

X95 Drill Pipe

Size Selection and Engineering Priorities

API 5DP X95 drill pipe size, connection, tool joint and inspection control guide for product page technical reference.

STANDARD

API 5DP

GRADE

X95

MIN YIELD

95,000 psi

MIN TENSILE

105,000 psi

Engineering acceptance focus

OD, nominal weight, wall thickness and length range. Upset type, tool joint OD/ID and rotary shouldered connection. Drift, make-up torque, thread gauge record, inspection records and MTC.

Important note

X95 grade does not automatically mean sour service suitability. H₂S / SSC conditions require separate material, hardness and NACE / sour-service review.



Selection logic

X95 drill pipe can be supplied in different OD, nominal weight and connection combinations. Size selection should be checked together with wall thickness, length range, upset type, tool joint configuration and rotary shouldered connection, because these factors affect string strength, internal clearance, torque transfer and rig compatibility.

LENGTH RANGE

R1 / R2 / R3

UPSET TYPE

IU / EU / IEU

CONNECTION FAMILY

NC / FH / IF / REG

DOCUMENT BASIS

Datasheet + MTC

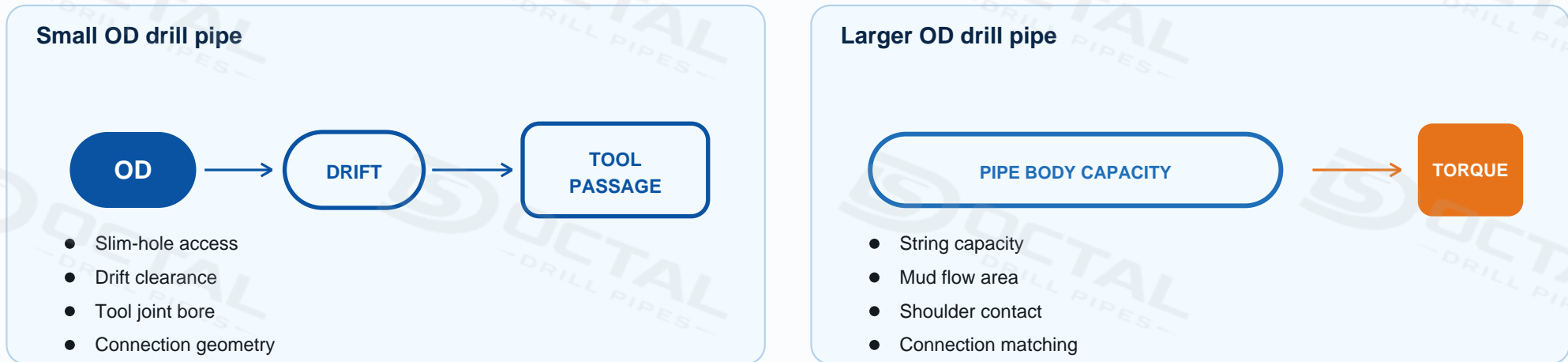
Common Size	Typical Nominal Weight	Common Connection	Main Engineering Focus
2-7/8" X95 Drill Pipe	10.40 lb/ft class	NC31 or specified connection	Slim-hole access, drift clearance, tool passage
3-1/2" X95 Drill Pipe	13.30 lb/ft class	NC38	Intermediate string section and rig compatibility
4-1/2" X95 Drill Pipe	16.60 / 20.00 lb/ft class	NC46 / NC50	Higher load margin and larger drilling section
5" X95 Drill Pipe	19.50 / 25.60 lb/ft class	NC50 / 5-1/2 FH	Main-string capacity, mud flow and torque transfer
5-1/2" X95 Drill Pipe	21.90 / 24.70 lb/ft class	FH / NC	Larger flow area and higher string capacity

Final release check

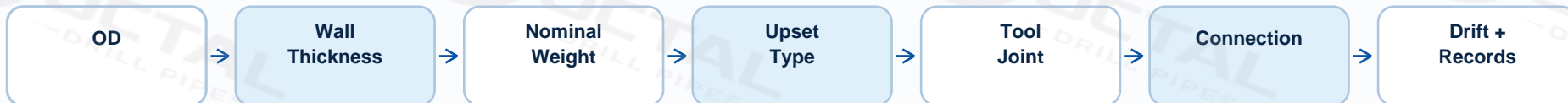
Final dimensions, connection type, tool joint OD/ID, drift diameter and performance values should be confirmed by the approved datasheet, inspection records and MTC before shipment.

