CRYSTEX® QC

AUTOMATED SOLUBLE FRACTION ANALYZER

Reliable and automated instrument for Amorphous Fraction determination in Quality Control laboratories of Polypropylene plants.

CRYSTEX® QC is a step forward in technology for automating the Soluble Fraction determination (amorphous fraction) in polypropylene and other polyolefin resins. This is a reliable instrument for continuous operation in the manufacturing plant laboratory, with minimum bench-space and utilities requirements.

CRYSTEX® QC stands as a modern alternative to the traditional wet chemistry method based on xylene solubility, which is known for being very time consuming and for requiring constant manual handling of solvent at high temperature. In comparison, CRYSTEX® QC is very easy to operate, and obtaining the amorphous phase content in a shorter time. It also eliminates the need to handle solvent manually and it uses less flammable solvents than Xylene (TCB or oDCB), increasing the safety level in the laboratory.

The only manual task required is to put a representative amount of sample (up to 4g) in a disposable bottle, without the need of accurate weighing. The instrument then automates the entire analysis process, including dissolution, separation of the soluble fraction from the crystalline matrix, and analysis by the online detectors. This whole process takes 2.5 hours, and thanks to its self-cleaning capability, the instrument is then ready for the next sample analysis.

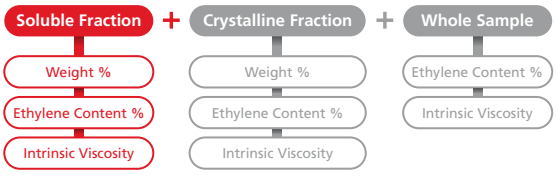
The crystalline and amorphous fractions are separated through a crystallization and re-dissolution temperature cycle within a proprietary TREF column. Precise quantification is achieved by means of an infrared detector that also delivers ethylene content information. Moreover, the instrument measures intrinsic viscosity by means of a built-in dual capillary viscometer. All results (concentration, ethylene content and intrinsic viscosity) are obtained for the whole sample, the amorphous fraction, and the crystalline fraction.

A Fully-automated analysis of multiple samples (up to 42), known to be homogenous (pelletized), can be performed using the same technology in the CRYSTEX® 42.

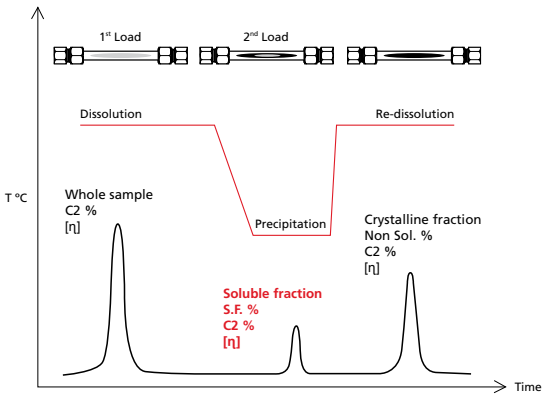
Find out more at **www.polymerchar.com/CRYSTEX_QC**

KEY FEATURES

- Fully-automated analysis of the soluble (amorphous) fraction in polypropylene and other polyolefins.
- A sample can be analyzed every 2.5 hours (including dissolution and rinsing time) without manual operation.
- No need for accurate weighing of sample nor manual solvent handling.
- No external filtration nor solvent evaporation required.
- Additional measurement of ethylene content and intrinsic viscosity for the fraction, the crystalline fraction, and whole sample.
- For Process/QC laboratories in production plants.
- Compatible with other polyolefin materials such as LDPE, and adaptable to other solubility tests (heptane or hexane solubles).



Information provided by CRYSTEX® QC in a single analysis



Elution of the whole sample and PP fractions in a TREF column

Polymer Char References

- App. Note: "Soluble fraction analysis in polypropylene for QC (CRYSTEX® QC)".
- App. Note: "Characterization of the whole polymer, amorphous and crystalline fractions in a Quality Control Laboratory".
- Poster: "Automated analysis of the amorphous fraction in PP resins by a modified TREF technique (5th ICPC 2014)."

Polymer Characterization, S.A. Gustave Eiffel, 8 Paterna E-46980 Valencia, Spain T.: +34 96 131 81 20 info@polymerchar.com www.polymerchar.com

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