

WARNING – HazLoc Ratings Aren't a Guess

Class, Division, Zone???

Hazardous locations are areas where there is a risk of fire or explosion due to the presence of flammable gases, vapors, dusts, liquids, fibers, or flyings. Any product that is intended to be used in an area classified as “hazardous” must be certified with the appropriate Hazardous Location (HazLoc) rating for that environment. The United States & Canada use a Class/Division rating system while the rest of the world uses a Zone rating system.

Selection of the HazLoc rating for your product needs to be a well thought-out process. Unfortunately, there are several common misunderstandings concerning HazLoc ratings that cause manufacturers to make costly mistakes.

Important HazLoc Rating Considerations:

- 1) **The Best Method for HazLoc Success:** Choosing the best protection method to achieve your desired HazLoc rating is much easier when determined before starting the product design. This is the best way to maximize your options so you can avoid protection methods that are more expensive to design and manufacture.
- 2) **Custom Products - Area Classification:** Your product needs to be suitable for the intended installation, so you need to know the HazLoc rating for the installation site.
 - The first step is to find out the HazLoc rating for the installation site from your customer.
- 3) **High Volume Products - Multiple Users:** The rating on your product will dictate where your product can be used. If you make a product that could be used by a variety of users, you need to select a HazLoc rating based on all intended uses of your product. This is especially true if your product is portable. Remember that the user is taught to only use properly rated products within a classified area – if your product does not have a suitable rating, it will not be acceptable for the application.
 - It's very important that you understand the worst case HazLoc rating for areas where your product could be used. Too low of a rating and your product may not be acceptable.
- 4) **Wrong Rating = BIG Penalty:** At this point, many manufacturers will do one of two things - select the highest rating to insure the maximum potential market or choose a low rating to make it easier to comply. The worst thing you can do is guess your HazLoc rating. Here's why:
 - a) Once you select your HazLoc rating, a list of suitable “protection methods” is identified. “Protection Method” refers to the design method used to achieve the product's HazLoc rating. The higher the HazLoc rating, the more significant the protection method required. Examples of protection methods include Flameproof, Intrinsically Safe, and Encapsulated.
 - b) Changing your protection method during the compliance project is a big deal because each protection method has a separate compliance standard. So changing the protection method means starting over with a different compliance standard.



- d) Do not select a higher level HazLoc rating unless you are prepared to invest significant effort in compliance design. If you want a Division 1 or Zone 0 rating, you must design for it. The protection method options for these higher ratings are limited. The related standards are highly technical necessitating significant effort during the design to achieve compliance. If you did not specifically design your product to one of these ratings and protection methods, you will have to redesign.
- e) Consequently, some manufacturers may choose a lower HazLoc rating that allows for more protection method options including several that are considered relatively easy (compared to the higher ratings). However, this thinking can lead to limiting your potential market. Here's how:
 - Consider the manufacturer that guesses Class 1, Division 2. Based on a Class 1, Division 2 rating, a protection method suitable for the rating is selected. Based on the protection method selected, the appropriate compliance standards are identified and used for the certification. After the product is certified, the customer receives an inquiry for their product with a rating of Class 1, Division 1. The customer returns to the certification lab and asks to increase the HazLoc rating. However, the original Division 2 protection method is not suitable for the higher Division 1 rating. The company must then completely redesign the product for a new protection method, which includes a completely different set of compliance standards. If you certify with only a Class 1, Division 2 rating, will you get Class 1, Division 1 customer requests? You do not want to go through the HazLoc certification process twice – be careful in identifying your desired HazLoc rating in the beginning.
- 5) Existing Products – Adding a HazLoc Rating: Sometimes you don't have a choice and you have to add a HazLoc rating to a product that was not originally designed for HazLoc use. Adding a HazLoc rating to a finished product leads to fewer options and more frustration – but it can be done. In most cases, several protection methods can quickly be eliminated based on the product design and interconnection methods. This leaves few options, but it will provide a clear path to compliance.

Unsure about your HazLoc Design?

Have CertifiGroup Conduct a Preliminary Review to Identify the Best Protection Method for Your Product

CertifiGroup Can Guide your HazLoc Product Compliance & Certify Your HazLoc Product for UL, CSA, ATEX, IECEx