Why OD alone is not enough

Different sizes carry different engineering priorities. Smaller OD drill pipe is more sensitive to drift clearance and tool passage. Larger OD drill pipe is usually reviewed for string capacity, mud flow, tool joint geometry and connection matching.



Selection sequence



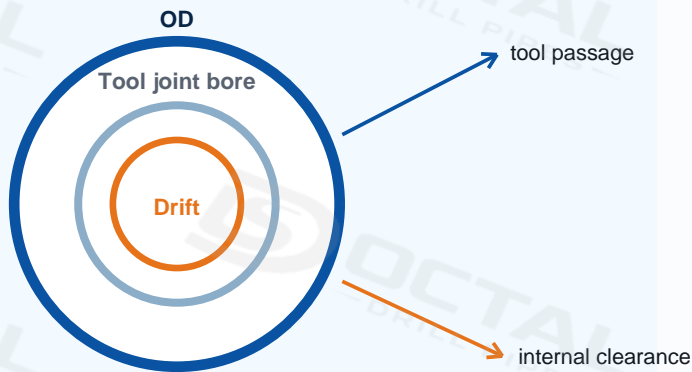
Field-use meaning

A pipe marked as X95 is not complete for field use until size, weight, upset, tool joint geometry, connection, drift and inspection records match the drilling program.

Engineering role

2-7/8" X95 drill pipe is usually reviewed for slim-hole sections, workover drilling, sidetrack operations and drilling strings where access space is limited. In this size, the pipe body must keep X95 strength while the internal clearance, drift diameter and tool joint ID remain suitable for downhole tools and mud circulation.

Small-OD clearance control



Main concern: space

A smaller OD leaves less room for the upset end, tool joint bore and connection geometry. The finished joint must be reviewed as a complete assembly, not by nominal OD alone.

Not only pipe body grade

X95 provides higher pipe-body strength, but finished drill pipe still needs suitable drift, tool joint ID and make-up torque.

Acceptance points

Nominal OD is only a starting point; finished joint geometry and records control final release.

Wall thickness Pipe body dimension against datasheet.

Nominal weight String section and strength calculation basis.

Upset type IU / EU / IEU finished joint geometry.

Tool joint OD/ID Bore and shoulder geometry for tool passage.

Drift diameter Downhole tool clearance and mud path.

Make-up torque Approved torque value and connection standard.

Thread inspection record Pin, box, shoulder and gauge record.

Engineering role

5" X95 drill pipe is normally reviewed as a main drill-string size. It provides more pipe-body capacity and larger internal flow area, while final performance still depends on nominal weight, upset type, tool joint geometry and connection design.

Connection and tool joint matching



Check: tool joint OD/ID, pin and box condition, shoulder surface, make-up torque, drift and thread gauge record.

Why NC50 and 5-1/2 FH matter

Torque transfer

Connection design and shoulder contact control repeated make-up and break-out performance.

Rig compatibility

The connection must match rotary equipment, handling tools and available crossover subs.

Tool joint geometry

OD/ID, bore, shoulder surface and pin/box condition affect fit-up and field reliability.

Inspection release

Thread gauge record, drift and torque data should be checked before shipment.

Main acceptance point: Match X95 pipe body grade, nominal weight, upset type, tool joint geometry and connection standard with the drilling program.

Release package

The release package should connect the finished drill pipe to the approved datasheet, heat / lot identity, mechanical properties, dimensions, connection inspection and packing records. This keeps size selection traceable from pipe body grade to finished joint acceptance.



Sour service note

X95 grade alone is not a sour service statement. H2S / SSC applications require separate material, hardness and NACE / sour-service review.

Shipment release rule

Final dimensions, connection type, tool joint OD/ID, drift diameter and performance values should be verified against approved records before shipment release.

What each record controls

Record / Document	What it should confirm
MTC	API 5DP grade X95, heat / lot identity, mechanical test values and material traceability.
Dimensional and drift report	OD, wall thickness, length range, straightness, tool joint OD/ID and drift-related dimensions.
Mechanical test record	Yield strength, tensile strength and elongation against the approved X95 requirement.
Inspection and thread record	Visual, dimensional, NDT scope, pin / box condition, shoulder surface and thread gauge verification.
Packing list and traceability map	Quantity, size, connection, length range, marking, heat / lot identity and shipping identification.