Proposed Revision To:
■ **Standard Specifications For Public Works Construction**
☐ **Standard Plans For Public Works Construction**

Change No. 337 UM
(ASSIGNED BY GREENBOOK COMMITTEE)

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Date Proposal Received
03/18/24
(ASSIGNED BY GREENBOOK COMMITTEE)

Subsection or Standard Plan to be revised: **On page(s):**

Warning: Public Contract Code §3400 prohibits any local agency specification that limits bidding, directly or indirectly, to any one specific concern or product. If this revision describes a proprietary or patented product, it must identify other products which equally perform the functions of the proprietary or patented product.

Revision:

Gasket for Concrete Pipe: Table 208-3

Current Requirements: Compression Set Constant Deflection) max, % of original defection – 16% (D395 Method B)

Proposal: Compression Set Constant Deflection) max, % of original defection – 20% (D395 Method B)

Reason For Revision:

Under ASTM C13, spec. C1619 or ASTM F477, there is no spec which require 16% max compression set allowed, this compression set requirements is not required for piping industry.

ASTM C361is Standard Specification for Reinforced Concrete Low-Head pressure pipe and requirement of compression set is 20% maximum.

Under ASTM F477, for high pressure application, requirement is 20%max.

This change is recommended to make Greenbook specification consistent with other specification.

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Instructions: Use a separate form for each revision. Attach plain paper if more space is needed. For minor changes, copy present wording striking out words to be deleted and underlining new text. For major changes, rewrite or add paragraph or sections. All proposed revisions must include the reason(s) for the revision

Subcommittee Action:

On 7/16/2024
(Date)

☑ Recommended For _____ Supplement/Edition

☐ Rejected ☐ As Modified

Editorial Standards Subcommittee Review:

On _____
(Date)

☐ Reviewed For Surf/Und/Spec/Plans Subcommittee

☐ NO Modifications ☐ As Modified

Greenbook Committee Action:

On _____ **(Date)** ☐ **Approved For** _____ **Supplement/Edition** ☐ **As Modified**

☐ **Rejected**

TABLE 208-2.3.3

Nominal Pipe Size inches (mm)	Deflection inches (mm)
4 - 10 (100 - 250)	5/8 (16)
12 - 21 (300 - 525)	3/4 (19)
24 - 30 (600 - 750)	7/8 (22)
33 - 42 (825 - 1050)	1 (25)

If one of the selected joints fails the test, the lot shall be rejected unless 2 additional joints selected from the lot pass the test.

208-3 GASKETS FOR CONCRETE PIPE. Unless otherwise specified, gaskets shall be manufactured from a synthetic elastomer. The compound shall contain not less than 50 percent by volume of first-grade synthetic rubber. The remainder of the compound shall consist of pulverized fillers free of rubber substitutes, reclaimed rubber, and deleterious substances. The installation of gaskets shall conform to 208-1.2.

Gaskets shall be extruded or molded and cured in such a manner as to be dense, homogeneous and of smooth surface, free of pitting, blisters, porosity and other imperfections. The tolerance for any diameter or profile dimension measured at any cross section shall be ± 1/32 inch (0.8 mm).

When required by the Engineer, the Contractor shall furnish test samples of gaskets from each batch used in the work. Gasket material shall conform to the requirements shown in Table 208-3.

TABLE 208-3

Property	Value	ASTM Test Method
Tensile strength, psi (MPa) min.	1500 (10.3)	D412
Elongation at break (% min.)	350	D412
Shore durometer, Type A (Pipe manufacturer shall select value suitable for type of joint).	40 to 65[1]	D2240
Compression set (constant deflection) max. % of original deflection.	~~16~~ 20	D395 Method B
Tensile strength after oven aging (96 hours, 158°F [70°C]) % of tensile strength before aging.	80	D573
Increase in Shore durometer hardness after oven aging. Maximum increase over original Shore durometer.	10	D2240
Physical Requirements after exposure to ozone concentration (50 pphm. 72 hours, 104°F [40°C], 20% extension).	No Cracks	D1149

1. This applies only to the sealing component of the gasket.

No more than one splice will be permitted in a gasket. A splice shall be made by applying a suitable cement to the ends and vulcanizing the splice in a full mold. The splice shall show no separation when subjected to the following tests:

a) Elongation Test. The part of the gasket which includes the splice shall withstand 100 percent elongation with no visible separation of the splice. While in the stretched position, the gasket shall be rotated in the spliced area a minimum of 180 degrees in each direction in order to inspect for separation.

b) Bend Test. The portion of the unstretched gasket containing the splice shall be wrapped a minimum of 180 degrees and a maximum of 270 degrees around a rod of a diameter equal to the cross section diameter of the gasket.