# Article information:

Ageing and air leakage assessment of a nuclear reactor containment mock-up: VERCORS 2nd benchmark - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0029549321000881?via%3Dihub=>

# Article summary:

1. An international simulation benchmark was organized to assess the behaviour of a 1/3 concrete containment building mock-up built by EDF in France.

2. The benchmark aimed to improve the confidence in modelling structural behaviour and leak-tightness of concrete in containment walls under pressure tests or accidental loadings.

3. The benchmark yielded interesting information about the possibility to use spatially reduced models to predict mechanical behaviour and leakage, and highlighted the need for further research to better predict crack localization and leakage.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy, as it provides detailed information on the VERCORS program, its objectives, and findings from the 2nd benchmark. The article is well-structured and easy to follow, with clear explanations of concepts such as delayed strains, relaxation of tendons steel, drying creep and shrinkage strains of concrete, air leak-tightness at a structural level during pressure tests or under accidental loadings.

The article does not appear to be biased or one-sided; it presents both sides equally by providing an overview of previous experiments conducted on similar mock-ups (Sandia mock-up in USA, Civaux or MAEVA mock-up in France, BARCOM mock-up in India), as well as outlining the objectives of VERCORS program and findings from the 2nd benchmark.

The article does not appear to contain any unsupported claims; all claims are backed up with evidence from relevant sources such as Eurocode equations, simulations performed by EDF, etc. Furthermore, all potential risks are noted throughout the article (e.g., size effects on cracking of concrete).

The only potential issue with this article is that it does not explore any counterarguments or alternative perspectives on VERCORS program or its findings from the 2nd benchmark; however this is understandable given that this is a scientific paper rather than an opinion piece.

In conclusion, this article appears to be reliable and trustworthy overall; it provides detailed information on VERCORS program and its findings from the 2nd benchmark without any bias or unsupported claims.

# Topics for further research:

* VERCORS program objectives
* Eurocode equations
* Sandia mock-up
* Civaux or MAEVA mock-up
* BARCOM mock-up
* Size effects on cracking of concrete

# Report location:

<https://www.fullpicture.app/item/633a6104c3f05fc2da6bb765149c55e5>