CRYSTEX® 42

AUTOMATED SOLUBLE FRACTION MEASUREMENT

High-throughput system for simultaneous measurement of the Amorphous Fraction, Ethylene Content, and Intrinsic Viscosity.

CRYSTEX® 42 is a high-throughput and fully-automated approach for obtaining the soluble fraction in polypropylene and copolymers. It stands as a modern and easy-to-operate alternative to the traditional wet chemistry method based on xylene solubility, which is known for being time consuming and for requiring constant manual handling of solvent at high temperature.

CRYSTEX® 42 incorporates a high temperature autosampler with 42 positions to analyze samples in 20mL vials (max. sample amount of 160mg). This system eliminates the need to handle solvent manually and it operates with less flammable solvents than Xylene (TCB or oDCB), increasing the safety level in the laboratory.

CRYSTEX® 42 is based on the same TREF separation concept as its sibling instrument, CRYSTEX® QC, in which the sample is loaded into a TREF column twice. The first injection serves to measure the whole polymer and the second one remains within the column for a crystallization ramp that results in the separation of the soluble from the crystalline fraction.

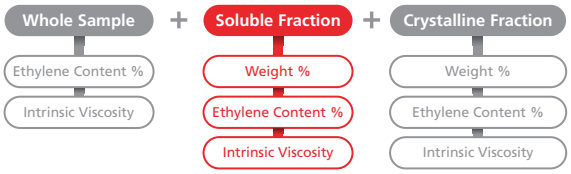
Results are very precise thanks to its full automation and to its integrated infrared detector (IR4), which measures precisely the amount of sample analysed as well as providing ethylene content information. Moreover, for a truly complete analysis, the instrument measures intrinsic viscosity by means of a built-in dual capillary viscometer. All results (concentration, ethylene content, and intrinsic viscosity) are obtained for the whole sample, the soluble fraction, and the crystalline fraction.

While CRYSTEX® QC was designed to be installed in each production plant to monitor the process in real time analyzing a larger amount of sample (up to 4g), CRYSTEX® 42, with its high temperature autosampler, and has become perfect complement to be used in a central lab, where large batches of pelletized, more homogeneous samples need to be analyzed.

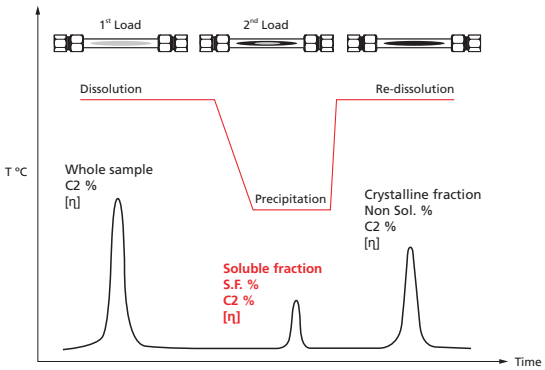
Find out more at **www.polymerchar.com/CRYSTEX_42**

KEY FEATURES

- Automated substitute to the manual gravimetric/xylene solubles method.
- Fully-automated analysis of the soluble fraction (amorphous) fraction in polypropylene and other polyolefins.
- Additional measurement of ethylene content and intrinsic viscosity for the soluble fraction, the crystalline fraction and whole sample.
- CRYSTEX 42 method is included in ISO 16152:2022.
- Autosampler with 42 samples capacity.
- Dissolution and full analysis of the first sample completed in 3 hours. Following samples results are obtained every 2 hours.
- Vials of 20ml for low solvent consumption.
- No need for accurate weighing of sample or manual solvent handling.
- No external filtration or solvent evaporation required.
- Optionally, an in-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® 42 in a single analysis



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

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