

TERMINAL ENCLOSURE DESCRIPTIONS

M1—GENERAL PURPOSE (NEMA I)

Nonventilated enclosure to prevent accidental contact with enclosed apparatus, suitable for use indoors where not subjected to any unusual operating conditions, to provide protection against dirt, light and indirect splashing, but not dust tight.

M5—MOISTURE RESISTANT

M6—EXPLOSION RESISTANT

M7—COMBINATION MOISTURE TIGHT, EXPLOSION RESISTANT

M6 and M7 ENCLOSURES FOR USE IN HAZARDOUS LOCATIONS

M6 and M7 explosion resistant enclosures involve the use of a wiring enclosure for use in hazardous location conditions:

- Class I Groups C and D, Division 1 and 2
- Class II Groups E, F and G, Division 1 and 2
- Class III, Division 1 and 2

Contact Ogden for item suitable for Class I, Group B hazardous locations

M6 and M7 TERMINAL ENCLOSURES

- CSA LR55274-24
- NRTL/C - Certified to U.S. Standards
- Class I, Div. 1, Groups B, C and D
- Class II, Groups E, F and G
- Class III

Specifying an Explosion Resistant Electrical Enclosure

CLASSIFICATION OF HAZARDOUS ATMOSPHERES† (Based on National Electrical Code and UL)

Class	Division	Group	Typical atmosphere/ignition temps.	Devices Covered	Temperature Measured	Limiting Value
I Gases, vapors	1 Normally hazardous	A	acetylene (305C, 581F)	All electrical devices and wiring	Maximum external temperature in 40C ambient	See Sect. 500-2 of NEC
		B	butadiene ¹ (420C, 788F) ethylene oxide ² (429C, 804F) hydrogen (400C, 752F) manufactured gases containing more than 30% hydrogen (by volume) propylene oxide ³ (449C, 840F)			
		C	acetaldehyde (175C, 347F) cyclopropane (500C, 932F) diethyl ether (160C, 320F) ethylene (490C, 914F) unsymmetrical dimethyl hydrazine (UDMH 1, 1-dimethyl hydrazine) (249C, 480F)			
		D	acetone (465C, 869F) acrylonitrile (483C, 898F) ammonia ⁴ (651C, 1204F) benzene (560C, 1040F) butane (405C, 761F) 1-butanol (butyl alcohol) (365C, 689F) 2-butanol (secondary butyl alcohol) (405C, 761F) n-butyl acetate (425C, 797F) isobutyl acetate (421C, 790F) ethane (515C, 959F) ethanol (ethyl alcohol) (356C, 689F) ethyl acetate (472C, 800F) ethylene dichloride (413C, 775F) gasoline (56-60 octane: 280C, 536F) (100 octane: 456C, 853F) heptanes (280C, 536F) hexanes (225C, 437F) isoprene (220C, 428F) methane (natural gas) 482 to 632C, 900 to 1170F) methanol (methyl alcohol) (385C, 725F) 3-methyl-1-butanol (isoamyl alcohol) (350C, 662F) methyl ethyl ketone (516C, 960F) methyl isobutyl ketone (460C, 860F) 2-methyl-1-propanol (isobutyl alcohol) (427C, 800F) 2-methyl-2-propanol (tertiary butyl alcohol) (480C, 896F) petroleum naphtha ⁴ (288C, 550F) octanes (220C, 428F) pentanes (260C, 500F) 1-pentanol (amyl alcohol) (300C, 572F) propane (450C, 842F) 1-propanol (propyl alcohol) (440C, 824F) 2-propanol (isopropyl alcohol) (399C, 750F) propylene (460C, 860F) styrene (490C, 914F) toluene (480C, 896F) vinyl acetate (427C, 800F) vinyl chloride (472C, 882F) xylenes (530C, 986F)	<p>¹Group D equipment shall be permitted for this atmosphere if such equipment is isolated in accordance with Section 501-5(a) by sealing all conduit ½-inch size or larger.</p> <p>²Group C equipment shall be permitted for this atmosphere if such equipment is isolated in accordance with Section 501-5(a) by sealing all conduit ½-inch size or larger.</p> <p>³For Classification of areas involving ammonia atmosphere, see Safety Code for Mechanical Refrigeration (ANSI B9.1-1971) and Safety Requirements for the Storage and Handling of Anhydrous Ammonia (ANSI K61.1-1972).</p> <p>⁴A saturated hydrocarbon mixture boiling in the range 20-135°C (68-275°F). Also known by the synonyms benzene, ligroin, petroleum ether or naphtha.</p> <p>†For a complete list noting properties of flammable liquids, gases and solids refer to the latest edition of NFPA No. 325M.</p>		

