



VynoKlear is a high molecular weight vinyl chloride homopolymer produced by a suspension process with no addition of antioxidant. After mixing with appropriate additives, VynoKlear is typically recommended and suitable for extrusion, calendaring or injection moulding of semi-rigid and flexible PVC

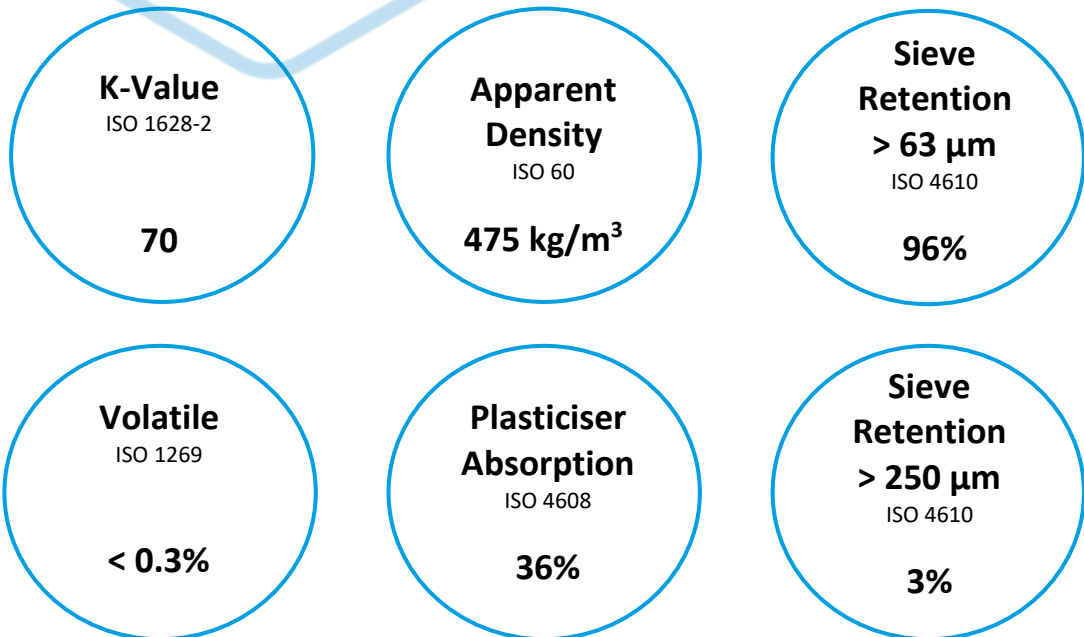
VynoKlear is characterised by

- Superior porosity and compatibility with all types of plasticisers
- Unique transparency, colour and surface aspect
- Absence of antioxidants in the formulation
- Polymerisation without recycled VCM

These distinctive properties and features make VynoKlear particularly suitable for a variety of high quality flexible end products e.g.

- Clear and transparent medical products
- Waterproofing membranes
- Innovative flexible consumer goods & cables

Vynoklear Technical Data Sheet



Note: The property data shown above has been obtained from laboratory tests on representative samples of VYNOVA™ S7000 polymer. Although the values are typical, they are for guidance only, and must not be used as a basis for specifications.

FOOD CONTACT APPLICATIONS

Food contact materials in the European Union are subject to the requirements of *European Regulation 1935/2004*, laying down general requirements that materials should not transfer their constituents to food in quantities that may endanger human health. The principle regulation for plastic materials intended to come into contact with foodstuffs is *Commission Regulation 2011/10/EC*. Vinyl chloride presence, detectable by a method complying with the criteria set out in Article 11 of *Regulation (EC) N° 882/2004 of the European Parliament and of the Council on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules*, is restricted to a maximum level of 1 mg/kg in materials and articles. Commission Regulation 2011/10/EC introduced an overall migration limit to the final article of 10 mg/dm² or 60 mg/kg (60 ppm). VYNOVA resins are manufactured using only monomers and starting substances listed in Annex 1 of Commission Regulation 2011/10/EC. Compositions based on our resins, when processed in accordance with best known practice, are believed to comply with the mentioned migration limits. It remains however the responsibility of the manufacturer to conduct relevant tests on the final article to assure appropriate migration requirements are satisfied.

MEDICAL APPLICATIONS

For customers producing medical products, following European Pharmacopoeia Monographs apply:

- 3.1.1.1. Materials based on plasticised PVC for containers for human blood and blood components
- 3.1.1.2. Materials based on plasticised PVC for tubing used in sets for the transfusion of blood and blood components
- 3.1.10. Materials based on non-plasticised PVC for containers for non-injectable, aqueous solutions
- 3.1.11. Materials based on non-plasticised PVC for containers for dry dosage forms for oral administration
- 3.1.14. Materials based on plasticised PVC for containers for aqueous solutions for intravenous infusion

Maximum level of vinyl chloride is 1 mg/kg in the final product, according to these monographs.

DRINKING WATER

For materials that will come into contact with drinking water, national regulations apply.

Responsibility for compliance of the final article with these regulations is the manufacturer's responsibility. VYNOVA can liaise with national bodies and/or testing facilities to make sure that relevant information is used in assessing the customer's products. VYNOVA's products are supplied on the strict understanding that the customer/manufacturer of the final article will ensure that all relevant regulations have been complied with. Assistance from our Sales and Application Support staff is available at any time.

Note: It is the responsibility of the customer and producer of the end product to ensure that the final material or article complies with all relevant regulations.

PACKAGING & STORAGE - SHELF LIFE

Vynova resins must be stored at temperatures below 50°C, and protected from sunlight and moisture. Direct contact with the soil has to be avoided.

When conditions of storage and packaging are respected, we guarantee a shelf life of three years after production of the material.

SUSTAINABILITY

Thanks to the renewed ten-year Voluntary Commitment of the European PVC industry VinylPlus, a number of key challenges are being addressed with visible progress:

- Increase recycling rate of PVC products and development of innovative recycling technologies
- Address potential concerns about organochlorine emissions
- Make sustainable use of additives
- Improve energy efficiency, lower carbon footprint, use of renewable materials
- Promote sustainability awareness throughout the whole value chain

More detailed information can be found at: www.vinylplus.eu

The European Council of Vinyl Manufacturers has published an Environmental Product Declaration (EPD) of PVC. This is a document describing the various environmental impacts going together with the manufacture of PVC resins; a useful tool for life cycle analyses. Data in the document is derived from average performance of manufacturing plants across Europe, which makes the file representative for all VYNOVA's S-PVC resins.

An electronic version of the EPD is available at:

www.pvc.org/upload/documents/Polyvinylchloride_PVC_Suspension_polymerisation_-_January_2008.pdf

Information contained in this publication (and otherwise supplied to users) is based on our general experience and is given in good faith, but we are unable to accept responsibility in respect of factors which are outside our knowledge or control. The information supplied in this publication relates to prime quality products only. Users of VYNOVA polymers should consult the appropriate VYNOVA's Health and Safety literature which is available from your sales or technical representative.