



Risk-based Inspection

In an increasingly competitive market, an industrial operator needs an optimum level of reliability and safety to meet modern economic and environmental challenges. A high level of reliability and safety requires efficient management of risks associated with production activities. For many years, Vinçotte has offered inspection services to operators of pressurised equipment in order to ensure the safety of staff and the general population. The inspections are performed both in a regulatory and voluntary environment.

Your tailor-made solution

Vinçotte carries out qualitative assessments enabling operators to have an idea of the levels of risk in their plants. When an operator wants to see a reduction of risk by applying an effective inspection program, a semi-quantitative assessment can be carried out by Vinçotte's multi-disciplinary staff.

The Risk-Based Inspection assessment is described by the following four main steps:

Assessment of applicable degradation mechanisms

In collaboration with the customer's production representatives, the Vinçotte staff, composed of a metallurgy specialist and an Inspection in Service specialist, will identify the applicable degradation mechanisms depending on fluid composition, conditions of service and materials used when the equipment was designed.

Assessment of the probability of a breakdown

Assessment of the probability of a breakdown, in the form of a leak, is assessed from a generic frequency determined by the American Petroleum Institute based on their archives. The generic frequency is adapted depending on the conditions of service, effectiveness of the inspections plans set up, user's maintenance programs,...

Assessment of the consequence of a breakdown

The consequences taken into account in assessments carried out by Vinçotte are the inflammable, toxic, environmental and financial consequences associated with an equipment stoppage.

Deciding on the inspection program

Depending on the applicable degradation mechanisms, Vinçotte can make a specialist in non destructive tests and an inspection specialist available to you to decide on the inspection methods to be used in order to detect and quantify the faults resulting from the applicable degradation mechanisms. Next, the frequency of inspection and effectiveness of the inspection methods will be decided on in order to keep an acceptable level of risk.

Vinçotte offers you the human and technical means needed to implement the inspection program defined by Risk-Based Inspection methodology. Data from further inspections will be assessed when obtained and integrated into the analysis.

Vinçotte offers users interested in an assessment an IT solution enabling all the parameters needed for a Risk-Based Inspection to be integrated and to efficiently manage planning concerning inspection of equipment in service.

Vinçotte also offers an assessment of a Risk-Based Inspection methodology set up by a user or a third party company, for example when local authorities require an approval of inspection programs.

Your result

- An inspection plan in line with the actual risk of a piece of equipment.
- Better control of equipment risks.
- Better knowledge of the consequences of a breakdown enabling changing instructions and safety means.

- Better ability to maximise the experience acquired by production, maintenance and production site inspection.
- Better level of safety and reliability following application of an appropriate and effective inspection plan.
- Decrease in the number of unscheduled stoppages following a breakdown.
- Increased credibility, among other with the authorities, by intervention of a neutral, independent party and with international reputation.

Please note

Norms and standards

Vinçotte engineers and inspectors base themselves on recognised international codes:

- American codes: API 510, API 570, API 571, API 573, API 574, API 575, API 580, API 581, API 653
- European codes: RIMAP (under construction)

Vinçotte's inspection services are also approved by various national authorities to carry out regulatory inspections and assess the inspection programs for pressurised equipment.

In which situation?

Vinçotte's Risk-Based Inspection services are intended for:

- chemical industries
- petrochemical industries
- pharmaceutical industries
- metallurgical industries
- electricity producers
- ...