CAT® ASPHALT COMPACTION

TECHNOLOGIES

CAT® ASPHALT COMPACTION TECHNOLOGIES

Cat® Compaction technology offerings may vary by region and model. Consult your Cat dealer for details.

The longevity of asphalt surfaces can be directly correlated to the compaction process. Cat® Compaction technologies for asphalt are designed to help contractors consistently achieve asphalt density targets with confidence. From pass-count and mat temperatures to compaction measurement values, Cat asphalt compaction technology can help you visualize and document the work being done.

TAKE QUALITY AND PRODUCTIVITY TO NEW LEVELS

Technology that fits your business and your budget, available as a factory-installed option or as an upgrade.

+ Designed to help operators of all skill levels consistently meet compaction targets faster, more uniformly, and in fewer passes.
+ Helps reduce rework, time and fuel costs.
+ Enhances jobsite safety.

CAT TECHNOLOGY

ELEVATE OPERATOR PRODUCTIVITY

Being able to consistently hit density targets is essential to asphalt compaction. Caterpillar offers tools that can help your crew repeat the compaction process with consistency. Providing the ability to monitor compaction parameters in real-time and enhance safety while on the jobsite are advantages that compaction technologies from Caterpillar provide.

RIGHT TEMPERATURE. RIGHT TIME.

REAL-TIME OPERATOR INSIGHT

Cat Compaction with Temperature Indication helps operators determine when optimal mat temperatures exist for asphalt compaction. The system utilizes dual infrared sensors to provide real-time mat temperatures so operators can identify temperature zones to start or stop rolling.

- **REAL-TIME MAT TEMPERATURES:** Infrared temperature sensors are designed to keep operators working in the optimal temperatures during compaction.
- **DIRECTION OF TRAVEL TEMPERATURE INDICATION:** On-board infrared temperature sensors mounted in the front and rear bumpers monitor the mat temperature in the direction of travel, providing operators with readings as they move over the mat in forward or reverse.
- **SIMPLE OPERATION:** The temperature reading is automatically integrated into the machine display along with other compaction parameters.
- **ELIMINATES HAND-HELD DEVICES:** Sensor readouts are integrated into the standard machine display.
- **QUALITY CONTROL:** When paired with mapping, pass-count and temperature data can be recorded for future analysis.

COMPACTION METER VALUE (CMV)

MONITOR QUALITY

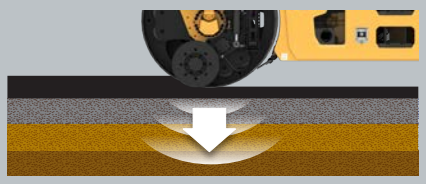
Compaction Meter Value (CMV) is an accelerometer-based technology that uses machine vibrations to measure and record composite stiffness of the current and supporting layers beneath the drum. By analyzing the frequency response of the drum, CMV provides real-time data that helps operators achieve consistent compaction with confidence.

- **INSTANT FEEDBACK:** Displays composite stiffness values in real-time so operators know when they are approaching compaction targets.
- **EASY TO UNDERSTAND:** An increasing CMV value indicates that compaction is improving. A static number indicates the asphalt has reached its compactive limit with the roller being used. Irregular CMV values indicate inconsistencies in the asphalt or base conditions.
- **QUALITY CONTROL:** Using CMV helps improve compaction quality and long-term performance of the asphalt surface.
- **PROOF ROLLING:** CMV can be used to proof roll the subgrade before paving. Deep reading levels can help identify buried objects or soft spots, helping to boost contractor confidence when warrantying their work.

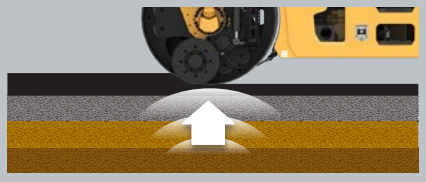
HOW IT WORKS

An accelerometer measures the response of the drum when vibration is on to provide a CMV value that is an indication how much energy the mat is capable of receiving.

MEASURES THROUGH SEVERAL LAYERS
~ 46-152 CM (18-60 IN) DEEP*



THE VIBRATING DRUM RELEASES ENERGY INTO THE MATERIAL.



THE ACCELEROMETER DETECTS AND MEASURES THE VIBRATION OF THE MATERIAL.

