ISSUE PAPER

NSF standard(s) impacted: NSF/ANSI/CAN 14-2023, Tables 9.13 and 9.14

Purpose and background:

CSA B182.2 PSM Type Polyvinylchloride (PVC) Sewer Pipe and Fittings (PSM Type) is a reference standard within NSF/ANSI/CAN 14-2023. There are currently no quality assurance requirements for products certified to this standard in NSF/ANSI/CAN 14-2023. This issue paper adds these quality assurance requirements to the appropriate tables, Table 9.13 for pipe and Table 9.14 for fittings.

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Recommendation:

Table 9.13
PVC pipe test frequency

Test	Potable Water [a]	DWV	DWV (3.25" OD)	DWV cellular core	Sewer	Well Casing
acetone	annually	—	annually	annually	annually	—
bond	—	—	—	weekly	—	—
burst pressure [e]	24 h [a,b]	—	—	—	—	—
deflection load and crush	—	annually	annually	—	—	annually
cellular structure	—	—	—	annually	—	—
dimensions						
pipe outside diameter	2 h	2 h	2 h	2 h	2 h	2 h
pipe wall thickness	2 h	2 h	2 h	2 h	2 h	2 h
pipe out-of-roundness	2 h	2 h	2 h	2 h	2 h	2 h
flattening resistance	annually	—	annually	annually	annually	—
impact resistance at 0 °C (32 °F) [b]	24 h [c]	—	—	—	—	24 h [b,d]
impact at 22.8 °C (73 °F) [b,d]	24 h [a,e]	24 h	24 h	24 h	24 h	—
joint tightness	—	—	—	—	annually	—
stiffness	—	annually	annually	annually	annually	annually
sustained pressure	annually	—	—	—	—	—
tup puncture resistance	—	—	—	—	—	annually
product standard(s)	ASTM D1785, ASTM D2241, CSA B137.3	ASTM D2665	ASTM D2949	ASTM F891, ASTM F3128	ASTM D2729, ASTM D3034, ASTM F679 CSA B182.2	ASTM F480

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[a] Test does not apply to CSA B137.3 products.

[b] If one material is continuously used in several machines or sizes, then when a steady-state operation is obtained on each machine, sample selection shall be from a different extruder each day and rotated in sequence among all machines or sizes.

[c] Test only applies to CSA B137.3 products.

[d] Impact testing shall be in accordance with ASTM F480 as referenced in Section 2 of this standard and the specified impact classification of IC-1, IC-2, or IC-3.

[e] 23 °C (73 °F) impact applies only to products produced under ASTM D2241 as referenced in Section 2 of this standard.

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Table 9.14
PVC fittings and pipe bell ends test frequency

Test	Potable water	DWV	Sewer	Well casing	PSM sewer fittings	Pipe bell ends
acetone	—	—	24 h [a]	—	—	—
burst pressure [b,c]	weekly	—	—		—	weekly
deflection load and crush resistance [d]	—	annually	—	annually	—	—
deflection test	—	start-up [e]	—	—	—	—
dimensions						
body wall thickness	weekly [f]	weekly [f]	weekly [f]	weekly [f]	—	—
socket bottom average diameter and out-of-roundness [g,h]	24 h	24 h	24 h	24 h	24 h	start-up
socket entrance average diameter and out-of-roundness [g,h]	24 h	24 h	24 h	24 h	24 h	start-up
socket depth [g,h]	24 h	24 h	24 h	24 h	24 h	start-up
socket wall thickness	weekly [f]	weekly [f]	weekly [f]	weekly [f]	weekly [f]	start-up
spigot ends of fittings: minimum wall thickness	weekly [f]	weekly [f]	weekly [f]	weekly [f]	—	—
spigot ends of fittings: average diameter and out-of-roundness [i,j]	24 h	24 h	24 h	24 h	—	—
thread length	(see Footnote i)	(see Footnote i)	(see Footnote i)	(see Footnote i)	—	—
thread gauge	24 h	24 h	—	24 h	—	—
flattening	—	annually [k]	—	—	—	—
heat reversion [l]	8 h	8 h	—	—	—	—
impact at 22.8 °C (73 °F)	—	weekly	—	—	monthly[m]	—
joint tightness	—	—	—	—	—	annually
shear test	—	start-up [e]	—	—	—	—

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tup puncture resistance	—	—	—	annually	—	—
threaded joint strength (hydrostatic)	—	—	—	weekly	—	—
unrestrained hydrostatic test	—	start-up [e]	—	—	—	—
product standard(s)	ASTM D2464, ASTM D2466, ASTM D2467, CSA B137.3	ASME A112.4.4 ASTM D2665, ASTM D2949, CSA B181.2	ASTM D2729, ASTM D3034, ASTM F679	ASTM F480	ASTM F1336 CSA B182.2	ASTM D2672, ASTM D3139, ASTM D3212

[a] Acetone applies only to products produced under ASTM D2729 as reference in Section 2 of this standard.

[b] Burst pressure requirement does not apply to reducer bushings.

[c] Test does not apply to CSA B137.3 products.

[d] Toilet flanges listed to ASTM D2665, D2949, CSA B181.2, and ASME A112.4.4 are exempt from the QC requirements of crush and impact.

[e] This requirement applies only to products under ASME A112.4.4.

[f] Once walls have been measured and verified to be within specification twice within a week of startup, wall thickness measurements shall be conducted no less than once per month.

[g] Plug gauges are permitted, provided that the mold has been qualified by complete dimensioning and performance of appropriate testing on all products from all mold cavities to verify compliance with the referenced standard.

[h] Requirements do not apply to ASTM F679 fabricated fittings and bell ends.

[i] Socket depth and thread length are only required to be verified at the time a new tool is “qualified” or when new or repaired cores are made.

[j] Ring gauges are permitted, provided that the mold has been qualified by complete dimensioning and performance of appropriate testing on all products from all cavities to verify.

[k] Flattening applies only to products produced under ASTM D2949 as referenced in Section 2 of this standard.

[l] This requirement applies only to products produced under CSA B181.2 and CSA B137.3.

[m] This requirement does not apply to products produced under CSA B182.2

No point anywhere along the length of the spigot shall the OD be allowed to fall below the minimum for equivalent size pipe.

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Supplementary materials (photographs, diagrams, reports, etc.):

None

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Please submit to: Joint Committee Secretariat or to standards@nsf.org

**Type written name will suffice as signature*

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