[Claims]

[Claim 1]

A faucet valve comprising:

a first valve body including a first slide surface, and formed from an alumina-based sintered body; and

a second valve body including a second slide surface, and formed from an alumina-based sintered body, the first and second slide surfaces at least partially being in contact with each other with water in between, wherein

at least part of the second slide surface is formed from a first amorphous carbon layer,

hardness of the first amorphous carbon layer is equal to or less than that of the alumina-based sintered body forming the first valve body,

the hardness of the first amorphous carbon layer is 30 GPa or less or 25 GPa or less, and

in the first amorphous carbon layer, a ratio (ID/IG) of a D peak to a G peak, measured by Raman spectroscopy, is greater than 0.5 but less than 1.9, or greater than 1.0 but less than 1.5, or 1.1 or greater but 1.4 or less.

[Claim 2]

The faucet valve according to claim 1, wherein

N/(N+S) measured by Raman spectroscopy is less than 0.33 or 0.31 or less.

[Claim 3]

The faucet valve according to claim 2, wherein

the N/(N+S) is 0.23 or greater.

[Claim 4]

The faucet valve according to any one of claims 1 to 3, wherein

surface roughness of the first amorphous carbon layer is less than 0.3 μm, or less than 0.2 μm, or 0.1μm or less.

[Claim 5]

The faucet valve according to any one of claims 1 to 4, wherein

the first amorphous carbon layer further contains at least one element selected from the group consisting of Si, Cl, F, N and O as a third element.

[Claim 6]

The faucet valve according to any one of claims 1 to 5, wherein

a second amorphous carbon layer is provided to at least part of the first slide surface.

[Claim 7]

The faucet valve according to claim 6, wherein

the hardness of the first amorphous carbon layer is equal to the hardness of the second amorphous carbon layer.

[Claim 8]

The faucet valve according to claim 6, wherein

the hardness of the first amorphous carbon layer is different from the hardness of the second amorphous carbon layer.

[Claim 9]

The faucet valve according to any one of claims 6 to 8, wherein

the second amorphous carbon layer further contains at least one element selected from the group consisting of Si, Cl, F, N and O as a third element.

[Claim 10]

The faucet valve according to any one of claims 6 to 9, further comprising a first intermediate layer between the second amorphous carbon layer and the first valve body.

[Claim 11]

The faucet valve according to claim 10, further comprising a first composite layer or a first inclination layer between the second amorphous carbon layer and the first intermediate layer, wherein

the first composite layer is a layer containing amorphous carbon and the same intermediate layer material as that contained in the first intermediate layer, and

the first inclination layer is a layer containing amorphous carbon and the same intermediate layer material as that contained in the first intermediate layer, where a content of the intermediate layer material decreases from the first intermediate layer toward the second amorphous carbon layer.

[Claim 12]

The faucet valve according to claim 10 or claim 11, further comprising a second intermediate layer between the first amorphous carbon layer and the second valve body.

[Claim 13]

The faucet valve according to claim 12, further comprising a second composite layer or a second inclination layer between the first amorphous carbon layer and the second intermediate layer, wherein

the second composite layer is a layer that contains amorphous carbon and the same intermediate layer material as that contained in the second intermediate layer, and

the second inclination layer is a layer that contains amorphous carbon and the same intermediate layer material as that contained in the second intermediate layer, where a content of the intermediate layer material decreases from the second intermediate layer toward the first amorphous carbon layer.

[Claim 14]

The faucet valve according to any one of claims 10 to 13, wherein the first intermediate layers contain at least one intermediate layer material selected from the group consisting of Cr, W, Ti, Si and Al.

[Claim 15]

The faucet valve according to any one of claims 1 to 14, wherein the hardness of the first amorphous carbon layer is greater than 8 GPa.