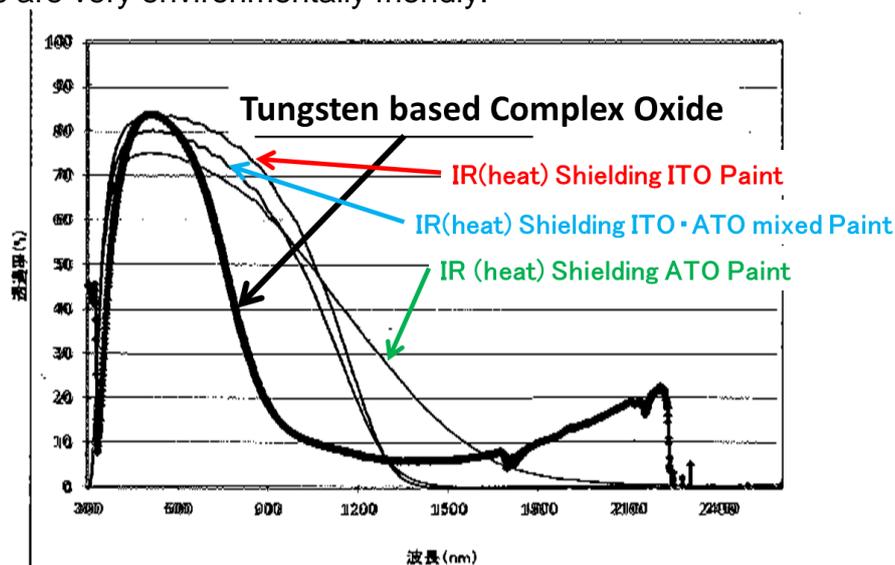


Near Infrared Red Light, IR Shield, Absorb Materials (Heat Shielding, Absorbing Materials) Tungsten based Complex Oxide (GS MWO₃Series)

GS MWO₃ series are the materials which can absorb and shield near infrared light and heat energy. Simultaneously, can maintain high transparency at the visible light range. In general, most of the heat absorbing, shielding materials are organic materials. Our materials are tungsten based complex oxide ceramic material. Therefore, GS MWO₃ series are very robust and have high strength, resistance against light and surrounding environment. In addition, GS MWO₃ series can absorb and shield light with approximately 800 – 1200 nm wavelength when compared to ITO (Indium Tin Oxide) and ATO (Antimony Tin Oxide) which is known as general inorganic heat shielding material. 800 – 1200 nm wavelength light occupies most of the solar light energy so that this property is very effective when shielding heat energy. GS MWO₃ series can be applied to window, plastic film materials by coating or mixing. Made window or film material can absorb and shield infrared light and heat effectively, while maintaining high transparency in the visible light region. Therefore, our materials are very environmentally friendly.



1. Cheaper than ITO, ATO based infrared light (heat) shielding, absorbing material

ITO(Indium Tin Oxide), ATO (Antimony Tin Oxide) as general type inorganic 従 IR, heat shielding, absorbing material can be quite expensive due to natural resource scarcity and political issue. GS MWO₃ series are the tungsten based oxide materials and can be cheaper than ITO or ATO.

2. Robust, high resistance against light, surrounding environment

Most of IR (Heat) absorbing, shielding materials are organic substances in general. GS MWO₃ series are the ceramic oxide material. Therefore, our materials are very robust, and possess high resistance against light, surrounding environment

3. Shielding, absorbing ability is very effective compared to ITO, ATO

GS MWO₃ series have higher shielding and absorbing capability compared to ITO, ATO so that even small quantity can be effective. Therefore, whole material cost can be cheaper than ITO, ATO.

4. High absorbing, shielding capability especially in the shorter wavelength

When compared to ITO or ATO, GS MWO₃ series can absorb light especially in the shorter wavelength region which occupies most of the solar energy. (above figure)

5. High transparency at the visible light region

GS MWO₃ series have high transparency at visible light region so that window or plastic film can be very transparency while absorbing and shielding IR (Heat) energy, by mixing or coating onto those materials.

We can supply above IR (heat) shielding, absorbing materials (tungsten based oxide material) either by powder, or dispersion (water, various type of organic solvent as customer request), masterbatch, coating material, paint materials. Please consult with us including technical detail, anything anytime.