**Actual CMV values can be influenced by several factors such as machine weight, amplitude, frequency, and direction of travel.*

COMPACTION MAPPING

KNOW WHERE YOU'VE BEEN

Cat mapping technology combines geographic locations with compaction measurements to create real-time visualization of work as it happens. In addition to monitoring from the operator station, the system records and saves pass count, temperature and CMV (Compaction Meter Value) values to the cloud to be further analyzed through VisionLink™* or exported for further processing. Mapping utilizes Global Navigation Satellite Systems (GNSS) to deliver Real-Time Kinematic (RTK) accuracy.

**Requires a VisionLink PerformancePro subscription.*

+ **ACHIEVE CONSISTENT COVERAGE:** Mapping helps operators see where the machine has been or where it hasn't, what meets target and what doesn't, so they can make sure the entire area has been compacted to specification.
+ **BOOST JOBSITE EFFICIENCY:** The mapping system identifies areas that have completed the compaction process to minimize the risk of under- or over-compacting the asphalt.
+ **QUALITY AND PROCESS CONTROL:** Mapping documents and saves data to the cloud so you have proof of the work done, providing a reference of overall quality of the job and method specs in a visual, easy-to-understand format.
+ **COMPLETE PICTURE:** Mapping documents 100% of the area compacted vs. spot checks, providing a complete picture of the work that has been done. The system helps operators monitor coverage and passcounts when marks on the mat are difficult to see or during night paving. Mapping also aids in identifying transition zones and longitudinal joint overlaps.
+ **ANALYZE AND IMPROVE:** Data is stored and accessed through VisionLink for data analysis and process improvement. Data can also be exported through an Application Programming Interface (API).

SAFETY-FOCUSED TECHNOLOGIES

PRIORITIZE SAFETY ON YOUR JOBSITE

Maintaining a safe jobsite is crucial for maximizing productivity and minimizing costs. Cat safety technologies help lower risks, allowing operators to perform their tasks effectively.

SEAT BELT REMINDER

BUCKLE DOWN ON SAFETY

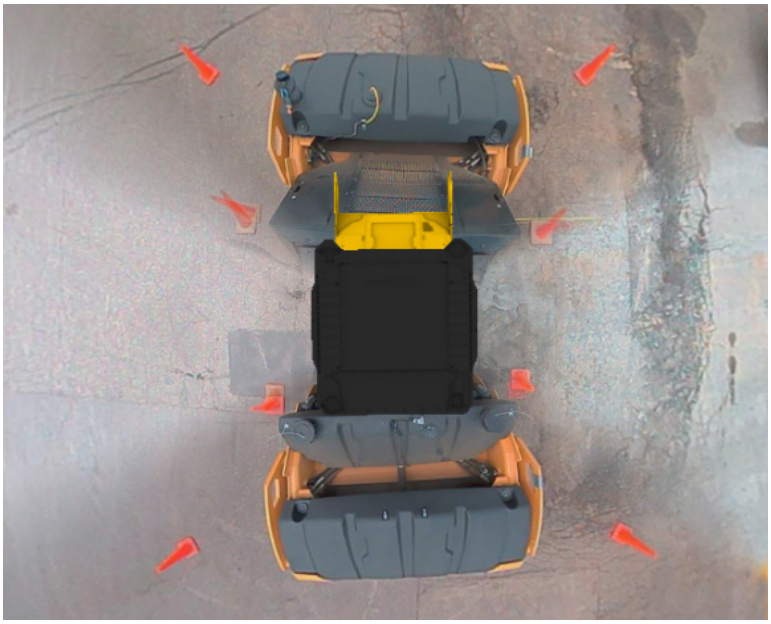
The Cat Seat Belt Reminder uses audible and visual alerts to ensure operators stay buckled while operating equipment. This technology detects when the seat belt should be in use by monitoring the machine's seat belt buckle.

- **HELPS TO IMPROVE JOBSITE SAFETY:** Operators are prompted through audible and visual alerts to stay buckled up, helping to reduce the risk of fatal accidents.
- **INCREASED MONITORING:** Safety incidents are captured through VisionLink to keep site managers aware of safety compliance.
- **EXTERNAL BEACON:** An optional, external beacon provides a visual alert for those on site to easily monitor potentially unsafe situations. The beacon can be configured to allow those on site to easily monitor seat belt usage.

