can indicate a need to adjust water content or the presence of soil issues below the surface.

## 3 VALIDATE

- Compact at a slow, consistent speed.
- Measure while traveling in forward direction.

It is recommended to establish a pattern to stay consistent and ensure full coverage.




Machine Drive Power values increase as the soil stiffens.

# SCALABLE
# TO FIT YOUR NEEDS.

MDP is a component of Cat® Compaction Control, a compaction measurement system that is scalable to meet a wide range of needs and application requirements. This allows you to start out with the basic system, and add more capability as your needs grow.

The basic system includes MDP measurement technology. You can add mapping capability, with two levels of accuracy, enabling you to monitor progress, and ensure compaction uniformity, quality and efficiency. When you add Cat Connect LINK technologies you can get the most out of the data you collect by downloading or wirelessly transmitting it to the online VisionLink® user interface for analysis and reporting using your computer or mobile device.

When you combine measurement, mapping and the ability to store and analyze data, you have an **intelligent compaction system**—a solution that helps you work more productively—and profitably.


# COMPACT
# WITH CONFIDENCE.

Compacting soil with single-drum compactors or accelerometer measurement systems works well in some applications. When the job requires four drums, you need production-type compactors and a reliable compaction measurement system that enables you to compact productively – with confidence. With exclusive Machine Drive Power – available only from Caterpillar – you get exactly that. MDP measures closer to the depth of the lift with less variability than accelerometer based systems, even on cohesive soils. It also works on a wider range of applications.

Ask your local Cat dealer about rental and purchase options for your next soil compaction job.

| Feature | Machine Drive Power (MDP) | Accelerometer-based Compaction Measurement |
|---|---|---|
| Measurement Depth* | 30 - 60 cm (12 - 24 in) | 1 - 1.2 m (3.3 - 4 ft) |
| Correlates well with portable measurement devices (plate load) | ✓ | N/A |
| Usable with single drum, four drum, smooth drum, or padfoot | ✓ | N/A |
| Usable on granular or cohesive material | ✓ | N/A |
| Independent of vibratory systems | ✓ | N/A |
| Exclusive Cat technology | ✓ | N/A |

* Dependent on soil type, moisture and other factors.

# THE CONSISTENCY YOU WANT FROM YOUR EQUIPMENT.

## CAT® CONNECT

EQUIPMENT MANAGEMENT | PRODUCTIVITY | SAFETY | SUSTAINABILITY

Cat Connect COMPACT technologies give you the consistency you want to meet compaction targets faster, more uniformly, and in fewer passes.

To learn how additional Cat Connect technologies and services can help you monitor, manage and enhance your operations, contact your Cat dealer. Together, we'll put you in total control of your jobsite so you can achieve the success you want.

That's what we're built to do.

## BUILT FOR IT.™

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CAT®