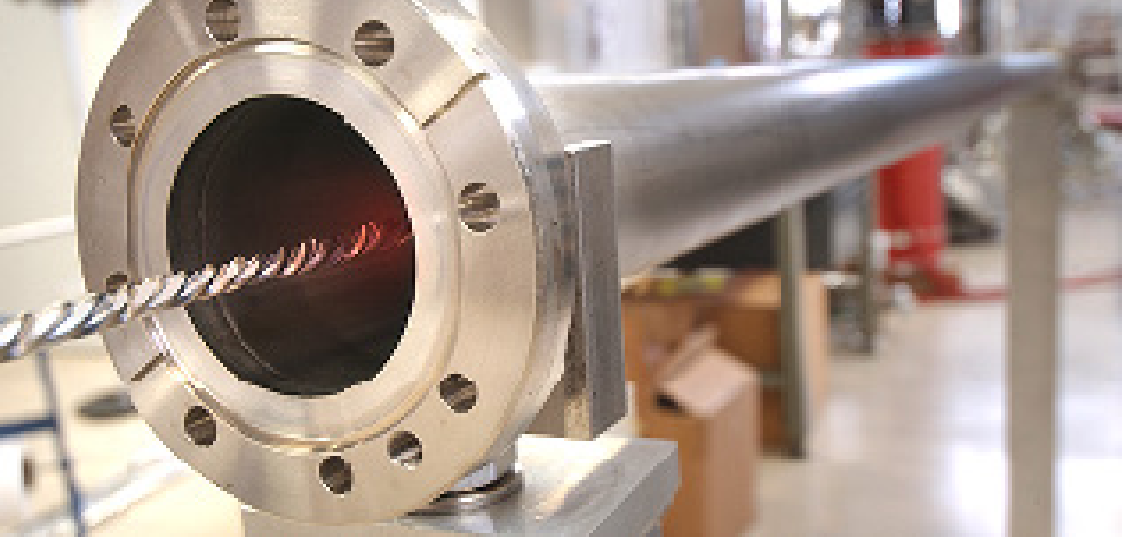

TECHNOLOGY CARD

NON-EVAPORABLE GETTER THIN FILM COATINGS

What does it do?
To realise ultra-high vacuum at low temperatures.

How does it work?
Once activated, the material blocks gas from escaping. This process can be reset by heating, where the reactivity of the coating is restored.

Is there an analogy or metaphor you can use to help describe this simply?
Reuseable like a hand warmer.

Unique characteristics
NEG performance was characterised using 20 different types of materials.
Baking at temperature in the range 180°C to 400°C.
Ultra-high vacuum is achieved (10 - 13 Torr).

Limitations or constraints
Cannot be exposed too often to ambient air.
Requires high degree of know-how.

Originally designed to be used for:
NEG thin-film coatings have been developed for the LHC project.

Questions related to this technology
Where is it precise vacuum at low temperatures needed?
Could it be used in high pressure environments?

References

https://kt.cern/technologies/non-evaporable-getter-neg-thin-film-coatings
http://knowledgetransfer-dev.web.cern.ch/sites/knowledgetransfer-dev.web.cern.ch/files/documents/technologies/non-evaporable-getter-neg-thin-film-coatings.pdf
http://accelconf.web.cern.ch/accelconf/e98/papers/thz02a.pdf
https://slideplayer.com/slide/13574566/