

Table 1—Pipe grades, steel grades and acceptable delivery conditions		
PSL	Delivery condition	Pipe grade/steel grade a, b
PSL 1	As-rolled, normalizing rolled, normalized or normalizing formed	L175 or A25
		L175P or A25P
		L210 or A
	As-rolled, normalizing rolled, thermomechanical rolled, thermomechanical formed, normalizing formed, normalized, normalized and tempered; or, if agreed, quenched and tempered for SMLS pipe only	L245 or B
		L290 or X42
	As-rolled, normalizing rolled, thermomechanical rolled, thermomechanical formed, normalizing formed, normalized, normalized and tempered or quenched and tempered	L320 or X46
		L360 or X52
		L390 or X56
		L415 or X60
		L450 or X65
L485 or X70		
PSL 2	As-rolled	L245R or BR
		L290R or X42R
	Normalizing rolled, normalizing formed, normalized or normalized and tempered	L245N or BN
		L290N or X42N
		L320N or X46N
		L360N or X52N
		L390N or X56N
		L415N or X60N
	Quenched and tempered	L245Q or BQ
		L290Q or X42Q
		L320Q or X46Q
		L360Q or X52Q
		L390Q or X56Q
		L415Q or X60Q
		L450Q or X65Q
		L485Q or X70Q
L555Q or X80Q		
L625Q or X90Q°		

		L690Q or X100Q°
	Thermomechanical rolled or thermomechanical formed	L245M or BM
		L290M or X42M
		L320M or X46M
		L360M or X52M
		L390M or X56M
		L415M or X60M
		L450M or X65M
		L485M or X70M
		L555M or X80M
	Thermomechanical rolled	L625M or X90M
		L690M or X100M
		L830M or X120M
<p>1. For intermediate grades, the steel grade shall be in one of the following formats: (1) The letter L followed by the specified minimum yield strength in MPa and, for PSL 2 pipe, the letter describing the delivery condition (R, N, Q or M) consistent with the above formats. (2) The letter X followed by a two or three digit number equal to the specified minimum yield strength in 1000 psi rounded down to the nearest integer and, for PSL 2 pipe, the letter describing the delivery condition (R, N, Q or M) consistent with the above formats.</p> <p>2. The suffix (R, N, Q or M) for PSL 2 grades belongs to the steel grade.</p> <p>3. Seamless only.</p>		

For intermediate grades, API 5L pipe grade shall be in one of the following description formats:

- a. The letter L followed by the specified minimum yield strength in Mpa. For example, L290 (X42) means the minimum yield strength is 290 Mpa. In the case of PSL2 pipe, Suffix letters (R, N, Q, or M) shall be added to describe the delivery condition;
- b. The letter X followed by a two or three digital number equal to the minimum yield strength in 1000 psi rounded down to the nearest integer and, for PSL2 pipe, the letter describing the delivery condition (R, N, Q, or M) consistent with the above formats.

**Letter R: As rolled**

**Letter N: Normalizing rolled, Normalized formed, Normalized**

**Letter Q: Tempered and quenched**

**Letter M: Thermomechanical rolled or thermomechanical formed**

**Letter S: Sour Services, comes with PSL2 pipe for NS, QS, and MS, eg API 5L X52MS, API 5L X65QS.**

## **PSL1 and PSL2 differences**

---

### **Requirement**

PSL1 and PSL2 have not only different testing requirements but also different chemical composition and mechanical properties.

PSL1 has stricter requirements than PSL2 in terms of chemical composition, tensile properties, impact test, nondestructive testing, and other indicators.

### **Impact Test**

PSL1 does not require an impact test, while it is required for PSL2 (except X80).

### **Non-destructive Test**

PSL1 does not require a non-destructive test, while it is required for PSL2.

(NDT: Non-destructive inspection and testing uses radiographic, ultrasonic, or other methods (not breaking the material) in API 5L standard, to reveal pipe defects and imperfections.)