reference.

SUMMARY

[0013a]

In a first aspect of the present disclosure, there is provided a black quartz glass consisting of a composition comprising 63 to 65 mass% of SiO_2, 18 to 24 mass% of TiO_2 and 12 to 17 mass% of Al_2O_3, wherein the sum of SiO_2, TiO_2 and Al_2O_3 is 100 mass%.

[0013b]

In another aspect of the present disclosure, there is provided a method for producing black quartz glass comprising:

mixing 63 to 65 mass% of a SiO_2 powder, 18 to 24 mass% of a TiO_2 powder and 12 to 17 mass% of an Al_2O_3 powder,

filling the mixed powder into a mold and then melting at a maximum temperature of 1700 to 1900°C in an oxygen-free atmosphere, and

cooling to room temperature to obtain the black quartz glass disclosed herein.

[0013c]

In a further aspect of the present disclosure, there is provided a product comprising a black quartz glass member made of the black quartz glass disclosed herein.

TECHNICAL PROBLEM

[0014]

However, the black quartz glass described in Patent Literature 1 may have insufficient color uniformity when it is enlarged, and has a problem in productivity. In addition, it is difficult to apply it to the semiconductor manufacturing field since the niobium compound

contained therein may cause contamination in a step of using it.

[0015]

The black quartz glass described in Patent Literature 2 also has the problem in color uniformity, and it is difficult to enlarge the size.

In addition, it is difficult to apply it to the semiconductor manufacturing field since carbon contained therein may be generated as particles in a step of using it and cause contamination.

[0016]

The black quartz glass of a kind described in Patent Literature 3 also may have insufficient color uniformity when it is enlarged. Furthermore, there is a problem in enlargement due to limitation of the casting molding. Moreover, the operations of casting and drying are complicated and it needs to take a long time for producing, resulting in a productivity problem.

[0017]

The black quartz glass of a kind described in Patent Literature 4 also may have insufficient color uniformity when it is enlarged, and further has a problem that the risk of breakage