



Transport and storage of light sensitive filling products

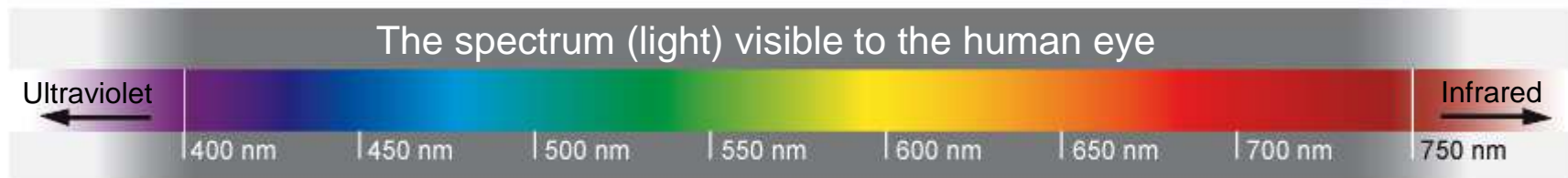
UV-protection of SCHÜTZ ECOBULK

- The PE inner receptacle of ECOBULK are made of UV stabilized high molecular translucent HDPE material
- Avoids molecular degradation of PE material
- Excellent UV protection for the PE inner receptacle under normal climatic circumstances
- No protection of the filling good against action of light caused by solar radiation

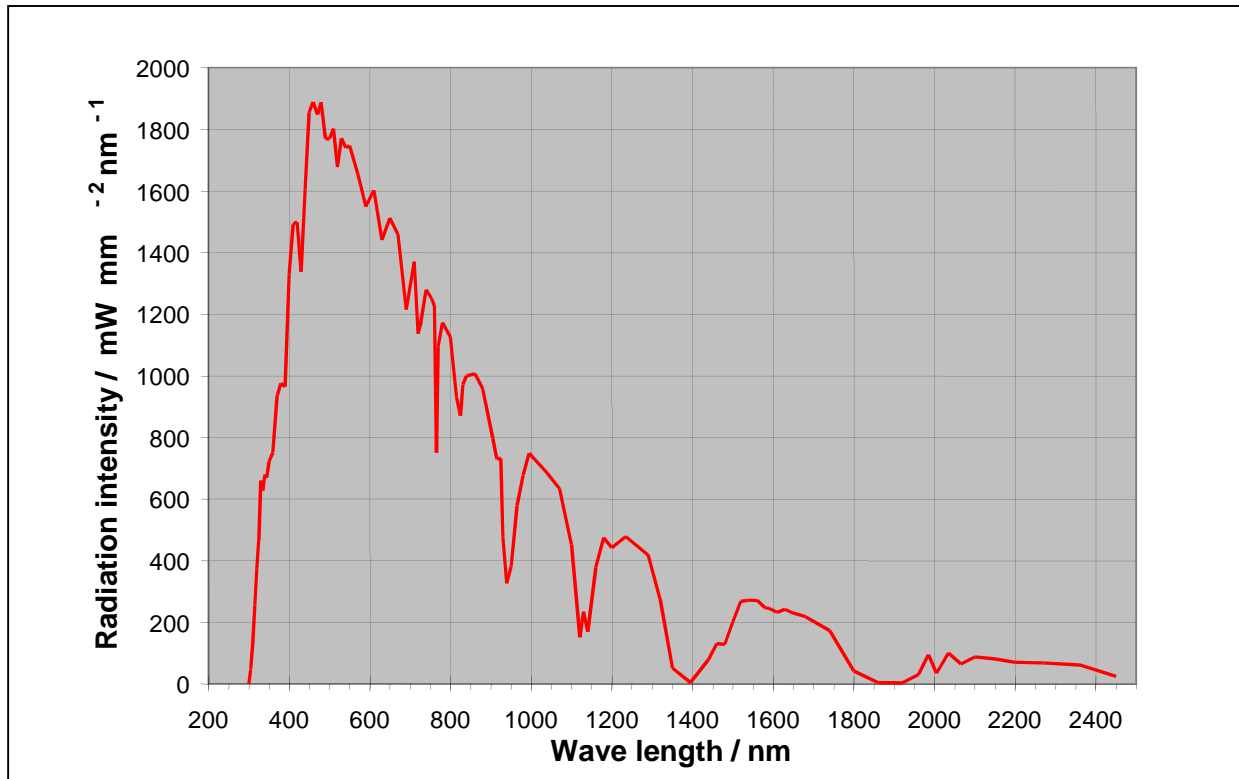


Damage to the filling good by solar radiation

- At the earth's surface, the sun's rays consist of:
 - infrared radiation with wavelengths of > 750 nm
 - visible radiation (light) with wavelengths of between 400 nm and 750 nm
 - UV radiation with wavelengths of < 400 nm



