

Inspection of Concrete Bridge

Issue

It is required to find delamination of concrete bridge without scaffold.

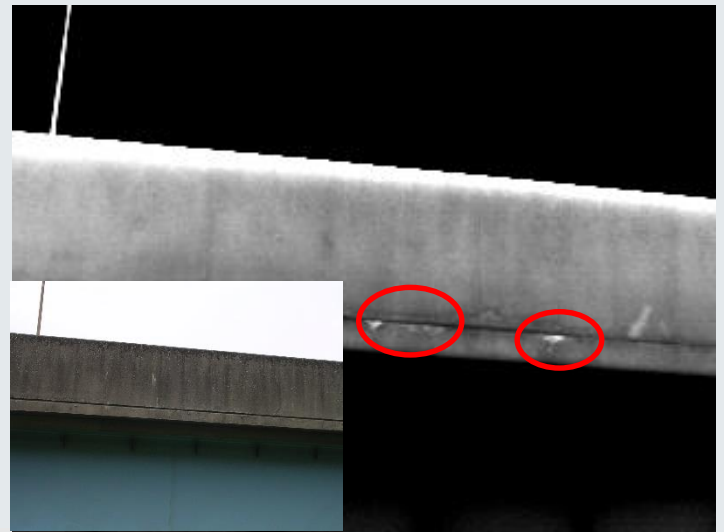
Avio Solution ! !

Avio Infrared Thermography allows you to detect delamination of concrete bridge from distance, without scaffold nor aerial work vehicle, which contributes to achieve high efficiency.

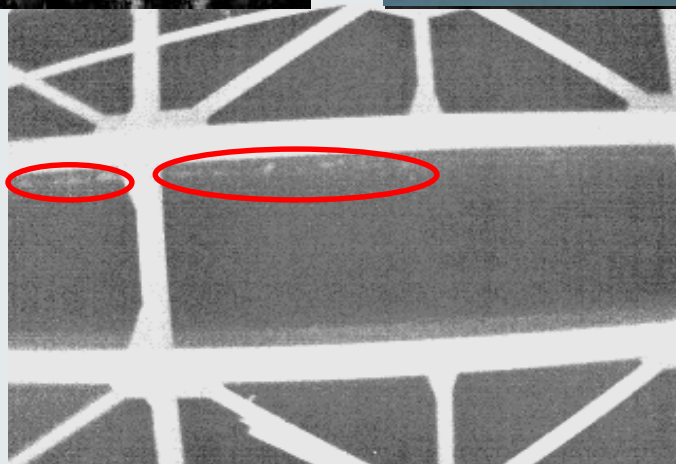
- ★ Thermal image taken by R550 super resolution function (Max. 1280×960 pixel). Detail of wider field of view (93° wide angle lens) is available.



Retaining Wall



High Shelf Section





Floor Plate

Avio IR thermography

For efficient diagnosis of concrete structure

■ Suitable model for diagnosis of concrete structure

Model	R550/R550-D	R300SR-S/R300SR-SD
		
Detector	2-dimensional uncooled microbolometer	
Display Pixels (Super Resolution)	307,200 pixels : 640×480 (1.2M Pixels : 1,280×960)	76,800 pixels : 320×240 (30M Pixels : 640×480)
FOV	32°(H)×24°(V)	22°(H)×17°(V)
Sensitivity	0.025°C (S/N improvement)	0.03°C (S/N improvement)
Measurement Range	-40~650°C	-40~120°C
Frame Time	30Hz/7.5Hz	60Hz/8.5Hz
Spatial Resolution (Super Resolution)	0.87mrad (0.58mrad equiv.)	1.2mrad (0.8mrad equiv.)
Option Lend	X2 Tele, X2 Wide, X3 Wide	X2 Tele, X2 Wide

Theory of concrete structure delamination detection

- ① During day time, when external thermal stress is applied to concrete structure, delaminated area are heated faster than normal area, because of smaller thermal capacity.
Example of thermal stress: Sun light, temperature gap between day time and night time.
- ② When external thermal stress is gone, heat accumulated inside of the concrete, will be radiated. Therefore, delaminated area with smaller thermal capacity becomes warmer than normal area with larger thermal capacity.(Reversed phenomenon)

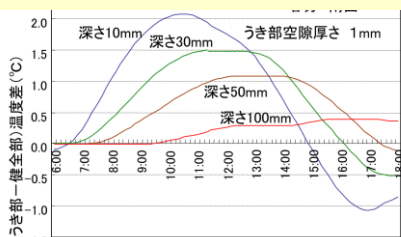
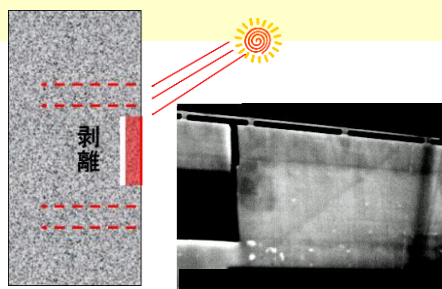
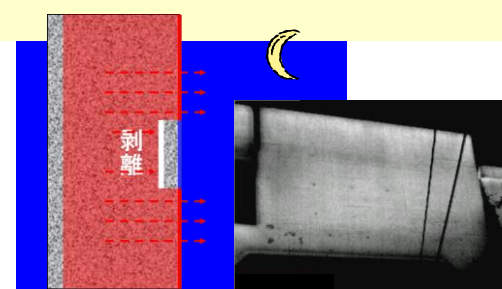


図. 浮き部深さと温度差の現れ方の例
東京:春分:南面 うき部の空隙厚さ1mmの場合



① Under thermal stress



② No thermal stress

Avio offers most suitable model for all of your measurement needs.

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WARNINGS & CAUTIONS

- Before using this product, please carefully read the provided Operation Manual "WARNINGS" & "CAUTIONS" section to ensure proper operation.
- Please do not place the product in high temperature, high humidity or high inert gas environments.

Distributor: