

Figure 3: TGA runs at 10°C/min of 2 different bitumen samples

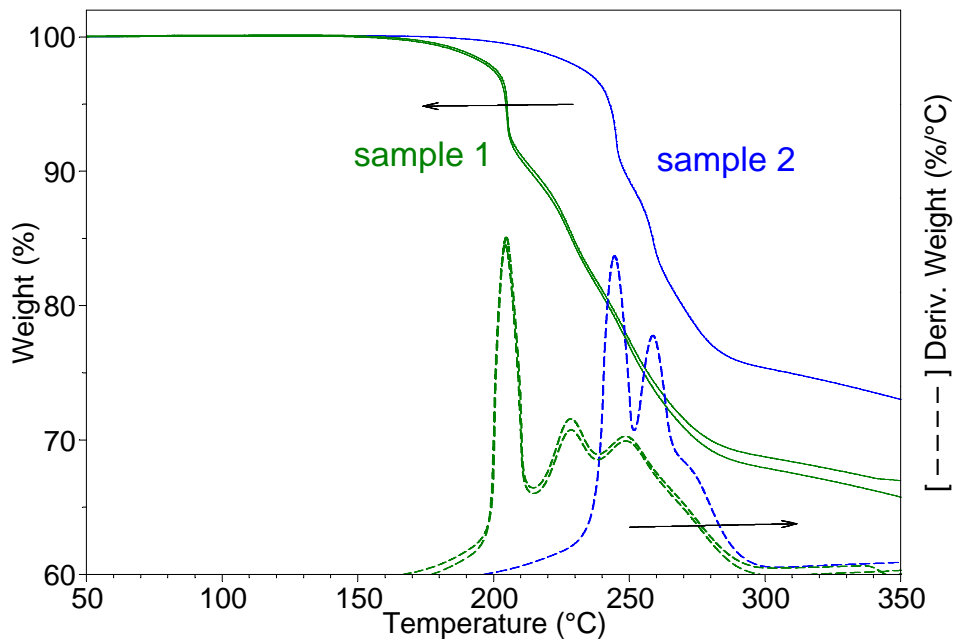


Figure 4: TGA runs (constant reaction rate) of the same bitumen samples as in Figure 3 (lower temperature range only)

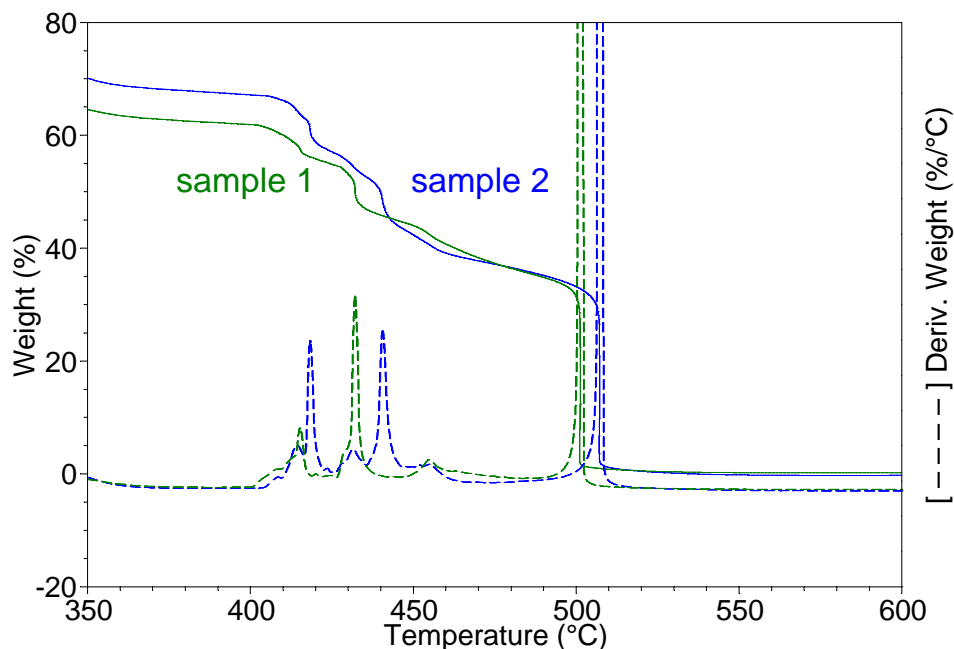


Figure 5: TGA runs (dynamic rate) of the same bitumen samples as in Figure 3 (middle and higher temperature range only)

CONCLUSIONS

The data presented illustrate the ease of determination of the Tg of bitumen with MDSC, despite an overlapping cold crystallization effect. Closer observation reveals a double Tg instead of a single broad Tg.

By using different modes of Hi-Res TGA™ excellent fingerprinting of different bitumen can be accomplished. For these bitumen samples the mode giving the best results depends upon the decomposition temperature range that is studied.

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KEY WORDS

DSC, MDSC, TGA, Hi-Res TGA, Bitumen, Glass transition temperature

TA Instruments

United States

109 Lukens Drive, New Castle, DE 19720 • Phone: 1-302-427-4000 • E-mail: info@tainstruments.com

Canada

Phone: 1-905-309-5387 • E-mail: shunt@tainstruments.com.

Mexico

Phone: 52-55-5200-1860 • E-mail: mdominguez@tainstruments.com

Spain

Phone: 34-93-600-9300 • E-mail: spain@tainstruments.com

United Kingdom

Phone: 44-1-293-658-900 • E-mail: uk@tainstruments.com

Belgium/Luxembourg

Phone: 32-2-706-0080 • E-mail: belgium@tainstruments.com

Netherlands

Phone: 31-76-508-7270 • E-mail: netherlands@tainstruments.com

Germany

Phone: 49-6196-400-7060 • E-mail: germany@tainstruments.com

France

Phone: 33-1-304-89460 • E-mail: france@tainstruments.com

Italy

Phone: 39-02-2742-11 • E-mail: italia@tainstruments.com

Sweden/Norway

Phone: 46-8-555-11-521 • E-mail: sweden@tainstruments.com

Japan

Phone: 813-5479-8418 • E-mail: j-marketing@tainstruments.com

Australia

Phone: 613-9553-0813 • E-mail: sshamis@tainstruments.com

India

Phone: 91-80-2839-8963 • E-mail: india@tainstrument.com

China

Phone: 8610-8586-8899 • E-mail: info@tainstruments.com.cn

Taiwan

Phone: 886-2-2563-8880 • E-mail: skuo@tainstruments.com

Korea

Phone: 82.2.3415.1500 • E-mail: dhchee@tainstruments.com

To contact your local TA Instruments representative visit our website at www.tainstruments.com

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