CAMERA SYSTEMS

ENHANCING OPERATOR VISIBILITY

Integrated Fore-n-aft and 360° camera options are designed to enhance job site awareness when nearing the paver, obstacles, and working near the ground crew.



SURROUND VISION

+ **360° TOP DOWN CAMERAS:** The top down, 360° viewing option provides operators with simultaneous views from the front, rear, left, and right cameras.
+ **BLIND SPOT REDUCTION:** Greater worksite visibility reduces blind spots and improves operators' awareness of their surroundings.
+ **WORK ZONE AWARENESS:** The high-definition display allows operators to easily see the work zone on all sides of the roller, increasing comfort and productivity.

FORE-N-AFT CAMERAS

+ **EXTRA SET OF EYES:** Optional fore-n-aft cameras mounted in the front and rear bumpers provide good visibility when approaching obstacles.
+ **DESIGNED FOR ASPHALT COMPACTION APPLICATIONS:** The camera displays the direction of travel regardless of seat orientation, providing the flexibility needed when compacting asphalt.

CAT COMPACTION TECHNOLOGIES FOR ASPHALT

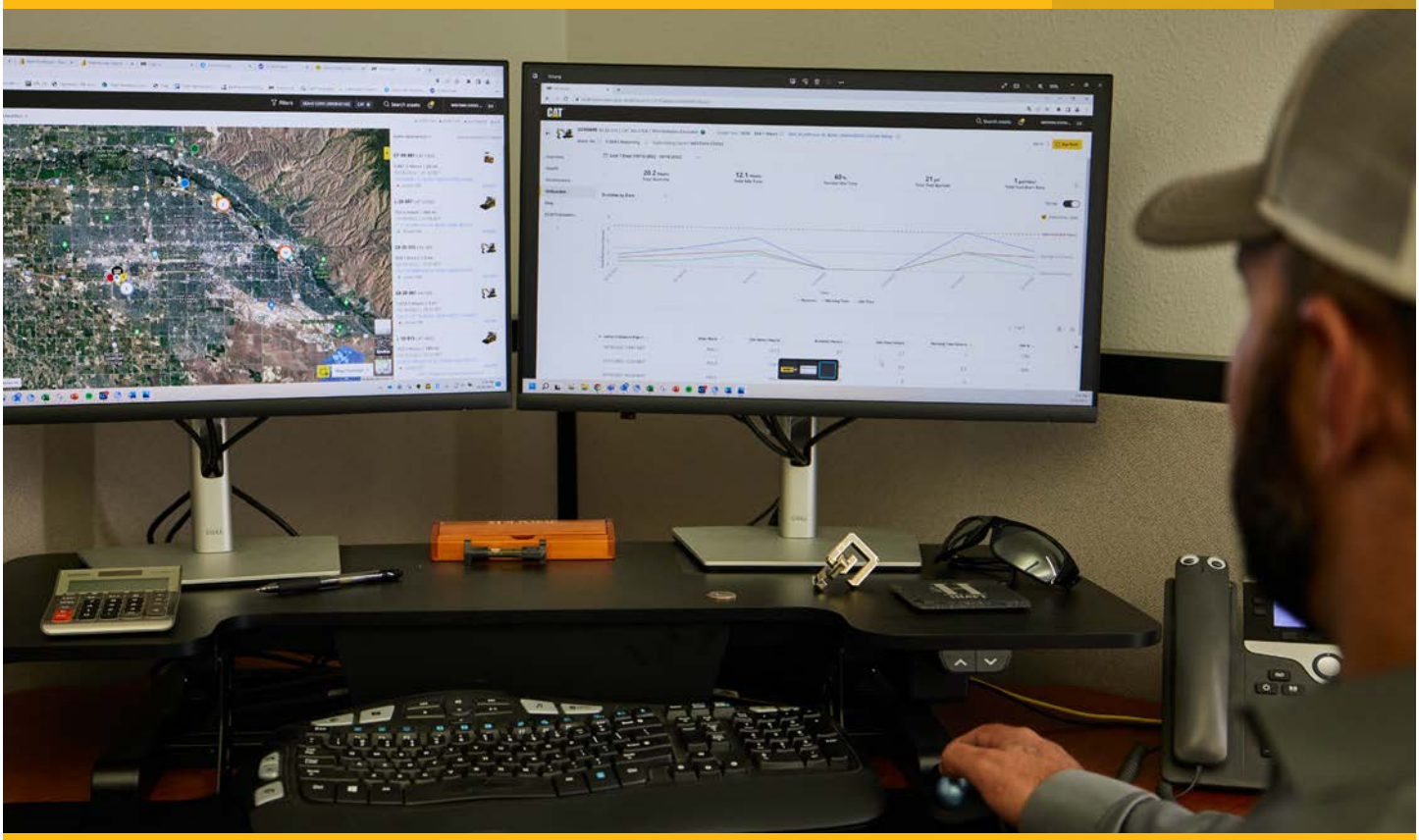
Model availability and configurations may vary by region. Please check with your Cat dealer for specific offerings and availability in your area.

