



VITON® seals in your TWCO.

You sometimes read that a watch has Viton, NBR, Perbunan or Buna-N seals but what's the difference, and what does it mean?

Time for some education!

Where in your watch.

They refer to the seals (usually O-rings) for the case back, crown and occasionally the crystal; sometimes it also states the number of seals per sealed item (simple rule: the more seals the better).

The different materials.

We will only mention the most commonly used materials in the watch industry.

NBR (Nitrile Butadiene Rubber) also known as Buna-N or Perbunan is a synthetic rubber copolymer of acrylonitrile (ACN) and butadiene.

Standard grades of NBR are typically resistant to mineral oil-based lubricants and greases, many grades of hydraulic fluids, aliphatic hydrocarbons, silicone oils and greases and water to about 80°C. NBR is generally not resistant to aromatic and chlorinated hydrocarbons, fuels with a high aromatic content, polar solvents, glycol-based brake fluids and non-flammable hydraulic fluids (HFD).

NBR is relatively low cost but has low resistance to ozone, weathering and aging; in fact this last property makes it less suitable for watches (it deteriorates over time).

VITON® is a brand of synthetic rubber and fluoropolymer elastomer commonly used in O-rings. The name is a registered trademark of DuPont. O-rings made of Viton are typically color-coded as black, but new gaskets, seals and O-rings should be green FKM (Fluorocarbon) or black FKM, but with a green mark on the outer edge (marking it as 'Viton'). Simple check: a Viton seal in your watch will usually be green.

NBR O-rings deteriorate while the Viton fluorocarbon O-rings have similar functional characteristics to NBR but with much higher temperature and chemical resistance characteristics (and therefore will last much longer!). Viton is also less susceptible to decay under increased oxygen conditions.

Because of these last properties Viton is the better choice for watch seals, in fact the quality of the seals says a lot of the quality of the watch itself!

So now you know all about it!

A **TWCO** is equipped with VITON seals, double for the case back and quintuple (5 seals!) for the crown.