



**Moh's scale of
relative hardness**



MOH'S SCALE OF RELATIVE HARDNESS

The Moh's scale is a rating system for hardness that ranges from 1 to 10 with 1 being the softest and 10 being the hardest. Moh took ten well-known and easily available minerals and arranged them in order of their 'scratch hardness'. If a specimen to be tested can be scratched by a known mineral from this list, the scratched specimen is softer than that mineral. Likewise, if the test specimen can scratch a mineral on the list, then it is harder than that mineral. The ten minerals are as follows:

Moh hardness	Mineral
1	Talc
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Feldspar
7	Quartz
8	Topaz
9	Corundum
10	Diamond

This scale should be more accurately called a 'table' because it is not to scale. For example, the difference in hardness between talc and gypsum is not the same as the difference in hardness between gypsum and calcite. Therefore it is just an ordered list. Moh hardness of some common materials are as follows:

Material	Moh hardness
Fingernail	2.5
Copper penny	3
Steel knife blade	5.5 - 6
Window glass	5.5 - 6
Hardened steel file	7
Emery cloth	8 - 9



There are many different aspects of a material that can be considered as a measure of hardness such as resistance to scratching, indentation, bending, abrasion or fraction. It is very easy to confuse durability or toughness with hardness. A simple example is the difference between a glass ball and a rubber ball. Glass is harder than rubber, but rubber is more durable. Try bouncing both of them on a hard floor. The glass ball will shatter while the rubber will bounce. The Moh's scale is just a measure of scratch resistance.

Moh hardness of common abrasive materials:

Abrasive	Moh hardness
Sodium bicarbonate (ARMEX)	2.5
Walnut shells	3 - 3.5
Plastic media	3 - 5
Silica sand	5 - 6
Glass media	5.5 - 7
Steel media	6 - 8
Slags	7 - 8
Garnet	7 - 8
Aluminium oxide	8 - 9

INFORMATION

More information about Moh hardness and abrasive media can be obtained from:

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