SYSTEM	MODEL	AVAILABILITY	CONSIDERATIONS
Infrared Temperature Sensors	CB7-CB16 CW12, CW34	Factory-installed or upgrade through your Cat dealer	• One each in the front and rear of the machine • Always reads in the direction of travel • Asphalt surface temperature is visible in the machine display • Included with Cat Compaction mapping system
Compaction Meter Value (CMV)	CB2.5-CB4.4 CB2.5 GC-CB2.7 GC CC2.7-CC4.0 CC2.7 GC CB7-CB16	Factory-installed or upgrade through your Cat dealer	• Requires vibration mode on • Measures 46-152 cm (18-60 in) deep (averaged reading of total depth read). Actual CMV values can be influenced by several factors such as machine weight, amplitude, frequency, and direction of travel. • Excellent for finding soft subgrade conditions
Mapping	CB7-CB16	Factory-installed or upgrade through your compaction technology solutions provider	• RTK Global Navigation Satellite System (GNSS) • Accuracy level of 1-3 cm (0.5-1.5 in) • Requires a correction source such as: base station, Internet Base Station Service (IBSS), Virtual Reference Station (VRS) or Real Time eXtended by Trimble (RTX) • Requires a VisionLink™ PerformancePro subscription for back-office connectivity • Data can be exported for further analysis
	CW34	Upgrade through your compaction technology solutions provider	
Seat Belt Reminder	CB7-CB10 CW16	Factory-installed or upgrade through your compaction technology solutions provider	• Requires a VisionLink subscription for safety incident tracking • Optional configurable external beacon
Cameras	CB7-CB10 CW16	Factory-installed or upgrade through your compaction technology solutions provider	**CB7-10** • Fore-N-Aft cameras are viewed on operator display • 360° cameras have a dedicated display **CW16** • Camera shown in a dedicated display

VISIONLINK™

MACHINE AND JOBSITE DATA AT YOUR FINGERTIPS

VisionLink is a flexible and scalable cloud-based application designed to monitor all aspects of your operations, whether for individual machines or multiple interconnected job sites. It analyzes the collected data to provide insights into fleet utilization, compaction data and safety compliance. With VisionLink, you can make informed decisions that enhance operational efficiency and boost profits.



MAXIMIZE UPTIME

Monitor equipment health, fault codes, fluid analysis, and inspection due dates. Reduce unplanned downtime with critical alerts. Order parts and schedule service within the platform.

MAPPING DATA ANALYSIS

Access recorded mapping data for analysis, reference compaction quality and method spec information and pull reports of the work done. Data can also be exported through an Application Programming Interface (API).

OPTIMIZE UTILIZATION

Manage assets by projects, groups, or geofences. Set utilization targets and monitor performance. Make informed, data-based decisions to reduce operating costs.

PRIORITIZE SAFETY

Enhance operator awareness and worker vigilance on job sites by utilizing situational awareness alerts to mitigate risks and improve safety protocols.

CAT DEALERS

DEDICATED TO HELPING YOUR BUSINESS SUCCEED

When you select Cat equipment and technology, you benefit from the support of the largest and most experienced dealer network in the industry.

You gain a partner committed to assisting you and your operation at every stage. Whether you require expert advice or emergency service, your Cat dealer is there for you from day one.

Cat Compaction Technologies for asphalt may vary by region and model. Consult your Cat dealer for details.

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

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

www.cat.com www.caterpillar.com

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