

## Gel Permeation Chromatography (GPC)



### Principle

Gel permeation chromatography is a technique which is related to size exclusion chromatography, where a solution is transported over a stationary gel which acts as carrier, in which the different components have different transport speeds.

Gel permeation chromatography is a size-based (molecular length) separation technique.

### Method

In Gel permeation chromatography the slowing down is generated by the adsorption of dissolved material onto the stationary phase, where the smaller molecules stick longer than the larger ones.

If the molecules fit into the pores, they have a longer way to travel than those who do not fit. So smaller molecules take longer than larger ones.

From the resulting data it is possible to retrieve the average molecular weight, the molecular mass distribution and the size of the molecules.

### Applications

- Determination of Molecular weight and distribution
- Possible branching or co-polymerisation
- Spread of possible degradation in recyclates

