

Heavy Weight Drill Pipe Specifications and Weight Reference

STANDARD BASIS

API Spec 7-1: HWDP manufacture
API Spec 7-2: connection gauging

CONSTRUCTION

Welded or integral design
Box-up / pin-down orientation

NOMINAL SIZE RANGE

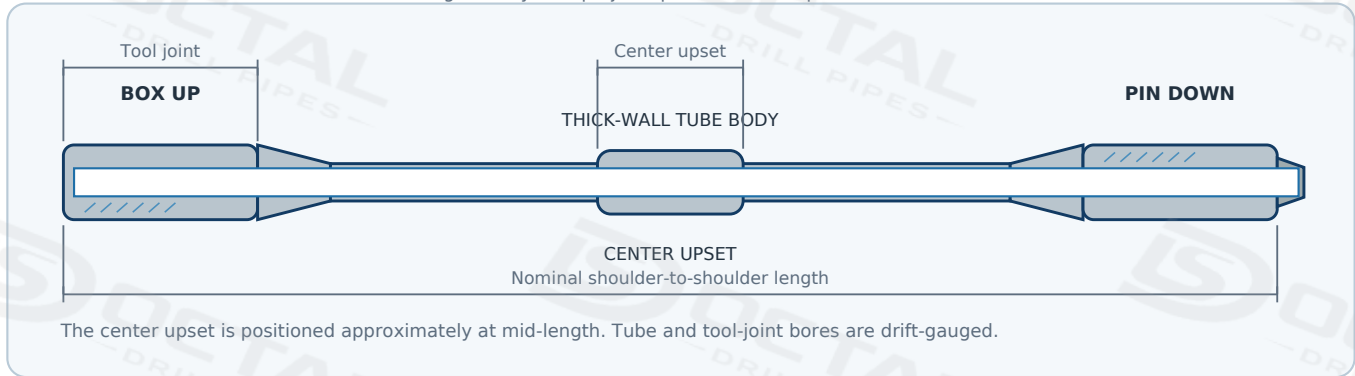
2-7/8 in. to 6-5/8 in.
Project configuration governs final ID

COMMON CONNECTIONS

NC26 to NC50; 5-1/2 FH
6-5/8 FH and project alternatives

HWDP ASSEMBLY AND ORIENTATION

API baseline geometry with project-specific external profile



EXTERNAL PROFILE OPTIONS

Naming and spiral coverage vary by approved manufacturer design.

Standard / Center-Upset

localized center upset

Spiral

partial spiral wear ribs

Tri-Spiral

three raised wear lands

Full-Spiral

extended spiral coverage

REQUIRED PURCHASE AND DATA-SHEET FIELDS

Use one approved configuration sheet per line item

GEOMETRY	CONNECTION	WEIGHT AND LENGTH	OPTIONS / RELEASE
Tube OD Tube ID Wall thickness Center upset OD	Connection designation Tool joint OD / ID Box-up / pin-down API gauge record	Nominal length Adjusted weight Approx. joint weight Quantity and total mass	Hardbanding Internal coating Drift requirement Marking / serial traceability
Max elevator upset OD Transition geometry Straightness / alignment	Thread form Bevel / shoulder condition Protector type	Shoulder-to-shoulder basis Metric conversion Packing tare	Inspection scope MTC / test records Packing list / weight list

REPRESENTATIVE HWDP SIZE AND WEIGHT MATRIX

Adjusted weight includes the tube and tool joints. It is not the same as plain-tube nominal mass. Final weight changes with bore, tool-joint geometry, spiral coverage, hardbanding and actual length.

Nominal size (in.)	Connection	Tool joint OD x ID (in.)	Standard lb/ft	Standard lb/jt	Tri-Spiral lb/ft	Tri-Spiral lb/jt	Weight delta
2-7/8	NC26	3.375 x 1.500	17.26	535	18.22	565	+5.6%
3-1/2	NC38	4.750 x 2.063	25.65	795	27.05	839	+5.5%
3-1/2	NC38	4.750 x 2.250	23.48	728	24.88	771	+6.0%
4	NC40	5.250 x 2.563	29.92	928	31.51	977	+5.3%
4-1/2	NC46	6.250 x 2.750	41.45	1,285	43.31	1,343	+4.5%
5	NC50	6.625 x 3.000	50.38	1,562	52.34	1,623	+3.9%
5-1/2	5-1/2 FH	7.250 x 3.250	61.63	1,911	63.78	1,977	+3.5%
6-5/8	6-5/8 FH	8.000 x 4.500	71.43	2,214	74.67	2,315	+4.5%

5 IN. NC50 PROFILE WEIGHT COMPARISON



31 FT BASIS

Joint weight in this matrix is the adjusted lb/ft multiplied by a 31 ft nominal length.

NOT INTERCHANGEABLE

A size and connection match does not confirm bore, drift, wall, torque or weight equivalence.

