

INSULATION YEAR AFTER YEAR



Typical use phase for insulation is **15-50 years**.



Closed cell foams **retain blowing agent** in the foam.



Environmental **benefits** due to **energy savings**. HFOs & HCFOs have negligible contribution to global warming.

The ultra-low GWPs of non-flammable HFOs and HCFOs used as foam blowing agents provide a level of insulation performance which allowed the replacement of high-GWPs HFCs, AND has the potential to replace some elements of the hydrocarbon and CO₂-blown sectors, based primarily on improved thermal properties.

AND SINCE 2020?

F-GAS REGULATION 517/2014



Since **2020**, HFCs with global warming potentials of more than **150** are **banned in extruded POLYSTYRENE foam** (XPS).



From **2023**, HFCs with global warming potentials of more than **150** will be **banned in all other foams**, including **POLYURETHANE**.

FROM HFCs TO HFOs and HCFOs

For HFCs, environmental benefits due to **energy savings** outweigh HFC emissions during foam manufacture use and disposal. HFOs and HCFOs maintain excellent performance and effectively eliminate blowing agent global warming emissions.



Ultra Low Global Warming Potential



Can be used in a **wide range** of insulation foam applications



Non flammable



Excellent insulation performance

HFO-1234ze(E), HFO-1336mzz(Z), and HCFO-1233zd(E) have excellent properties for insulation foam