

# HOBRAFILT® – selected high-flow depth filter sheets for specific applications

## Characteristics

Hobrafilt® depth filter sheets are produced using carefully selected and controlled raw materials, primarily various types of cellulose, high-quality diatomaceous earths, perlites, and wet-strength agents. These filter sheets are inherently three-dimensional depth filters, characterized by the presence of adsorbent materials with a large internal surface area.



## Applications

Hobrafilt® filter sheets designed for applications requiring high flow rates are selected from various types across product lines and tailored to meet the requirements of typical applications. Their primary function is to remove coarse impurities that could otherwise initiate unwanted reactions and degrade product quality.

### Typical areas of application

#### ■ Edible vegetable oils

The production of vegetable oils (mainly edible) involves a complex series of operations. While sharing similarities with other food and beverage processes, it also has its own specific requirements. Taste, aroma, colour, appearance, and shelf life are among the most important quality parameters. When focusing on the product itself, filtration is a key operation. Due to their size, coarse particles left after pressing can be effectively removed with Hobrafilt® depth filter sheets and Orbifilt® modules, or with Candefilt® filter cartridges.

Vegetable oils, including olive oil, must be filtered immediately after pressing and removal of coarse impurities to maintain a stable oil with good organoleptic quality. This prevents undesirable anaerobic fermentation and prolongs the shelf life of the oil.

#### **Example: olive oil production**

Traditional olive oil production, including extra virgin olive oil (EVOO), relies on mechanical extraction from ripe olives. After crushing and malaxation, the oil is separated from solid parts by centrifugation. It is then passed through a separator to remove residual water, making it ready for effective filtration.

The International Olive Council (IOC) recommends this method for removing microparticles and water residues, thereby eliminating sedimentation, preventing the onset of degradation processes, and extending the shelf life of the oil during storage. The use of Hobrafilt® depth filter sheets or Orbifilt® modules significantly reduces turbidity (by more than 85 %) and removes residual moisture without losing the natural aroma of the oil. In addition, the polyphenol content remains virtually unchanged, ensuring long-term organoleptic stability and high product quality.

Filtration is therefore a key step, and its purpose is to remove remaining suspended particles such as pulp residues, pit fragments, microdroplets of water, and solid substances (proteins, phospholipids etc.). These substances cause turbidity, negatively affect the stability of the oil, and shorten its shelf life. Unfiltered oil may also contain yeasts,

molds, and bacteria that can cause unwanted fermentation, changes in taste, and deteriorate sensory qualities during storage.

Filtration prevents degradation, such as increases in free acidity and peroxide value during storage, and also protects phenolic compounds from oxidation. This preserves the health benefits and extends the shelf life of the oil.

■ **Sugar solutions and syrups**

When filtering sugar solutions and syrups, Hobrafil<sup>®</sup> filter sheets with a more open structure and high flow rates are preferred. These sheets are specifically designed to handle the higher viscosity of these liquids without causing a significant increase in differential pressure. They are particularly suitable for applications where process efficiency and long-term stability are essential.

■ **Lubricants and technical fluids**

High-flow Hobrafil<sup>®</sup> filter sheets are typically used for the filtration of lubricants, mineral and synthetic oils, and other technical fluids. These sheets are resistant to chemical stress and ensure effective depth separation of impurities.

Filtration efficiently removes solid particles, thereby extending the service life of the oils and reducing equipment wear. Thanks to their structure, the filter sheets withstand higher flow rates and pressure differences, contributing to the long-term stability of the filtration process.

**HOBRAFILT<sup>®</sup> – depth filter sheets for high-flow applications**

Filtersheet Type	Flow rate (l/m <sup>2</sup> /min@100kPa)	Nominal retention (µm)	Thickness (mm)	Ash content (%)
S 80 N	1233	8	3.6	22
S 81 N	1050	8	3.8	22
S 100 N	1025*	11	3.3	<1
S 150 N	1950*	25	3.3	<1
S 100 NT	1100*	11	3.0	<1
S 500 NT	1300*	20	4.1	<1
S 540 NT	1600*	25	3.6	30
S 405 O	3250*	>30	3.1	29

\* l/m<sup>2</sup>/min@30kPa

