by reference.

BRIEF SUMMARY

[0008a]

An aspect of the present disclosure provides an opaque quartz glass containing pores with irregular shapes dispersed in a glass body, wherein the opaque quartz glass has a pore size distribution of the pores having D_{50} of 4 to 30 μm, a proportion of pores with pore sizes of 5 μm or less of 1 to 50%, and a proportion of pores with pore sizes of 15 μm or less of 30 to 90%, and an area ratio of pores in a microscopic image at a cross section of 5% or more.

[0008b]

Another aspect of the present disclosure provides a method for producing the opaque quartz glass disclosed herein, comprising:

pressure-molding a mixed powder of a silica powder which is silica particles having D_{50} of 5 to 100 μm in a particle size distribution and a fine particulate silica which is silica particles having a BET diameter of 10 to 50 nm, wherein the content of the fine particulate silica is 20 to 50 mass% relative to the total amount of a silica material including the silica powder and the fine particulate silica, and

sintering the pressure-molded article.

SUMMARY OF INVENTION

TECHNICAL PROBLEM

[0009]

However, the opaque quartz glasses described in Patent Literatures 3 to 7 contain the pores with irregular shapes, but the heat ray reflecting, heat ray blocking and light shielding properties are not sufficient. For example, Patent Literatures 3 and 6 describe that the linear transmittance of opaque quartz glass is low, as described above, but many light is transmitted in directions other than the linear direction (traveling direction of incident light) while being scattered by interactions with pores.

[0010]

Furthermore, the opaque quartz glass of Patent Literature 8 is manufactured by controlling the shape of pores to be substantially true sphere in a manufacturing method in which the shape of pores is usually irregular. Since such a control of the shape of pores is complicated, it is preferable to obtain sufficient heat ray reflecting, heat ray blocking and light shielding properties while the shape of the pores remains irregular.

[0011]

Thus, in the conventional method, it is difficult to obtain the opaque quartz glass containing the pores with irregular shapes and having sufficient heat ray reflecting, heat ray blocking and light shielding properties.

[0012]

An object of the present invention is to provide an opaque quartz glass containing the pores with irregular shapes and having sufficient heat ray reflecting, heat ray blocking and light shielding properties. In another aspect, an object of the present invention is to provide a method for producing opaque quartz glass, that enables the production of the opaque quartz glass.

SOLUTION TO PROBLEM

[0013]

The present inventors had made intensive studies to solve the problem above, and they thereby find that the opaque quartz glass containing the pores with irregular shapes and having sufficient heat ray reflecting, heat ray blocking and light shielding properties can be obtained by mixing a plurality of types of specific silica powders having different particle size distributions from each other and an SiO powder at a predetermined formulation, and sintering a pressure-molded article of the mixed powder, resulting in the completion of the