

VISCOpro 2000 monitors viscosity in asphalt to reduce product variation



RESULTS

- Reduce product variation by 90%
- Achieve significant cost savings by reducing the amount of diluent needed to achieve targeted specifications
- Reduce tankage requirements and associated energy, capital and maintenance costs
- Increase throughput with less investment in inventory and capital equipment



“At some refineries, it takes 4-12 hours to realize and correct off-spec production. This can cost a refiner \$150,000 per off-spec occurrence for asphalt.”

APPLICATION

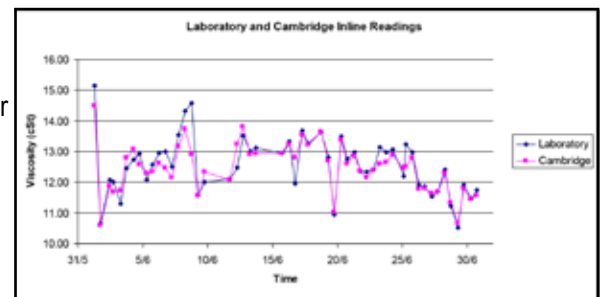
Online viscosity measurement of asphalt in a refinery using oscillating-piston technology

CHALLENGE

A Brazilian refinery produces five unique grades of asphalt, each with a different viscosity that needs to meet a targeted specification. One of the refinery's biggest challenges was caused by the significant variation of the viscosity and density of asphalt during processing. Fluctuations in raw material and process manufacturing mean periodic laboratory testing didn't truly represent the asphalt being produced. The refinery was experiencing inconsistent results when comparing lab samples and process samples. This meant they spent a significant amount of time and money on post-process blending to meet their minimum targets.

SOLUTION

The refinery installed a new VISCOpro 2000 in-line viscometer to automatically measure the kinematic viscosity of the in-process asphalt production, enabling operators to properly control the process. With this solution, the refinery achieved continuous sample measurement with no missed data points and spot-on correlation with lab results.



The VISCOpro 2000 uses oscillating piston technology, which is known for its high accuracy, repeatability, low maintenance requirements, and vibration tolerance. Its small size allows for easy installation, and it has a low overall total cost of ownership.

By reducing product variation, the VISCOpro 2000 allowed the refinery to attain the targeted product specs with minimal post-process blending. The instrument can measure asphalt at high temperatures (up to 707 °F). Installation is possible right at the bypass line, or in a mainline as necessary. This allows real-time viscosity measurement, and a savings in installation, maintenance, material, processing time, and labor.

Even without optimized control parameters, the VISCOpro 2000 was able to help the refinery realize a 90% reduction in product variation. For more information about the VISCOpro 2000, visit us online at www.paclp.com.

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