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.

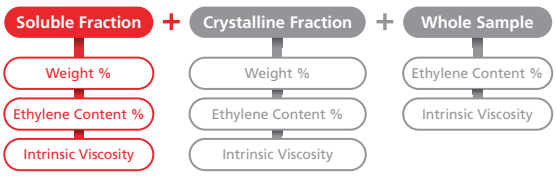
The crystalline and amorphous fractions are separated through a crystallization and re-dissolution temperature cycle within a proprietary TREF column. Precise quantification is achieved by means of an infrared detector that also delivers ethylene content information. Moreover, the instrument measures 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.

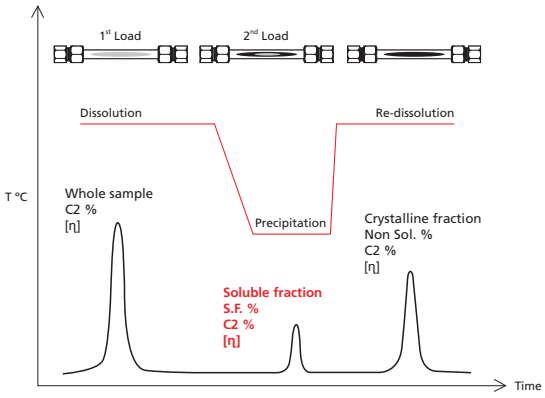
Find out more at **www.polymerchar.com/CRYSTEX_QC**

KEY FEATURES

- Automated substitute to the manual gravimetric/xylene solubles method.
- Additional measurement of ethylene content and intrinsic viscosity for the fraction, the crystalline fraction, and whole sample.
- CRYSTEX QC method is included in ISO 16152:2022.
- A sample can be analyzed every 2.5 hours (including dissolution and rinsing time) without manual operation. By using the "Add Samples" capability, subsequent samples take 1.5h per sample.
- Different dissolution bottle sizes available (240ml, 120ml and 60ml).
- No need for accurate weighing of sample nor manual solvent handling.
- No external filtration nor solvent evaporation required.
- Optionally, an in-line filter can be incorporated in case of analyzing recyclates or other polyolefins with pigments, or fillers such as talc, mica... or others.
- Compatible solvents: TCB and oDCB. Ask about other solvents.



Information provided by CRYSTEX® QC in a single analysis



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

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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