



# THERMAL MAPPING

DRIVE CONSISTENCY FOR BETTER QUALITY AND  
LONGER LASTING ROADS

» INFLUENCE THE OUTCOME

**CAT**<sup>®</sup>

# TAKE CONTROL OF THE OUTCOME

## IMPROVE ROAD QUALITY WITH BETTER CONSISTENCY AND HIGHER RELIABILITY

Thermal segregation is one of the leading causes of road failure in the asphalt paving industry. Thermal variations leave uneven surface textures behind the screed. These variations cool more quickly and can lead to less than ideal compaction results and shorter life expectancy of the paved surface.

Early detection of thermal variation enables timely process control adjustments to be made. To combat these variations, contractors can monitor surface temperatures of the asphalt

utilizing an infra-red camera and a Global Navigation Satellite System (GNSS) enabled by RTK accuracy. Viewing real-time temperatures, contractors can identify variations and take action to manage the plant to paver delivery process and fine-tune paving practices for more uniform lay-down temperatures.

### » HOW THERMAL MAPPING WORKS

**Thermal mapping** utilizes an infra-red camera mounted on a robust, fixed-position mast. The camera captures the entire width of the asphalt surface behind the screed. An LCD display mounted near the screed console provides real-time visibility to the surface being monitored. Data is automatically recorded and stored for future analysis. Both on-board and off-board storage is available. The live

view helps ensure that the mix temperature is uniform and being placed at the designed temperature. It can also alert operators of potential issues before they become a major rework project. An in-field report can be generated that assesses the overall temperature variation. Early detection can be a real asset to the profitability of a contractor.



## » IMPROVE YOUR **CONSISTENCY AND QUALITY**

### **Meet Performance Specifications**

- Meet AASHTO thermal mapping specifications
- Optimize compaction for PWL Specifications
- Earn more incentive money by exceeding pay for performance quality targets

### **Detect Mat Temperature Variation**

- Monitor temperatures in real-time and make necessary adjustments
- Help ensure mix being delivered from the plant has a uniform temperature
- Fine-tune paving practices to help ensure consistent laydown techniques

### **Get Reliable Performance and Support**

- System consists of no moving parts
- Camera mounts on fixed-position mast
- Localized SITECH Support



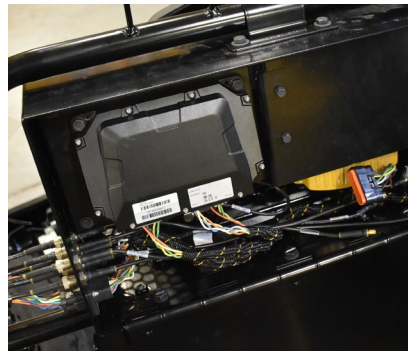
## » **HARDWARE**

**Thermal mapping** utilizes an infra-red camera, GNSS antenna, fixed-position mast and an LCD Display. Simple set-up helps contractors get the most from their investment.



### **Thermal Camera and MS955 Antenna**

- Measures surface temperature of the asphalt layer
- Next generation antenna establishes machine position and thermal mapping geospatial location



### **SNM941 Modem**

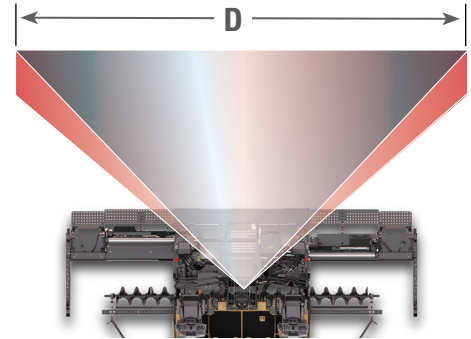
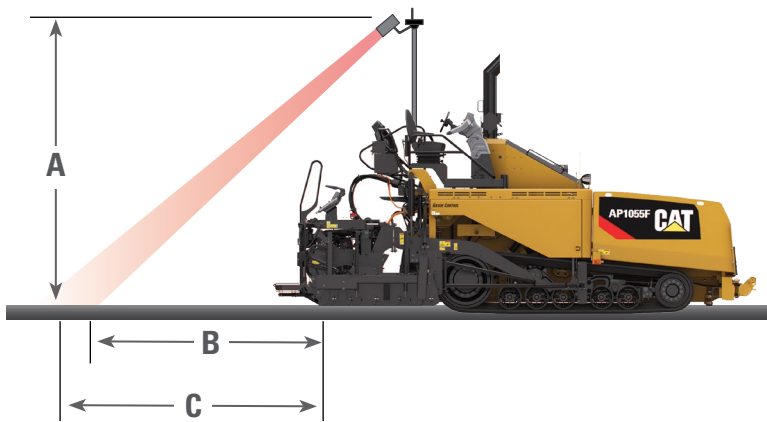
- Used to off-board thermal map directly into VETA
- Capable of WIFI communication (Machine to machine thermal sharing)



### **CB460 Display**

- EC520 creates thermal grid
- Displays thermal map to screed users
- Capable of in-field reports for thermal variation

## » SPECIFICATIONS AND DIMENSIONS



### TECHNICAL SPECIFICATIONS

Temperature Mapping Range	60° - 200° C (141° - 392° F)
Temperature Accuracy	±2° C or 2%

### DIMENSIONS

Camera Eye Height	A	3.96 m	(13')
Maximum Camera Height	–	4.27 m	(14')
Minimum Camera Height	–	2.93 m	(9' 7")
Calibration Zone			
Distance from Screed Plate – Minimum	B	2.44 m	(8')
Distance from Screed Plate – Maximum	C	3.66 m	(12')
Maximum Mat Width	D	9.14 m	(30')

**To learn more about bringing a higher percentage of your gross revenue to the bottom line with Thermal Mapping, contact your SITECH dealer today.**

QEHQ2523 (1/20)

© 2020 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

© 2020, Trimble Inc. All rights reserved. Trimble and the Globe and Triangle logo are trademarks of Trimble Inc., registered in the United States and in other countries. SITECH is a registered trademark of Trimble Inc. All other trademarks are the property of their respective owners.

