

FIELD BENDING

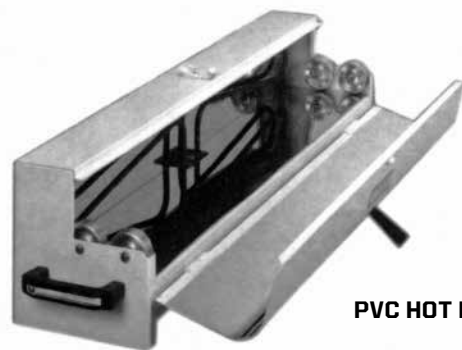
Fiberglass conduit is field bendable/workable in sizes ¼" - 2½" to a 90° angle with a 9" or larger radius. Bending fiberglass conduit in the field should be done when offsets are required and factory bends are not on site. It is not recommended that the installer purchase straight sections of conduit with the intent of doing all of the bends in the field. Field bending of fiberglass conduit is recommended only when absolutely necessary. The process takes time to do right and should not be rushed in order to get the proper results. It is recommended that bends be calculated in the take-off and ordered with the straight sections.

Field bending is governed by **Article 355** in the **2008 NEC: Bends - How They Are Made**. Bends shall be made so that the conduit will not be damaged and the internal diameter of the conduit will not be effectively reduced. Field bends shall be made only with bending equipment identified for the purpose. The radius of the curve to the centerline of such bends shall not be less than shown in **2008 NEC, Chapter 9 Table 2**.

2008 NEC, Chapter 9: Table 2 Radius of Conduit and Tubing Bends

Size of Conduit		Other Bends	
Metric Designator	Trade Size	mm	in.
16	½	101.6	4
21	¾	127	5
27	1	152.4	6
35	1¼	203.2	8
41	1½	254	10
53	2	304.8	12
63	2½	381	15
78	3	457.2	18
91	3½	533.4	21
103	4	609.6	24
129	5	762	30
155	6	914.4	36

If field bending is required, the process is relatively simple. The conduit is heated in a standard PVC hot box. The heating time ranges from approximately 20 seconds to 60 seconds depending on the temperature of the hot box and the size of the conduit.



PVC HOT BOX

After heating, immediately place conduit in bending jig and begin to bend. It is extremely important that a jig/form is used to bend the conduit to avoid kinking. When installing field bent fiberglass conduit, it is best to install the elbow or offset immediately and support it by using a conduit strap on both ends of the bend.