



When discussing the heat rejection of automotive window films, we need to separate the phrases of heat and energy. Around 46% of the energy getting through the glass is in the visible light section, 53% is in the infrared (the remaining 1% is in the UV).

One of the main indicators of window films is the total solar energy rejection (TSER), which is a very solid indicator if we are speaking about energy. It shows the amount of rejected energy, in percentage, including absorption. The most important number in case of architectural films, but absolutely not in the case of automotive films. If anyone has ever taken place in a car with a dyed tint or a ceramic tint knows this very well. A 20% VLT dyed film with 40% TSER compared with a Ceramic film with 20% VLT and 62% TSER definitely does not show the level of difference one can feel.

In a car, people are sitting right next to large pieces of glass, from just 10-20 cm distance, the incoming heat from the sun simply causes discomfort by burning your skin, heating of your clothes, etc. In any car with an AC energy is not the major issue, AC units are usually capable of cooling back the temperatures within the car, but the discomfort remains until a proper window film is installed.

A much better indicator to judge the performance of automotive window films is the **total solar transmission (TST)**. This indicator shows the amount of transmitted energy in percentage, not including the absorbed and reradiated energy, which is of much less significance, as the car is moving and the windows are cooled both from the inside and outside. If we take a look at the TST values of 20% VLT dyed and ceramic films we get a much better picture on what to expect from a product. The dyed film has a TST of 47%, while a ceramic film has a TST of 16%, showing a much better indication of the differences in performance. Here are some TST values of different Skyfol automotive window films.

TST Values	05	20	35	50	70
Skyfol BabyGuard	5%	9%	16%	23%	35%
Skyfol NT Ceramic	11%	16%	23%	32%	39%
Skyfol HPPPro	21%	32%	37%	53%	-
Skyfol NR	44%	47%	53%	61%	70%



TST (Total Solar Energy Transmission)