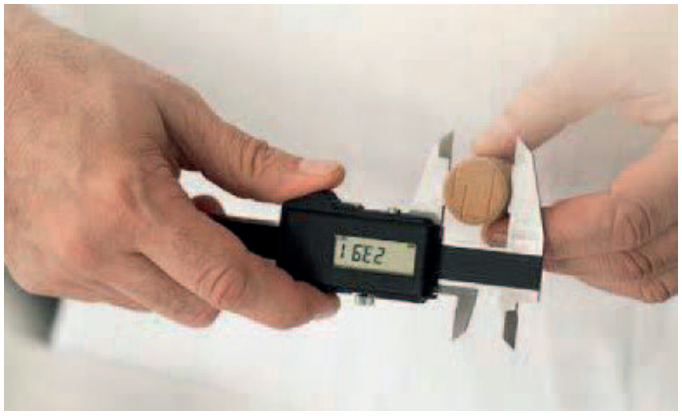
VINVENTIONS

WQS
Closure oxygen ingress study

service

Assessing the real closure oxygen contribution

Closure oxygen ingress can play a crucial role in the development of wine in bottle. By managing this oxygen ingress, it is possible to modulate the aromatic evolution of a wine but also to avoid reduction or oxidation. But to do so, the total closure contribution must be taken into consideration. This contribution does not only rely on the oxygen transfer rate (OTR). Closure oxygen or outgassing, which corresponds to the release of oxygen contained in the closure, is a physical phenomenon that also contributes to the total closure oxygen ingress. The total closure oxygen ingress corresponds in fact to the sum of the OTR and the outgassing. We have developed a fast and reliable method that allows measuring accurately this closure oxygen ingress valid for natural corks, cork-based stoppers and mono or co-extruded closures. This method provides the winemakers with means to assess the performance of their closures. On top of that, this method also allows evaluating the cork to cork variation within batch or across batches. As a matter of fact, closure selection can be better achieved based on the technical and qualitative objectives defined by the winemakers.



PREMIUM FEATURES INCLUDE:

- Measurements are done on empty bottles (dry method)
- Non-destructive measurement using the NomaSense O_2 P6000 analyzers
- Using of predictive mathematical model to obtain quick results in two to three weeks for the majority of the closures
- Results comparable to those from the Mocon-Oxtran method
- Results are provided in milligrams of oxygen per year (other units on request)

Applications:

- Closure oxygen ingress assessment
- Identification of the sources of variations:

  –– Measurement of the closure oxygen ingress (Outgassing and OTR)
  –– Measurement of the closure oxygen transfer rate (OTR)
- Consistency assessment by measuring cork to cork variations within the same batch and accross batches
- Identification of potential gas leakage after closing:

  ––Slow mechanical return
  –– Defective seals
- Study of the permeability of other packaging on demand:

  –– Bag-In-Box®
  –– Wax seal...
- Quality control for purchased closures batches
- Advising for closure selection based on winemaker's intentions

  ––Shelf-life
  –– Wines without sulfites
- Improvement of bottle to bottle consistency

In brief:

The closure oxygen ingress management during storage of wine is at the heart of the scientific research we are conducting for many years.

This unique expertise has led us a full range of closures with consistent features and technical performances regarding oxygen ingress.

Our fast and accurate method for oxygen ingress measurement offers an alternative at a better value to the Mocon-Oxtran method.

Our expertise in closure oxygen ingress selection, developed thanks to systematic oxygen ingress measurement, is unique in the wine industry.

Last but not least, we can evaluate the performance of other packaging for permeability upon request.