Summary of Substantive Changes
Between the 2004 and the 2011 Editions of
ANSI Z21.10.3/CSA 4.3 “Gas Water Heaters (Volume III, Storage, with Input
Ratings Above 75,000 BTU per Hour, Circulating and Instantaneous Water
Heaters”)
(The editions compared include the 2007, and 2008 addenda, designated ANSI Z21.10.3a/4.3a and
ANSI Z21.10.3b/4.3b respectively)

General: There were technical changes to this standard; however, they are installation related and it
appears that the changes will not affect current listings because they are not used for certification. The
changes primarily affect water heaters with direct ignition systems and combination water/space
heaters.

Section 1.10.2: Changed the specifications for direct ignitions systems as follows:
the application of direct ignition systems is limited to appliances having For water heaters where all air
for combustion is supplied by mechanical means, a direct ignition system may be used provided the total
input is less than or equal to 2,500,000 Btu/hr (732 678 W). For water heaters utilizing natural draft
atmospheric burners, the application of direct ignition systems is limited to burners having input ratings
of 400,000 Btu/hr (117 228 W) or less per ignition system. When multiple direct ignition system are used,
there shall be no interconnection between the combustion zones served by separate ignition systems at
any point below the draft hood (or the flue outlet if no draft hood is used).

Section 2.2, Test Gases: added the option of a test gas for performance test as follows:
An appliance for use with natural, manufactured and mixed gases shall be tested with test Gases A and G
or H, as specified in 2.2-a, and test Gas B.

Section 2.8, Direct Ignition Systems: added:
For water heaters where all air for combustion is supplied by mechanical means, a direct ignition system
may be used provided the total input is less than or equal to 2,500,000 Btu/hr (732 678 W). For water
heaters utilizing natural draft atmospheric burners, the application of direct ignition systems is limited to
burners having input ratings of 400,000 Btu/hr (117 228 W) or less per combustion chamber under
control of the ignition system.

Section 2.27.3: Added the following hydrostatic test requirements for combination water/space heaters:
The space heating circuit integral to the construction of a combination water/space heater shall
withstand a hydrostatic test pressure of two times the manufacturer’s rated maximum working pressure,
but not less than 300 psi (2.07 MPa), without rupture or visible permanent deformation.

Section 2.27.4: Added the following hydrostatic test requirements for combination water/space heaters:
For combination water heaters that have separate water and space heating circuits, the space heating
circuit integral to the construction of a combination water/space heater shall withstand a hydrostatic
test pressure of two times the manufacturer’s rated maximum working pressure, but not less than 30 psi
(2.07 MPa), without rupture or visible permanent deformation.