

KES

Carbon Steel Pipes for General Piping Use

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Explanation



1. Scope of Application

This standard specifies the carbon steel pipes for general piping use mainly used for vapor, water, oil, gas and air at low working pressure (Hereinafter referred to as "pipe").

2. Kind

Pipes shall be classified into black pipe and white pipe according to presence of zinc-coating

Table 1

Material symbol	Division		Old material symbol
STG	Black	No zinc-coated pipe	SPP
	White	Zinc-coated pipe	

3. Manufacturing Method

- (1) The pipe shall be manufactured without seamless, or by butt welding or welding.
- (2) The pipe shall be left as manufactured. However for cold-rolled pipe, this shall be annealed fully after manufactured.
- (3) The symbol indicating manufacturing method, as shown in followings, shall suffixed to material symbol.

- Hot-rolled seamless steel pipe: — S — H
 - Cold-rolled seamless steel pipe: — S — C
 - Electric-resistant welded steel pipe: — E — G
 - Hot-rolled electric resistant welded steel pipe: — E — H
 - Cold-rolled electric resistant welded steel pipe: — E — C
- Example: STG — E — G

4. Quality

- (1) The pipe shall be practically straight and its both ends shall be at right angle to pipe axis, and free from harmful defects to use on the surface of inside and outside, and especially white pipe shall be practically evenly smooth on its surface.
- (2) The chemical element of pipe shall conform to as shown in Table 2.

Table 2

Material symbol	Chemical element %	
	P	S
STG	≤ 0.050	≤ 0.050

- (3) The tensile strength, elongation and bending of black pipe shall conform to as shown in Table 3. However, bending test shall apply to black pipe of nominal designation, 50A or 2B or less, and when tested under conditions in Table, pipe shall be free from occurrence of flaws and cracks on its wall.

Table 3

Material symbol	Tensile test			Bending test	
	Tensile test kgf/mm ² (N/mm ²)	Elongation		Bending angle	Inside radius
		Logitudinal direction, No.11 and No.12 test piece	Lateral direction No.5 test piece		
STG	≥ 30 (≥ 294)	≥ 30	≥ 25	90°	6 times of outside radius of the tube

- Remarks 1. When tensile test is performed using No.12 or No.5 test piece of pipe with thickness of below 8mm, minimum value of elongation shall be calculated by subtracting 1.5% from elongation value in Table 3 for each time thickness is reduced by 1mm, and rounding value to whole number according to KS A 0021 (Rules for rounding off of numerical values).
2. The values of elongation, which is shown in Table 3, shall not apply to pipes of nominal designation, 32A or 1 1/4B or less. However, their test results shall be recorded.
3. As for sampling method of test piece, test piece shall be taken out from a part of pipe having no seam.
- (4) As for black pipe of nominal designation, 65A or 2 1/2 or less, even if this is flattened by compression until its height becomes 2/3 of outside diameter, pipe wall shall be free from flaws and cracks.