High Collapse Casing Chemical Composition and Buyer Meaning

This technical sheet summarizes typical HC casing grade routes, chemical-composition control points, and procurement meaning for buyer-side review. Values should be checked against the confirmed API 5CT edition, project specification, MTC and product analysis before release.

Grade / Route	Typical Chemical Composition, Mass Fraction %	Buyer Meaning
N80 HC / N80Q HC	**P <= 0.030%, S <= 0.030%**; other elements are reported in product analysis.	Practical choice for medium-depth wells where standard N80 collapse margin is not enough.
L80 Type 1 HC	**C <= 0.43%, Mn <= 1.90%, Ni <= 0.25%, Cu <= 0.35%, P <= 0.030%, S <= 0.030%, Si <= 0.45%**.	Used when collapse resistance and controlled mechanical properties are both required.
L80 13Cr HC	**C 0.15-0.22%, Mn 0.25-1.00%, Cr 12.00-14.00%, Ni <= 0.50%, Cu <= 0.25%, P <= 0.020%, S <= 0.010%, Si <= 1.00%**.	Better option when corrosion resistance is also part of the casing selection.
P110 HC	**P <= 0.030%, S <= 0.030%** for common seamless route; for EW P110, **P <= 0.020%, S <= 0.010%**.	Common high-strength HC route for deep wells and high external-pressure sections.
Q125 HC Type 1	**C <= 0.35%, Mn <= 1.35%, Mo <= 0.85%, Cr <= 1.50%, Ni <= 0.99%, P <= 0.020%, S <= 0.010%**.	Used for severe high-load wells or ultra-deep sections requiring very high collapse performance.

Note: HC casing selection should not rely on chemistry alone. Collapse rating, wall uniformity, ovality, heat-treatment records, NDT, hydrotest and heat/lot traceability should be reviewed together.

Octal Steel Technical Reference - High Collapse Casing