(Continued): Specifying an Explosion Resistant Electrical Enclosure

Class	Division	Group	Typical atmosphere/ignition temps.	Devices Covered	Temperature Measured	Limiting Value
I Gases Vapors	2 Not normally hazardous	A B C D	Same as Division 1 Same as Division 1 Same as Division 1 Same as Division 1 (Not normally hazardous means that the gases aren't normally present.)	Lamps resistors, coil etc., other than arcing devices (see Div. 1)	Max. internal or external temp. not to exceed the ignition temperature in degrees Celsius (°C) of the gas or vapor involved	See Sect. 500-2 of NEC
II Combustible dusts	1 Normally hazardous	E	Metal dust, including aluminum, magnesium, and their commercial alloys, and other metals of similarly hazardous characteristics.	Devices not subject to overloads (switches, meters).	Max. external temp. in 40C ambient with a dust blanket	No overload: E-200C (392F) F-200C (392F) G-165C (329F)
		F	Carbon black, coal, coke dust with more than 8% volatile material.	Devices subject to overload (motors, transformers)		
		G	Flour, starch, grain dusts.			
	2 Not normally hazardous	G	Same as Division 1	Lighting fixtures	Max. external temp. under conditions of use	Group: G-165C (329F)
III Easily ignitable fibers and flyings	1, 2			Lighting fixtures	Max. external temp. under conditions of use	165C (329F)

STANDARD PIPE DATA

NOMINAL PIPE SIZE	INSIDE DIAMETER (INCHES)	OUTSIDE DIAMETER (INCHES)	WEIGHT PIPE (LBS/FT)	LENGTH IN FEET CONTAINING ONE CUBIC FOOT	GALLONS IN ONE LINEAR FOOT	WEIGHT WATER (LBS/FT OF PIPE)
¼	.269	.405	.244	2526.000	.0030	.025
¼	.364	.540	.424	1383.800	.0054	.045
⅜	.493	.675	.567	754.360	.0099	.083
½	.622	.840	.850	473.910	.0158	.132
¾	.824	1.050	1.130	270.030	.0277	.231
1	1.049	1.315	1.678	166.620	.0449	.374
1¼	1.380	1.660	2.272	96.275	.0777	.648
1½	1.610	1.900	2.717	70.733	.1058	.882
2	2.067	2.375	3.652	49.913	.1743	1.453
2½	2.469	2.875	5.793	30.077	.2487	2.073
3	3.068	3.500	7.575	19.479	.3840	3.200
3½	3.548	4.000	9.109	14.565	.5136	4.280
4	4.026	4.500	10.790	11.312	.6613	5.510
5	5.047	5.563	14.617	7.198	1.0393	8.660
6	6.065	6.625	18.974	4.984	1.5008	12.510
8	7.981	8.625	28.551	2.878	2.5988	21.680
10	10.020	10.750	40.483	1.826	4.0963	34.100
12	12.000	12.750	49.560	1.274	5.9036	49.000
14	13.250	14.000	54.570	1.046	7.1928	59.700
16	15.250	16.000	62.580	.789	9.5301	79.100
18	17.250	18.000	70.590	.617	12.1928	101.200