



Room Integrity Test

for Clean Agent
Suppression
Systems

**Solutions don't have to
be complicated.**



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Who is Rotaflow?

Rotaflow is a mid-size, premier full-service Engineering, Procurement, and Construction Management (EPCM) company. Located in Edmonton, Alberta, we specialize in industrial fire and water projects. For over 25 years, we've worked with the world's leading energy companies, including Suncor Energy, Gibsons, Husky, Cenovus, and Albion Sands.

Customers and market influencers see us as subject matter experts in executing Industrial Fire and Utility projects from concept through CSU to operation. Our team of over 100 engineers, designers, and trades work collaboratively to design, build, retrofit, repair, operate, and maintain systems, protecting life and assets and enabling companies to focus on their core business.

Commissioning and maintenance of a clean agent suppression system in Alberta should follow the requirements set by NFPA 2001 (Clean Agent Fire Extinguishing Systems). As part of these requirements, it is necessary to conduct a Room Integrity Test during the commissioning of a clean agent system to ensure that the suppression system is performing as per the intent of the design. The enclosure where this system is installed should then be inspected annually for any changes that could compromise enclosure integrity: an example, a new penetration in the wall. If any new source of the leakage is identified during this inspection, another Room Integrity Test should be performed



to determine the leakage points and correction action should be taken by property owners to properly seal the enclosure.

Room Integrity Testing is a method used to locate and quantify air leakage

within a facility protected by a fire suppression agent such as FM200, NOVEC 1230 or INERGEN. A Room Integrity Test is performed to ensure the minimum required concentration of the fire suppression agent can be maintained inside the enclosure, being protected for the required retention time (typically 10 minutes) to achieve satisfactory system performance during an actual fire scenario.

The test involves measuring the enclosure, defining the hazard to be protected, setting up the door fan and pressurizing/depressurizing the room while recording the pressure readings. Finally, the pressure readings are entered into the Enclosure Integrity Testing software to calculate the equivalent leakage area and the retention time. A smoke pen will be utilized inside the room while the room is pressurized/depressurized to find sources of leakage.

If the calculated retention time exceeds the minimum retention time, the room has passed the integrity test and a written report will be submitted to the

client. Should the calculated retention time be less than the minimum retention time, a detailed report outlining sources of the leakage inside the room and the required corrective action will be provided to the client for consideration.

Room Integrity Tests are essential to ensure that the assets most valuable to you are protected. Rotaflow is experienced in designing, installing, commissioning, and maintaining clean agent systems. By utilizing our team of certified Fire Protection Engineers, Sprinkler Fitters, Electricians and Room Integrity test Technicians, we can offer the full range of services from engineering to procurement, construction, commissioning, and maintenance of clean agent suppression systems.

If you want to arrange a Room Integrity Inspection at your site, feel free to contact us for a quote.



We appreciate the attention to detail and safe work practices your team has demonstrating.

- Suncor, Base Plant



Every challenge was met head on with the primary focus being safety.

- Suncor, Base Plant

Our Values

Safety First

- Safety starts with me.
- Safety is our culture and not just a problem.
- I see it, I own it.

One Team Spirit

- respect for one another.
- Be fair and honest.
- Earn and maintain trust.

Customer Centric

- Keep promises.
- Serve with gratitude and appreciation.
- Always be ethical and professional.

Continuous Improvement

- Eager to learn.
- Strive to do better.
- Learn and train, mentor and coach.

Accountable

- Take ownership of my work and its results.
- Do the right thing, always.
- Mistakes happen; learn from them.



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