Pressure Vessel Inspection Checklist

Visual and Periodic Inspection per ASME BPVC, API 510, and OSHA 1910.169

Date: _____

Inspector: _____

Vessel ID / Tag Number: _____

Location: _____

MAWP / Design Pressure: _____ psig

Vessel Contents: _____

Inspection Type: External / Internal / On-Stream / Annual

Part 1: External Visual Inspection

Inspection Item	What to Check	OK	Fail	N/A
Shell and heads	Free from corrosion, pitting, blistering, bulging, cracks. No distortion. Insulation intact. Coating/paint adequate.			
Nozzles and connections	All connections tight, no leaks. Flanges properly bolted. Welded connections no cracks. Blanked connections secure.			
Supports and foundations	Supports intact and structurally sound. Foundation no cracking or settling. Anchor bolts tight. No vessel movement.			
Nameplate and markings	ASME nameplate present and legible. MAWP, manufacturer, serial number visible. National Board number present.			
Piping and connections	Connected piping properly supported. Expansion joints in good condition. Valves accessible. No vibration-induced fatigue.			

Part 2: Safety Devices & Instrumentation

Inspection Item	What to Check	OK	Fail	N/A
Pressure relief valves	Present and properly sized for MAWP. Set pressure verified. Discharge piping clear. No block valves between vessel and PRV. Seals intact.			
Pressure gauges	Present and readable. Dial range appropriate. Connection not blocked. Reading consistent. Calibration current.			
Temperature instruments	Gauges/sensors functioning. Thermowells intact. Readings consistent. Alarms functional where installed.			
Drain valves	At lowest point. Operable, not seized. Line clear. Automatic traps functional. Regular draining schedule maintained.			

Level indicators	Present and functioning. Glass not cracked. Isolation valves operable. Alarms functional. Readings consistent.			

Part 3: Internal Inspection & Documentation

Inspection Item	What to Check	OK	Fail	N/A
Internal surface condition	Free from corrosion, pitting, erosion, cracking. UT thickness at CMLs. Wall above minimum. Corrosion rate calculated. Welds inspected.			
Internal components	Internals secure and in good condition. No loose parts. Linings intact. Cathodic protection adequate.			
Manways and access	Covers and gaskets in good condition. Seating surfaces not damaged. Bolting adequate. Confined space procedures followed.			
Thickness records	UT measurements documented at all CMLs. Compared to previous readings. Minimum thickness calculated. Next interval established.			
Inspection documentation	ASME data report on file. Previous reports organized. Repair/alteration records. PRV test records current. Jurisdictional certificates current.			

Remove any pressure vessel from service immediately if operating pressure exceeds MAWP, wall thickness is below minimum required, safety relief devices are non-functional or blocked, or visual inspection reveals cracks, bulging, or active leaks. Pressure vessel failures can result in catastrophic explosions and fatalities.

Deficiencies Found

Item #	Deficiency Description	Priority	Corrective Action

Inspector: _____ Date: _____ Signature: _____

Facility Manager / Engineer: _____ Date: _____ Signature: _____