Longacre Tech

PROBE VERSUS INFRARED

Choosing a pyrometer? What is better; probe type or Infrared? The answer really depends on the application. Most tire engineers prefer the probe type for tires as the probe gets down to the cord. At the cord, the tire heat is un-affected by outside factors and the surface rubber insulates the heat for long enough for you to take readings. There is also an elastic stretching of the rubber near the cord that creates heat as well. The bottom line is that probe type pyrometers are best for specific applications such as tires.

On the other hand, Infrared pyrometers are versatile and can be used to check just about any kind of surface temperatures. You can find sources of heat which will affect the driver, locate dead engine cylinders, check track temperatures, brakes and just about anything. You can even use them on tires. However, this is a bit of a compromise. You will be getting a surface reading that will be 10-40 degrees cooler than temps taken with a probe type pyrometer. You will also get variances from the engine and brake heat. Further, the track temperature will cool off the surface very quickly. A tire with camber in it will ride on the inside edge when the car is rolling back to the pits. The area that is in contact with the track will cool down at a different rate than the rest of the tire. Your readings will not be as relative as compared to probe readings.

If you accept the limitations, the Infrared pyrometers will work for tires but will not be relative to probe readings nor will the delineation be as good. Using the right tool for the right job always produces better results. Just as the probe type is better for tires, the infrared type is better for most other surface temps. The probe type is designed to be submerged in rubber and does not work well for things like track temperatures. For rubber, probe type is best. For surface measurements, the infrared stands out.