

# Classification of the dangerous locations

Chapter V, Electricity, of the Quebec Construction Code (Code) prescribes a large number of requirements when electrical equipment is installed in a location that may present potential hazards. We are, of course, talking about hazardous locations. The Code provides the relevant information to correctly classify these specific locations. This particularity is related to the fact that it is important to take into account the process and its environment in the design of the electrical infrastructure necessary for its use in this process. Moreover, a wise designer will try to avoid locating electrical equipment in a hazardous location as much as possible. However, the question must first be asked:

Who is responsible for this classification? We will try to answer this question in this column.

## REQUIREMENTS

Article 18-004 of the Code reads as follows:

**"18-004 Classification**(see Appendix B)  
Hazardous locations shall be classified, according to the nature of the hazard, as follows:

(a) Class I locations are those in which there are or may be flammable gases or vapours in sufficient quantity in the air to constitute explosive gas atmospheres;

(b) Class II locations are those which are dangerous because of the presence of combustible or electrically conductive dust; and (c) Class III locations are those which are dangerous because of the presence of loose fibres or particles which ignite readily but which are not likely to be present in sufficient quantity in the air to form a flammable mixture.

First, upon reading it, one can easily see that this article is written to only generally address the classification of any area in a building or other. More interesting details are found in the following articles of the Code, which we will not reproduce to simplify the text. Indeed, articles 18-006, 18-008 and 18-010 are more specific and help in the classification of a hazardous location, particularly according to the process. The classification is therefore essentially based on the degree of risk of the location where there is a possibility that the electrical equipment could ignite gases, vapors, dust, fibers or loose particles.



Note that Appendix B is also full of relevant notes to help establish this classification.

## EXPERTISE

In order to properly classify a specific area in a process, it is necessary to know it precisely, even from a chemical point of view. Therefore, it is a chemist or other professional involved in the case who has the necessary expertise to properly classify a hazardous area. It is not easy to improvise as a specialist or expert at this level.

## RESPONSIBILITY

By virtue of his expertise, the "process expert" professional is responsible for establishing the classification of the hazardous location and clearly delimiting its extent. It is not up to an inspector or an installer to establish this

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classification. Only the expert (or expert team) is trained and adequately knows the process to achieve this goal.


However, just as a contractor might, an inspector can request relevant information proving this classification. In a pinch, he could question the contractor, based in part on his experience. For example, if he is used to seeing a location of a certain type as being classified in a certain way, he will be inclined to doubt a different classification for a similar process.

However, if an entrepreneur or other individual with limited experience in this area of process chemistry takes on this role of professional, he assumes his own responsibility for this classification, which could also be questioned.

## CONCLUSION

You don't become a process expert overnight, especially when it comes to classifying a hazardous area containing electrical equipment. It's better to involve a true professional in the case than to improvise and call into question their liability.

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