



KOREAN INDUSTRIAL STANDARD

Sealants for Sealing and Glazing in Buildings

KS F 4910 : 2000

(ISO 11600 : 1993)

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Introduction

This Standard is the Korean Industrial Standard prepared based on ISO 11600, *Building construction—Sealants—Classification and requirements* issued in 1993 as 2nd Edition without changing the technical contents but adding class 30S to the classes in ISO Standard.

The parts underlined with dots in this Standard are matters added to or complementing the original International Standard.

1. Scope

This Korean Industrial Standard specifies the classes and quality of sealant (hereafter referred to as "sealants") used for pointing of joints in building elements and glazing of window panes.

2. Normative Reference

The following standard contains provisions which, through reference in this Standard, constitute provisions of this Standard. The latest edition only applies.

KS F 2621 Test Methods of Sealants for Sealing and Glazing in Buildings

3. Definitions

For the purpose of this Standard, the definitions given in the Annex 1 apply.

4. Classification

Classification of sealants shall be as shown in Fig. 1.

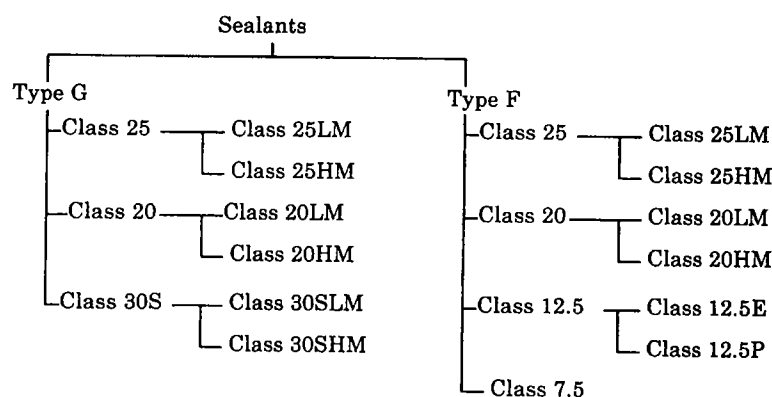


Fig. 1 Classification of Sealants

4.1 Type

According to their applications, sealants are separated into two types :

- a) Type G : glazing sealants for use in glazing joints
- b) Type F : construction sealants for use in building joints other than glazing

4.2 Classes

Sealants are classified according to their capability to fulfil sealing functions in joints with movement parameters as given in Table 1.

Table 1 Sealant Classes

Class	Amplitude of extension and compression of joint width in test %	Movement capability %
25	± 25.0	25
20	± 20.0	20
12.5	± 12.5	12.5
7.5	± 7.5	7.5
30S	In both directions 30.0 ⁽¹⁾	30 ⁽¹⁾

Note ⁽¹⁾ Coefficient of shear deformation relative to joint width is indicated.

4.3 Sub-classes

4.3.1 Classification According to Secant Tensile Modulus

Sealants of class 25 or class 20 are additionally sub-classified according to their secant tensile modulus. They are classified according to tractive characteristics in Table 2 and Table 3.

- a) Low modulus : code LM(Low Modulus)
- b) High modulus : code HM(High Modulus)
- c) Coefficient of Shear Deformation : code S(Shear Strain Rate)

4.3.2 Classification According to Elastic Recovery

- a) Sealants of class 12.5 are additionally sub-classified according to their elastic recovery in Table 3.

- 1) Elastic : code E
- 2) Plastic : code P

- b) Sealants of classes 25, 20 and 12.5E are called "elastic sealants" ; sealants of classes 12.5P and 7.5 are called "plastic sealants".

5. Designation

Sealants shall be designated by the symbols for the type, class and sub-class in accordance with 4.

Example Type F · movement capability 25% designation of sealants of low modulus :
F-25LM

6. Quality

Quality of sealants shall conform to the requirements given in Table 2 or Table 3 as a result of the test carried out in accordance with 7 with regard to Table 2 or Table 3.

Table 2 Requirements for Sealants (Type G)

Properties			Classes						Test methods KS F 2621
			25LM	25HM	20LM	20HM	30SLM	30SHM	
Slump	mm	Longitudinal	3 max.						4.1 ⁽²⁾
		Lateral	3 max.						
Elastic recovery %			60 min.						4.2 ⁽²⁾
Tensile properties	Elongation rate of joint width % ⁽³⁾		200(M ₁₀₀)		160(M ₆₀)				4.3 ⁽²⁾
	Secant tensile modulus N/mm ²	23 °C	0.4 max.	Exceeding 0.4 ⁽⁴⁾	0.4 max.	Exceeding 0.4 ⁽⁴⁾	0.4 max.	Exceeding 0.4 ⁽⁴⁾	
		-20 °C	0.6 max.	Exceeding 0.6 ⁽⁴⁾	0.6 max.	Exceeding 0.6 ⁽⁴⁾	0.6 max.	Exceeding 0.6 ⁽⁴⁾	
Adhesion/cohesion properties at maintained extension			No failure ⁽⁵⁾						4.4 ⁽²⁾
Adhesion/cohesion properties after compression heating and tension cooling			No failure ⁽⁶⁾						4.5 ⁽²⁾
Adhesion/cohesion properties after exposure to artificial light			No failure ⁽⁵⁾						4.7 ⁽²⁾
Adhesion/cohesion properties at maintained extension after water immersion			No failure ⁽⁵⁾						4.8 ⁽²⁾
compression stress N/mm ²			Report test result						4.10 ⁽²⁾
Loss of volume %			10 max.						4.11 ⁽²⁾

Notes ⁽²⁾ Test condition shall be in accordance with 7.

⁽³⁾ As to elongation rate of joint width whose original width is made 100%, 200% indicates the joint width of 24.0mm and 160% indicates the joint width of 19.2mm.

As the secant tensile modulus at the time of elongation rate of 200% or 160% is the secant tensile modulus at the time of elongation of 100% or 60%, it is called 100% secant tensile modulus or 60% secant tensile modulus and may be abbreviated as M₁₀₀ or M₆₀.

⁽⁴⁾ In the case of this class, either value of 23℃ or -20℃ is sufficient, if satisfied.

⁽⁵⁾ State of breaking shall be in accordance with 7.1 c).

⁽⁶⁾ State of breaking shall be in accordance with 7.1 d).