



Various Gases Barrier Property of "SoarnoL™"

Various gases barrier property of "SoarnoL™" is shown in the following. Permeability for various gases is expressed by the following formula.

P=D·S

Here P:Permeability coefficient, D:Diffusion coefficient, S:Solubility coefficient

By comparison of N2, O2 and CO2, the difference of each gas permeability is due to the difference of solubility between gas molecule and "SoarnoL™" for each gas.

On the other hand, by comparison of He and other gases, the difference of gas permeability is due to the difference of diffusion between He molecule and other gas molucule for "SoarnoLTM".

Condition: 20deg C, Dry atmosphere

Dry film, with Differential Pressure Method

| Sample | Gas Permeability (cc 20µm/m² day atm) | | | |
|----------------|---------------------------------------|----------------|-----------------|--------|
| | N ₂ | O ₂ | CO ₂ | He |
| Soarnol 29mol% | 0.018 | 0.23 | 0.49 | 110 |
| Soarnol 32mol% | 0.024 | 0.3 | 0.62 | 120 |
| Soarnol 38mol% | 0.041 | 0.53 | 1.3 | 180 |
| Soarnol 44mol% | 0.1 | 1.2 | 4.4 | 320 |
| ONy | 11 | 24 | 180 | 1,700 |
| PET | 7.8 | 30 | 96 | 2,600 |
| OPP | 600 | 1,400 | 10,500 | 25,000 |

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