

## APPENDIX

Table 1

## REFRIGERANT CLASSIFICATION

Refrigerants shall, for Safety Code purposes, be divided into groups as follows:

<i>Group 1</i>	<i>Chemical Formula</i>
Carbon Dioxide -----	$\text{CO}_2$
Dichlorodifluoromethane (Freon 12) -----	$\text{CCl}_2\text{F}_2$
Dichloromethane (Carrene No. 1) Methylene Chloride) -----	$\text{CH}_2\text{Cl}_2$
Dichloromonofluoromethane (Freon 21) -----	$\text{CHCl}_2\text{F}$
Difluoromonochloromethane (Freon 22) -----	$\text{CHF}_2\text{Cl}$
Dichlorotetrafluoroethane (Freon 114) -----	$\text{C}_2\text{Cl}_2\text{F}_4$
Trichloromonofluoromethane (Carrene No. 2) (Freon 11) -----	$\text{CCl}_3\text{F}$
Trifluorotrichloroethane (Freon 113) -----	$\text{C}_2\text{Cl}_3\text{F}$
 <i>Group 2</i>	
Ammonia -----	$\text{NH}_3$
Dichloroethylene -----	$\text{C}_2\text{H}_2\text{Cl}_2$
Ethyl Chloride -----	$\text{C}_2\text{H}_5\text{Cl}$
Methyl Chloride -----	$\text{CH}_3\text{Cl}$
Methyl Formate -----	$\text{HCOOCH}_3$
Sulphur Dioxide -----	$\text{SO}_2$
 <i>Group 3</i>	
Butane -----	$\text{C}_4\text{H}_{10}$
Ethane -----	$\text{C}_2\text{H}_6$
Ethylene -----	$\text{CH}_2\text{CH}_2$
Isobutane -----	$(\text{CH}_3)_3\text{CH}$
Propane -----	$\text{C}_3\text{H}_8$

Refrigerants not included in table 1 shall be classified as set forth in the American Standards Association's "Safety Code" for Mechanical Refrigeration, latest edition.

**Table 2**  
**MINIMUM TEST PRESSURES**

Every part of a refrigerating system, except pressure gauges and control mechanisms, shall be designed, constructed and assembled to withstand minimum test pressures as specified in this table.

Refrigerant	Minimum Test Pressure Pounds Per Sq. In.	
	High Pressure Side	Low Pressure Side
1. Ammonia.....	300	150
2. Butane.....	90	50
3. Carbon Dioxide.....	1500	1000
4. Dichloroethylene.....	30	30
5. Ethane*.....	1500	1000
6. Ethylene*.....	1500	1000
7. Ethyl Chloride.....	60	50
8. Freon-11.....	30	30
9. Freon-12.....	235	145
10. Freon-21.....	70	50
11. Freon-22.....	300	245
12. Freon-113.....	30	30
13. Freon-114.....	50	50
14. Isobutane.....	130	75
15. Methyl Chloride.....	215	125
16. Methyl Formate.....	50	50
17. Methylene Chloride.....	30	30
18. Propane.....	325	210
19. Sulphur Dioxide.....	170	95

\* The test pressures given here shall apply to parts of the system not protected by safety valves.

**Refrigerants not listed.**

For refrigerants not listed in table 2, the test pressure for the high pressure side shall not be less than the saturated vapor pressure of the refrigerant at 150° F. The test pressure for the low pressure side shall not be less than the saturated vapor pressure of the refrigerant at 115° F. In no case shall the test pressure be less than 30 pounds per square inch by gauge.

**Table 3**  
**DISPLACEMENT**

Refrigerant	Displacement Per Ton Cubic Feet Per Minute at Plus 5°F. to Plus 86°F.	Chemical Symbol
1. Ammonia.....	3.44	NH <sub>3</sub>
2. Butane.....	16.16	C <sub>4</sub> H <sub>10</sub>
3. Carbon Dioxide.....	.943	CO <sub>2</sub>
4. Dichloroethylene.....	111.2	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>
5. Ethane*.....	18.8	C <sub>2</sub> H <sub>6</sub>
6. Ethyl Chloride.....	20.46	C <sub>2</sub> H <sub>5</sub> Cl
7. Ethylene*.....	9.8 (8.8)	C <sub>2</sub> H <sub>4</sub>
8. Freon-11.....	36.33	CCL <sub>3</sub> F
9. Freon-12.....	5.82	CCl <sub>2</sub> F <sub>2</sub>
10. Freon-21.....	20.43	CHCl <sub>2</sub> F
11. Freon-22.....	3.6	CHClF <sub>2</sub>
12. Freon-113.....	100.9	C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>
13. Freon-114.....	19.59	C <sub>2</sub> Cl <sub>2</sub> F <sub>4</sub>
14. Isobutane.....	11.50	(CH <sub>3</sub> ) <sub>3</sub> CH
15. Methyl Chloride.....	5.95 (6.09)	CH <sub>3</sub> Cl
16. Methyl Formate.....	49.50	HCOOCH <sub>3</sub>
17. Methylene Chloride.....	74.45	CH <sub>2</sub> Cl <sub>2</sub>
18. Propane.....	4.09	C <sub>3</sub> H <sub>8</sub>
19. Sulphur Dioxide.....	9.08	SO <sub>2</sub>

\* Based on Evaporation at -160° F. Condensation at -50° F.

**Table 4**  
**PRESSURE RELIEF VALVES—DIAMETER**

Net Capacity	Diameter of Valve
Over 5 to 25 cubic feet.....	1/2 inch
Over 25 to 45 cubic feet.....	3/4 inch
Over 45 to 60 cubic feet.....	1 inch
Over 60 to 100 cubic feet.....	1 1/4 inch
Over 100 to 200 cubic feet.....	1 1/2 inch
Over 200 to 300 cubic feet.....	2 inch