

ASTM standard qualities of mica (Classification D 351)  
**Quality classification of muscovite mica based on visual properties**

		Crystallographic discoloration	Air inclusions				Cloudy stains	Light black and red dots (mineral)	Black stains (Mineral)	Red stains (mineral)	Black and red stains (mineral)	Green stains (vegetable type)	Clay stains	Waviness				Hardness		Stones and holes	Buckles	Reeves	Ridges	Tears	Cracks	Hairline cracks	Wedge	Tangle sheet	Herring bones	Sand blast			
			Very slight	Slight	Medium	Heavy								Nearly flat	Slight	Medium	Heavy	Hard	Soft														
Clear	V-1	X	X	X	X	X	X	X	X	X	X	X	*	*	X	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Clear and Slightly Stained	V-2	*D	*	X	X	X	X	X	X	X	X	X	*	*	X	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fair Stained	V-3	*D	*	*	X	X	X	X	X	X	X	X	*	*	*	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Good Stained	V-4	*D	*	*	*E	X	X	X	X	X	X	X	*	*	*	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Stained A Quality	V-5	*	*	*	*F	X	X	X	X	X	X	*D	*	*	*	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Stained B Quality	V-6	*	*	*	*	*	X	*D	X	X	X	*G	*D	*	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Heavy Stained	V-7	*	*	*	*	*	*G	*D	X	X	X	*G	*G	*	*	*	*	*	S	X	S	X	S	X	X	X	X	X	X	X	X	X	S
Densely Stained	V-7A	*	*	*	*	*	*H	*H	*G	*G	X	*	*	*	*	*	*	*	X	*G	X	*G	X	X	X	X	X	X	X	X	X	*	*
Black Dotted	V-8	*	*	*	*	*	*	X	X	X	X	X	X	*	*	*	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Black Spotted	V-9	*	*	*	*	*	*	*D	X	X	X	X	X	*	*	*	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*
Black Stained	V-10	*	*	*	*	*	*	*G	*D	X	X	X	X	*	*	*	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*
Densely Black and Red Stained	V-10A	*	*	*	*	*	*	*H	*	*	*	*	*D	*	*	*	*	*	S	X	X	X	X	X	X	X	X	X	X	X	X	X	*

**SYMBOLS**

- Permissible \*
- Not permissible X
- Permissible only if specified S
- Few and tiny in 1/4 of usable area A
- Few in one half usable area B
- Very dense C
- Slight D
- Few in two-thirds usable area E
- Uniformly distributed F
- Medium G
- Heavy H

- V-1 **Clear** - Hard, of uniform color, nearly flat, free of all stains, foreign inclusion, cracks, and other similar defects.
- V-2 **Clear and Slightly Stained** - Hard, of uniform color, nearly flat and may contain slight crystallographic discoloration, and very slight air inclusions and not more than one fourth of the usable area.
- V-3 **Fair Stained** - Hard, of uniform color, may contain slight waves, slight crystallographic discoloration, and slight air inclusions and not more than one-half of the usable area.
- V-4 **Good Stained** - Hard, of uniform color, may contain medium waves slight crystallographic discoloration, and medium air inclusion in not more than two-third of the usable area.
- V-5 **Stained A Quality** - Hard, may contain medium air inclusions, uniformly distributed in the usable area; slight green vegetable stains, medium waviness, and heavy waves if specified.
- V-6 **Stained B Quality** - Hard, may contain heavy air inclusions and heavy waves, medium green vegetable stains, slight black and red dots (mineral) and clay stains.
- V-7 **Heavy Stained** - Hard, and may contain heavy air inclusions and waves, slight light black and red dots (mineral), medium cloudy stains, clay stains and green stains (vegetable).  
Soft, buckles, ridges, and sand blast acceptable if specified.
- V-7A **Densely Stained** - Hard and soft. May contain heavy waves and air inclusions, cloudy stains. High black and red dots (mineral). Medium black and red stained (mineral), buckles, and ridges.  
Also, green stain (vegetable type), clay stains, herringbones and sand blast.
- V-8 **Black Dotted** - Hard, may contain medium waves, heavy air inclusions, cloudy stains, light black and red dots (mineral), and green stains (vegetable).
- V-9 **Black Spotted** - Hard, may contain medium waves, heavy air inclusions, cloudy stains, light black and red dots (mineral), and green stains (vegetable), slight black stains (mineral), and sand blast.
- V-10 **Black Stained** - Hard, may contain medium waves, heavy air inclusions, cloudy stains, light black and red dots (mineral), green stains (vegetable type), and sand blast, medium black stains (mineral), slight red stains (mineral), and clay stains.
- V-10A **Densely Black and Red Stained** - Hard, may contain heavy waves, air inclusion, cloudy stains, light black and red dots (mineral), red stains (mineral), black and red stains (mineral), green stains (vegetable type), and sand blast, very dense black and red stains (mineral), and slight clay stains. Soft if specified.