

Understanding heat rejection



Window film's ability to block heat is one of the main reasons people tint their windows.

It can get confusing when comparing solar control films, as suppliers have different ways of promoting heat rejection. This fact sheet helps explain the values that are helpful and those that aren't - so you know the questions to ask when choosing a film.

KEEP IN MIND

- ☐ TSER values are independently tested and third party verified
- ☐ If a film claims to block 95% IR energy, that does **not** mean it blocks 95% of heat
- ☐ Lawrence Berkeley National Laboratories (LBNL) administer the International Glazing Database (IGDB), which is tightly controlled and accurate. Measurements determining TSER occur when a film is listed on the IGDB
- ☐ LBNL software calculates a film's TSER, which is why you can use the TSER value to accurately compare films from different suppliers
- ☐ Reputable Australian film suppliers, certainly all WFAANZ distributor members, can provide a TSER value for their films
- ☐ If you're dubious of a supplier's TSER claims ask them for an LBNL Window Report or contact WFAANZ

And the winner is - TSER

To understand how much heat a window film can block, you need to know its Total Solar Energy Rejection (TSER). Expressed as a percentage, it describes the solar energy that's rejected from passing through glass. The higher the TSER, the more heat that's blocked.

TSER values consider all three forms of solar energy - infrared (IR), visible light and UV.

Be careful of IR values. They can be misleading for two reasons – film suppliers calculate them differently so you can't compare apples to apples, and as IR is only one of the three forms of heat, IR values only represent a portion of the heat being rejected. TSER, on the other hand, tells the full heat rejection story.

To accurately compare films from different suppliers, WFAANZ recommends you consider the TSER of films with the same visible light transmission (VLT). In other words, compare the TSER of films that are the same darkness.



THE PROBLEM WITH INFRARED

Australian sunlight comprises approx. 53% IR energy, 44% visible light and 3% UV.

So '95% IR rejection' doesn't mean 95% of the heat is blocked - only 95% of the 53%.

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