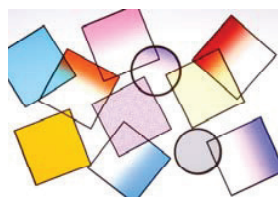




F I L T E R S

## Product Information

### How our filters are made



**Formatt's filter range is manufactured using the most advanced technology and optically correct materials, to ensure both the highest optical standards and consistent repeatability. Over £4 million was expended over a period of 7 years in research and development to ensure that the final product is of the highest possible standard.**

#### **The Resin Base**

All of Formatt's filters are initially made from the manufacture of sheets of resin which are then cured in our own ovens. The filter color or effect is then applied to this resin using our unique **Absorbing Cell Technology**, for which the company won the Queens Award for Industry in the 1980s. This process absorbs the color or effect into each cell of the resin rather than coating onto it, ensuring that the color is applied consistently across the filter. This means that each Formatt filter is of the same type can be consistently replicated time after time.

#### **Ultimate Optical Glass**

The resin filter is then sandwiched between two pieces of **Schott** Superwhite glass. This is the ultimate optical glass and is regularly used in the manufacture of high performance lenses, and therefore provides a superior optical quality to the more commonly used green float glass. The resin is cured within the glass using Formatt's bonding process which has been developed over a number of years to eliminate reaction with either the glass or the resin.

#### **Computerised lapping and polishing**

Once the resin has been bonded within the glass, the glass is then reduced down to its required thickness using one of 4 computerised lapping machines. It is then polished to the highest optical standards using one of 4 computerised polishing machines. A protective frame is then applied round the edge (except for new 4mm filters—see below)

#### **3mm framed or 4mm unframed**

Formatt's standard completed filters are 3mm thick and have an external frame, unlike most others which are 4mm thick without frame. We

believe that thinner is better and provides higher optical quality, and the frame protects the filter from damage around the edge; however for those who prefer the 4mm filter we now manufacture all of our range in 4mm without frame as well. These filters have a very high quality finished edging thanks to our new water jet cutting machinery (see below).

#### **Quality Control**

The manufacture of Formatt's filters is a 14 stage process and the filters are inspected both visually and using state of the art test equipment, at every stage of the process, to ensure the highest possible standards.

#### **High Technology**

Formatt has always invested in the most advanced technology and in 2007 has committed £150,000 in the acquisition of a new computerised water jet cutting machine, and laser marking technology, to maintain its position at the leading edge of filter manufacture.

The water jet machine, the only one of its type in South Wales, is used for cutting both the resin and glass for the filter manufacturing process, and gives an extremely high quality finish commensurate with the standards which Formatt's technicians, and our customers, require.

Formatt also plans further investment later in the year in the extension and upgrading of its oven capacity for resin manufacture. This will ensure that the Company maintains the most advanced manufacturing facility available.

#### **HD Optical Filters Ltd**

Glass Filter Division

Unit 23 Aberaman Industrial Park, Aberdare, Rhondda Cynon Taff, CF44 6DA

Tel (+44) 1685 870979 Fax (+44) 1685 877007 Email sales@formatt.co.uk

Web www.formatt.co.uk