PROFILE EFFECT

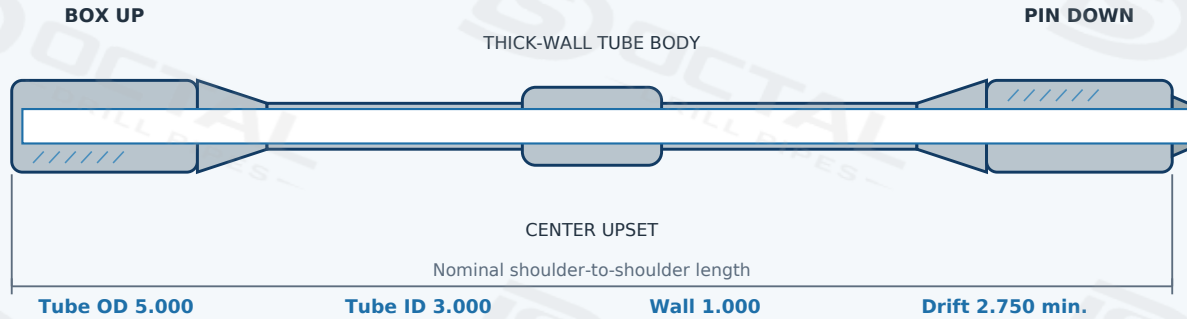
For the 5 in. reference, Tri-Spiral adds about 3.9%; full spiral adds about 17.4% vs standard.

Source basis: published HWDP specification tables; weights are representative, not universal acceptance values.

5 IN. NC50 API BASELINE CONFIGURATION

API baseline geometry

Baseline values establish a dimensional reference; approved project sheets may use alternative bore and profile designs.



Field	API baseline
Tube OD	5.000
Tube ID	3.000
Nominal wall	1.000
Max elevator upset OD	5.125
Center upset OD	5.500
Tool joint OD x ID	6.625 x 3.000
Connection	NC50
Minimum drift	2.750
Orientation	Box up / Pin down
Nominal length	31 ft +/- 6 in.

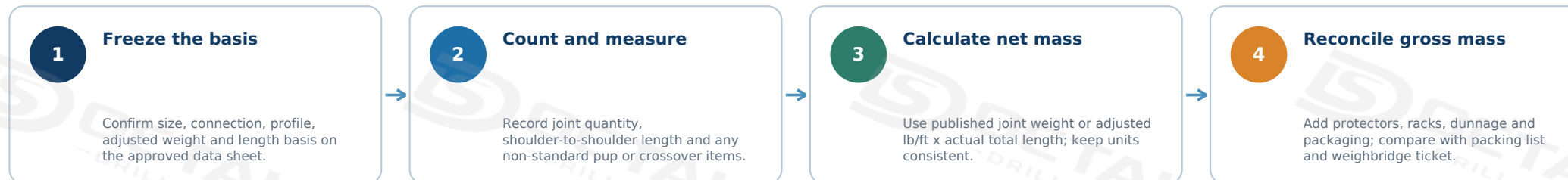
PUBLISHED 5 IN. NC50 CONFIGURATION COMPARISON

Configuration	Tube OD x ID	Wall	TJ OD x ID	Drift	Adjusted lb/ft	Approx. lb/jt	Use of value
API dimensional baseline	5.000 x 3.000	1.000	6.625 x 3.000	2.750	-	-	Dimensional reference
Standard center-upset	5.000 x 3.000	1.000	6.625 x 3.000	Per sheet	50.38	1,562	Published 31 ft reference
Tri-Spiral	5.000 x 3.000	1.000	6.625 x 3.063	Per sheet	52.34	1,623	Published 31 ft reference
Full / extended spiral	5.000 x 3.063	0.969	6.625 x 3.063	2.688	58.661	~1,819*	Design-specific field sheet
Welded conventional	5.000 x 3.250	0.875	6.625 x 3.250	3.125	48.5	1,504	Design-specific field sheet

* Calculated at 31 ft from the published adjusted weight; actual joint mass depends on measured length and final accessories.

Do not substitute one 5 in. NC50 configuration for another without checking drift, bore, torque and weight.

SHIPMENT WEIGHT VERIFICATION WORKFLOW



CORE FORMULAS

JOINT WEIGHT

Adjusted weight (lb/ft) x shoulder-to-shoulder length (ft)

NET SHIPMENT MASS

Joint count x approved joint weight, or sum of actual unit weights

METRIC CONVERSION

lb/ft x 1.48816 = kg/m; lb x 0.453592 = kg

GROSS SHIPMENT MASS

Net HWDP mass + protectors + racks + dunnage + packaging tare

WORKED EXAMPLE: 120 JOINTS OF 5 IN. NC50 HWDP

Profile basis	Adjusted lb/ft	Reference lb/jt	120-joint total lb	120-joint total metric tons
Standard center-upset	50.38	1,562	187,440	85.0
Tri-Spiral	52.34	1,623	194,760	88.3
Full / extended spiral	59.16	1,834	220,080	99.8

RECONCILIATION CHECKLIST

- Same HWDP profile and bore as the approved line item
- Adjusted weight includes tube and tool joints
- Length basis is shoulder-to-shoulder, not overall protector length
- Joint count matches serial / tally list
- Hardbanding, internal coating and protectors identified
- Packing tare and weighbridge ticket separated from net mass

COMMON CAUSES OF WEIGHT DISCREPANCY

- Standard vs Tri-Spiral / full-spiral profile mismatch
- Tool-joint ID or tube bore differs from the quotation basis
- Nominal 31 ft value applied to mixed actual lengths
- Pup joints, subs or spare joints included without separate line weights
- Protectors, racks and dunnage included in gross but not in net
- Rounded lb/ft value multiplied across a large shipment quantity

Reference basis: API Spec 7-1 HWDP dimensional requirements and API Spec 7-2 connection gauging; published HWDP specification tables and 5 in. NC50 field data sheets. No universal shipment-weight tolerance is implied; acceptance limits should be stated in the PO / ITP.