Damage to the filling good by solar radiation



Spectral radiation intensity of solar radiation

Transmission UV radiation of Standard IBC

Standard IBC is light transmitting to a high

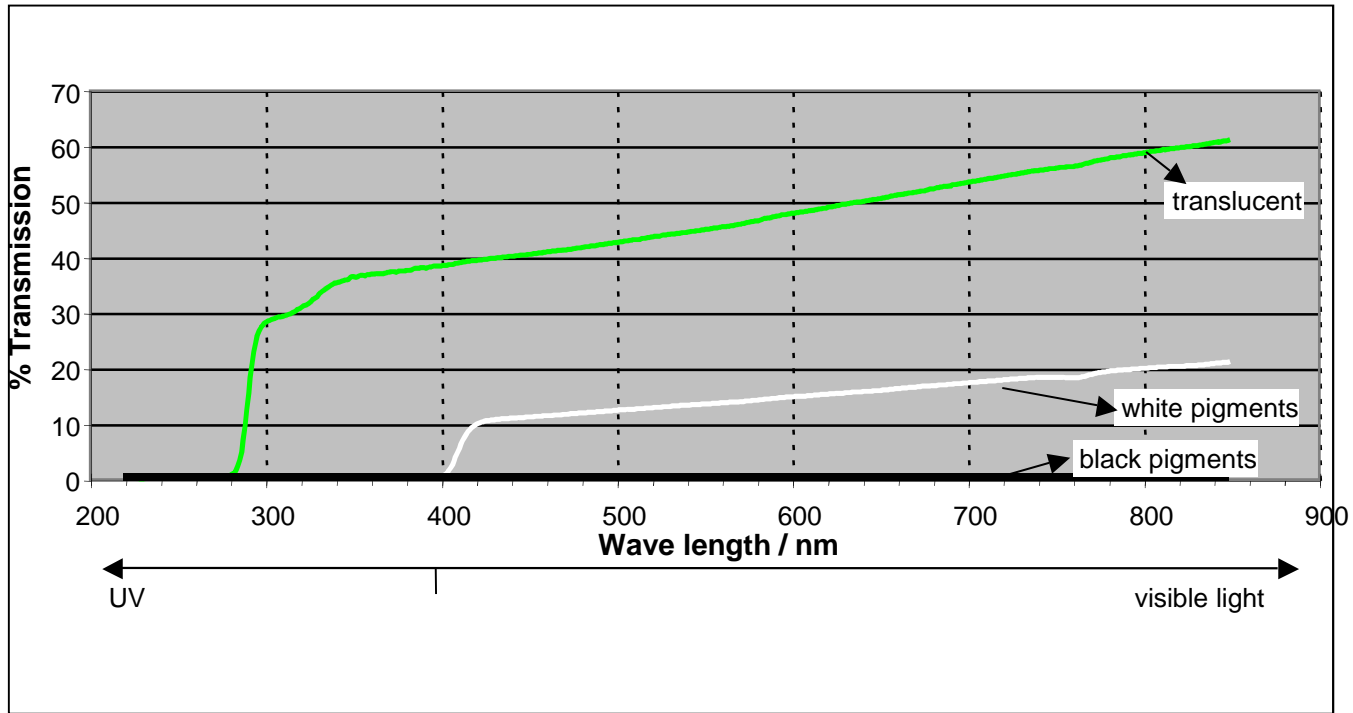
ECOBULK Standard	
Transmission of visible light	< 60 %
Transmission of UV-light	< 40 %



Effects to the filling good

- Therefore light sensitive filling products can be qualitatively damaged by solar radiation.
- Depending on the light sensitivity of the filling product it could be necessary to reduce the light transmission of PE inner receptacle by additional coloring pigments.

Effects to the filling good



Transmission spectrum of the PE inner receptacle according to the added pigments

ECOBULK MX with white inner bottle

- White colour batch is added to the HDF
 - no recognition of the filling level

ECOBULK with white inner bottle*	
Transmission of visible light	< 20 %
Transmission of UV-light	< 0.5 %

*PE additionally mixed with white colour batch



ECOBULK MX with black inner bottle

- Black colour batch is added to the HDF
 - no recognition of the filling level

ECOBULK with black inner bottle*	
Transmission of visible light	< 1 %
Transmission of UV-light	< 0.3 %

*PE additionally mixed with black colour batch



Conclusion

The light sensitivity of the filling product decides which IBC has to be used.

- **ECOBULK MX with black inner bottle**
 - shows the highest light protection for the filling product
 - valid for UV light and visible light
- **ECOBULK MX with white inner bottle**
 - efficient UV radiation barrier
 - in comparison with the standard IBC it offers an enhanced barrier (3x) against visible light



Recommendation

- If the light sensitivity of the filling product is unknown, please contact our **Technical Customer Service**.

ECOBULK with UV-barrier



ECOBULK Standard

Transmission of visible light	< 60 %
Transmission of UV-light	< 40 %



ECOBULK with white inner bottle*

Transmission of visible light	< 20 %
Transmission of UV-light	< 0,5 %

*PE additionally mixed with white colour batch



ECOBULK with black inner bottle*

Transmission of visible light	< 1 %
Transmission of UV-light	< 0,3 %

*PE additionally mixed with black colour batch