

## CABLE PRESSURE SYSTEMS

### PRECAUTIONS

#### 1. GENERAL

**1.01** This section covers precautions to be observed when using tools and apparatus and when performing various operations associated with cable pressure systems and when pressure testing cables with nitrogen gas.

**1.02** This section includes information formerly contained in Section 637-100-010 which is canceled.

**1.03** The precautions in this section supplement the general precautions covered in Division 620 of the Practices and also other precautions in sections relating to cable pressure systems.

#### 2. VENTILATION OF MANHOLES

**2.01** Never enter a manhole until it has been tested and ventilated in accordance with the procedures given in Section 620-140-501.

#### 3. WORKING ON CABLES UNDER PRESSURE

**3.01** When working on all underground, aerial, or buried cables under pressure, the precautions in the following paragraphs should be observed.

**3.02** Before wiping or unwiping soldered joints or doing any other solder work on a cable under pressure, bore a hole in the sleeve with a cable drill or, if there is a valve or flange on the sleeve, remove the valve core or the plug from the flange so air may escape while the solder work is in progress. This will prevent air from escaping through the molten solder which would not only interfere with soldering operations, but also might blow particles of hot solder from the work and thus cause injury.

**3.03** Before removing any splice case, remove the plug or valve from the pressure testing flange to relieve the air pressure.

#### 4. HANDLING AND USING AIR CYLINDERS

**4.01** Nitrogen gas cylinders contain gas under high pressure and should be handled with care. They should not be dropped or subjected to sharp blows.

**4.02** Store cylinders in a vertical position and secure them with a chain or other suitable device to prevent their falling. Cylinders may be transported in a horizontal position if special compartments, racks, or adequate blocking to prevent cylinder movement is provided. Cylinders should also be in vertical or semivertical position when in use, so that H<sub>2</sub>O in bottom of tank does not contaminate dry nitrogen being delivered.

**4.03** Cylinders should not be exposed to excessively high temperatures and should be stored in areas where there is maximum protection against fire. Cylinders that have been exposed to fire should not be approached until they have cooled.

**4.04** Cylinders should be protected from any accumulation of ice or snow which could make them slippery and difficult to handle or cause freezing of the valve.

**4.05** The protective cap that encloses the outlet valve at the top of the cylinder should always be in place except when the cylinder is in actual use. Do not remove the cap until the cylinder has been properly positioned and secured against rolling or falling and is ready for the attachment of the regulator. No attempt shall be made to repair a cylinder, adjust its valve assembly, tamper with its safety device, or change any of its permanent markings.

**4.06** Only B, C, or D pressure testing regulators shall be used when drawing gas from a cylinder for any cable charging operation. Regulators connected to cylinders placed at outside locations should be covered with a protective hood such as a tarpaulin.

\*\*Reprinted to comply with modified final judgment.

**5. HANDLING AND USING TOOLS**

**5.01** Some of the tools and apparatus used in pressure testing work are delicate instruments and should not be subjected to excessive strains or jars. Particular care is required in the handling of pressure regulators, pressure gauges, and flow indicators which are of such nature that their accuracy may be impaired by rough usage.

**6. MAXIMUM CABLE PRESSURES**

**6.01** When charging or maintaining a cable under pressure, do not exceed 10 pounds per square inch. When flash testing, maximum pressure as indicated by the low pressure gauge must not exceed 15 psi. Back pressure should be limited to 7 to 9 psi. In general, it is not advisable to increase air pressure above 10 psi for the purpose of leak locating.

**6.02** The maximum cable pressures established for restoration of wet PIC cable using air drying are covered in the 644 Division of Practices.

**7. APPARATUS CASES**

**7.01** The apparatus cases are hermetically sealed at the factory and shipped under air pressure and after installation are maintained under air pressure from the pressurized cable air supply.

**Warning:** *All apparatus cases must be considered under air pressure and handled accordingly. The container may blow off with high velocity if the V-band coupling is released suddenly before air pressure is bled from inside the case.*

**7.02** The following precautions should be observed:

- (a) Observe all the safety precautions relating to working in manholes or on poles.
- (b) Never use an apparatus case as a step.
- (c) Always release the air pressure inside the apparatus case by removing the valve core in the air pressure valve located on the baseplate before loosening the V-band coupling preparatory to removing the container.
- (d) Always use a handline, winch line, or block and tackle for raising or lowering cases, brackets, parts, etc, at aerial installations.
- (e) After all work operations have been completed, check the seals for leaks with a pressure-testing solution. If the apparatus case is leaking, the cause must be located and corrected.
- (f) Never pressure test the apparatus case with more than 15 psi pressure.