

# Technical Data

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Stang Industrial Products  
951-479-9810  
[www.stangindustrial.com](http://www.stangindustrial.com)

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Technical Data #:	TD-7
Part #:	N/A
Description:	Explosion Proof "EX" Definitions
TD Description	Explanation of NEC/NFPA "EX" Classes, Divisions, Groups & Zones

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Equipment in explosion proof environments need to be rated to certain levels depending on the location & the hazards which exist. EX rated equipment has to be sealed from the environment so in the event that there is a flammable substance in the air, normal operation of the equipment cannot be an igniter. Below are the levels of classification for EX equipment.

## Classes

Classes apply to the Division Classification, as well as the zone classification.

- Class I: A location where there is a danger of explosion due to the presence of a flammable gas or vapor.
- Class II: A location where there is a danger of explosion due to the presence of a flammable dust.
- Class III: A location where there is a danger of explosion or flash fire due to the presence of a flammable fibers or flyings.

## Division Classification

- Division I: A location where an explosive mixture of gas, vapor, dust, fibers or flyings and air may exist under normal operating conditions.
- Division II: A location where an explosive mixture of gas, vapor, dust, fibers or flyings and air may exist under abnormal conditions, such as the accidental rupture of a storage vessel, or container, or the failure of a ventilation system.

## Division Gas Groups

- Group A: Atmospheres containing Acetylene
- Group B: Atmospheres containing Hydrogen
- Group C: Atmospheres containing Ethyl, Ether & Ethylene
- Group D: Atmospheres containing Acetone, Gasoline & Propane

## Zones

- Zone 0: A location in which an explosive gas-air mixture is continually present or present for long periods of time.
- Zone 1: A location in which an explosive gas-air mixture is likely to occur in normal operation.
- Zone 2: A location in which an explosive gas-air mixture is not likely to occur and if it does occur it will be for short periods of time.

## Zone Gas Groups

- Group 1: Methane-Relates to underground applications only.
- Group A: Propane
- Group B: Ethylene
- Group D: Hydrogen-Acetylene