

Measurement of Hotspot

Hotspot detection of Sinter falling on a conveyor belt (after sinter cooler).

The sinter cooler is widely used in sintering processes in iron and steel industry. Blower expels cooling air into cooler passage which then flows through the grate & finally through high temperature sinter.

When sinter is fed into cooler from sintering machine it is commonly seen that due to segregation effects, sinters of larger size usually accumulate closer to inner wall of the cooler, whereas those of smaller size accumulate towards the outer wall. This nonuniform distribution of sinters sometimes lead to an uneven cooling effect throughout the cooler.

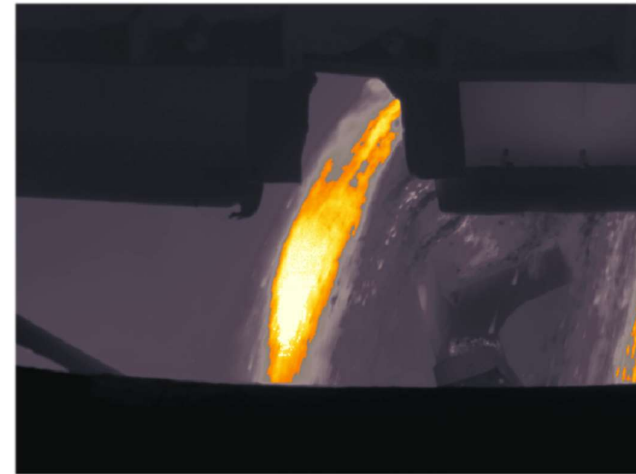
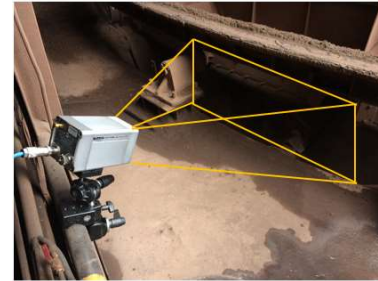
This causes the sinter leaving the cooler discharge with large temperature difference. This undesired temperature difference may lead to deformation and even destruction of conveyors on which the sinter drops at cooler discharge.

The ThermoView TV40 thermal imaging camera can detect these temperature difference due to uneven cooling. They appear in the form of hot spots on the screen.

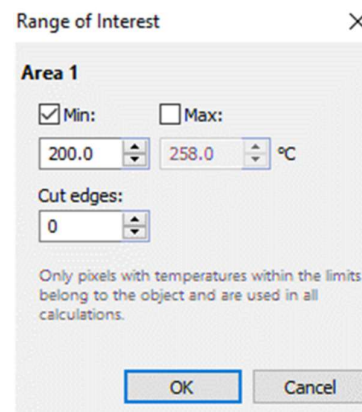
Range of interest when applied to an image changes its visual appearance. Pixels outside the range lose their colors to black and white. This gives user ability to visually emphasize some area (hot spots) on the image. In image A, pixels with temperature less than 200 Deg C appears black & white.

Range of interest when applied to Area Objects appears crosshatched in the thermal image. Only pixels with temperature more than 200 Deg C appear crosshatched in image B.

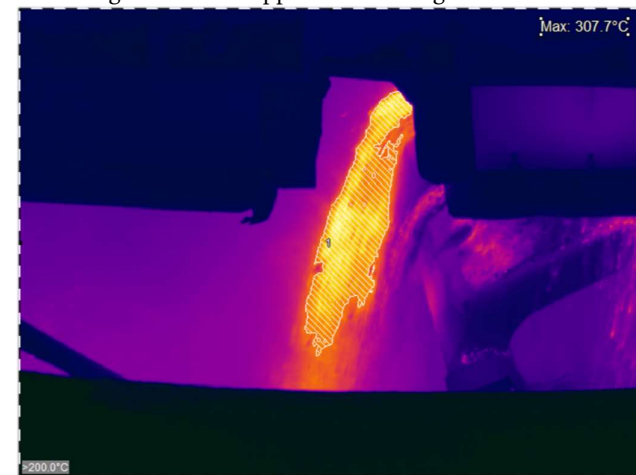
On screen, audio, as well as external (digital) alarm activates when temperature exceeds an setpoint. These parameters are configured in automation mode to prevent damage to conveyors due to hot sinter.



A. Range of interest applied to an Image.



Range of interest configuration.



B. Range of interest for Area Objects.