

Q&A on Coatings.



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This Q&A section intends to answer those questions that ATFA members may have on coatings.

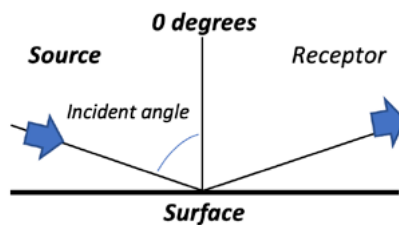
Why is it so?

Why does the sheen level of a satin or low sheen coating change from room to room? Especially if one room or side of the house is hotter than other areas – the hot areas tend to be glossier, or of a higher sheen.

Consider sheen measurement – 60 degree reflectance is the standard incident measurement angle.

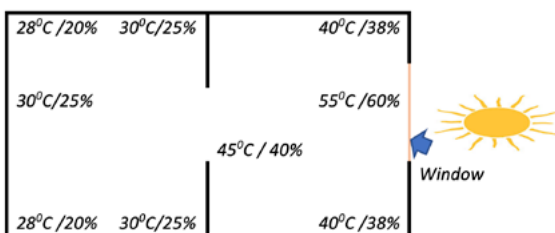
Figure 1

| Sheen (gloss level) | 60 degree % reflectance |
|---------------------|-------------------------|
| Flat / natural | < 3% |
| Matte | 3 – 10% |
| Egg shell | 10 – 25% |
| Satin | 20 – 35% |
| Semi-gloss | 35-60% |
| Gloss | 70+ % |
| High Gloss | ≥90% |



Consider a satin coating on a hot day in sunlight impacted premises – radiant heat through the window impacting the floor and convective heat transfer elsewhere through the air space and then conductive transfer to the flooring.

Figure 2



Floor temperature deg C/ 60 degree angle sheen level represented.

The floor in this example has a sheen level ranging from a glossy semi-gloss to a standard satin – very obvious to the observer.

Mechanism for heat induced sheen increase – Why is it so?

Figure 3

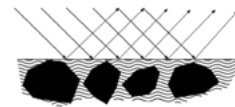
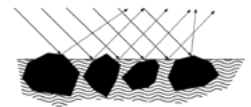


Figure 4



A satin or subdued sheen level is a result of particles within the coating (mineral, wax or turbidity) giving a micro-texture on the surface (as per figure 4). This diffuses the incident light, resulting in a reduced sheen or gloss.

Figure 3 shows what occurs when the surface of the coating dries faster and creates a ‘skin’ on the surface thus resisting the matting agents to protrude through the surface – a glossier surface results when dried.

For the above example of the flooring affected by a hotter side of the house, the sheen level is seen to vary from a normal, flatter satin to an unacceptable glossy semi-gloss.

To avoid or minimise temperature induced sheen variation:

- Coat floors before the sun comes up or impacts the exposed side of the premises.
- Tape newspaper or covering to sun exposed windows.
- Use wet edge extender to slow coated surface dry time
- All of the above.

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For further information on this technical article or on coatings related issues in general the ATFA Coatings Hotline on 0414 793 237 can be consulted. Alternatively email your enquiry to tamsaconsult@hotmail.com . This is a complimentary service for ATFA members.