	PLUGS AND CAPS FOR NON-PRESSURIZED GAS PIPELINES	A-81	
Department:	Gas Distribution and Technical Services	Section:	Gas Engineering and Planning
Approved by:	G. M. Vollbrecht	Date:	04-14-03
Rev. #01: This document replaces Revision #00. For a description of the changes, see Page 4.			

Purpose and Scope

This gas standard illustrates, specifies dimensions, and provides code numbers for redwood plugs and plastic caps for use on non-pressurized gas pipelines, as described in UO Standard S4129, "Deactivation of Gas Facilities," Attachment 1, Table 1. It also provides the manufacturer's part numbers for plastic caps.

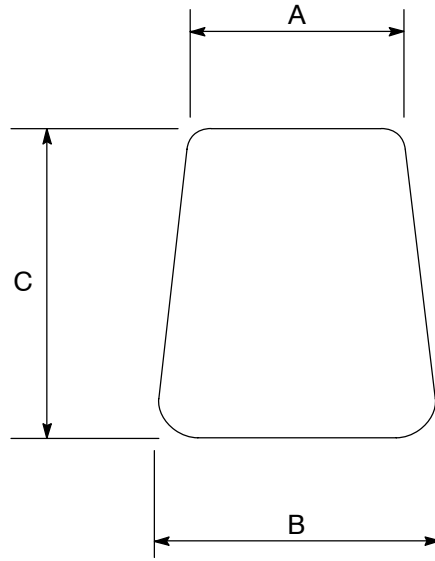
Acronyms

PE: polyethylene
 UO: Utility Operations
 UV: ultraviolet

General Information

1. For steel and PE pipe, use plastic end caps for deactivation, where possible. For cast iron pipe, use redwood plugs or other suitable means of sealing for deactivation, as described in UO Standard S4129, "Deactivation of Gas Facilities," Attachment 1, Table 1.
2. For cap sizes without code numbers and for pipe sizes not shown, contact the Gas Distribution and Technical Services department.
3. Contact the Gas Distribution and Technical Services department when the use of plastic caps at depths greater than those listed in Table 3 on Page 4 is desired.
4. Do not use plastic caps in aboveground locations, or where the cap could be exposed to UV radiation.
5. Do not store plastic caps uncovered, outside where they could be exposed to UV radiation for extended periods of time.
6. If a plastic cap is cracked or cut, discard it (do not use).
7. When using plastic caps, backfill the first 12" above the plastic cap with sand or other suitable material. See Gas Standard A-93.1, "Plastic Gas Distribution System Construction and Maintenance" and Engineering Guideline 4123, "Backfill Sand Specification."
8. To ensure that a plastic cap is installed properly (full depth of the cap is on the pipe), cut the pipe end squarely, and place a mark on the pipe, at each of the four quadrants, a distance back from the end of the pipe equal to the depth of the cap (Table 2 on Page 3, Column B). When the cap is fully installed, the cap should reach all four of those marks.
9. Do not use any plastic caps other than the caps listed in this standard.

Plugs and Caps for Non-Pressurized Gas Pipelines



**Figure 1
Redwood Plug**

Table 1 Dimensions and Code Numbers for Redwood Plugs

Nominal Pipe Size (Inches)	A (Inches)	B (Inches)	C (Inches)	Code
3/4	1/4	1	4-3/8	204839
3/4 - 1-1/4	3/8	1-1/2	5-1/2	209036
1-1/4 - 1-1/2	1/2	2	5-1/2	209037
2	1-3/4	2-1/2	4	209038
3	2-1/2	3-1/2	4-3/4	209039
4	3-1/2	4-1/2	6	209040
6	5-1/2	6-3/4	8-1/4	209041
8	7-1/2	8-7/8	10-1/2	209042
10	9	11	12	200312
12	11-1/2	13	12	200315

Plugs and Caps for Non-Pressurized Gas Pipelines

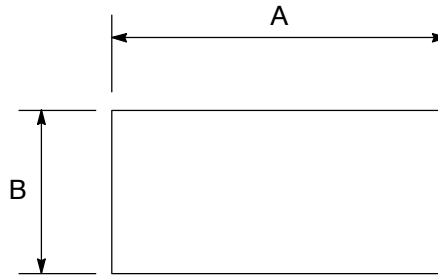


Figure 2
Plastic End Cap

Table 2 Dimensions, Part Numbers, and Code Numbers for Plastic End Caps

Nominal Pipe Size (Inches)	A (Inches)	B (Inches)	Part Number	Code
2	2.378	1.096	RRC-2	021124
3	3.490	1.700	RRC-3	021125
4	4.500	1.725	RRC-4	021126
6	6.640	2.150	RRC-6	021127
8	8.670	2.310	RRC-8	021128
10	10.705	2.768	RRC-10	021130
12	12.679	2.820	RRC-12	021131
16	16.000	2.837	RRC-16	021132
18	18.000	2.845	RRC-18	021133
20	20.000	2.955	RRC-20	021144
22	22.000	2.986	RRC-22	NA
24	24.000	2.995	RRC-24	021139
26	26.000	2.750	RRC-26	021140

Plugs and Caps for Non-Pressurized Gas Pipelines

Table 3 Approved PE Cap Usage by Pipe Size and Depth of Cover

Nominal Pipe Size (Inches)	Maximum Depth of Cover (to Top of Pipe) (Feet)		
	Horizontal Placement ¹	10° to 45° Placement ²	45° to 90° Placement ³
2	10	10	10
3	10	10	10
4	10	10	8
6	10	8	6
8	10	6	5
10	10	5	4
12	9	4	3
16	6	2	—
18	5	—	—
20	5	—	—
22	4	—	—
24	3	—	—
26	2	—	—

¹ The axis of the pipeline is horizontal, angled up not more than 10°, or angled downward.

² The axis of the pipeline is angled up more than 10°, but less than 45°.

³ The axis of the pipeline is angled up more than 45°.

Revision Notes

Revision 01 has the following changes:

1. Revised entire Table 3 to provide specific maximum depth of cover depending on the nominal pipe size and the pipe placement.
2. This document is part of Change 52.