

GLASS CHOICE FOR A VISUAL CONTROL ROOM

The choice of glass for a Visual Control Room (VCR) is probably the most critical for that of the entire airport because if controllers can't see out due to visual distortion, condensation of glass breakage then ATC operations may have to stop. Choosing the correct glass specification for a VCR has many aspects that need to be considered and this document has been written to outline the pros & cons for the different glass specifications available.

Sealed Double Glazed Units (SDGU's)

SDGU's are seldom used in a VCR today for a number of reasons, structurally because they do not have the strength required in modern glazing design with vertical silicone joints & visually because of the double imaging effects they allow as a result of the air gap between panes, especially during night-time operations.

Basic Annealed Laminated Unit's

This would probably be the most basic specification of glass to be considered however because the unit has undergone no toughening process it is not as strong and may require a much thicker make-up to achieve the desired structural requirements. This thicker make-up may increase the risk of visual distortion due to refraction & the unit has a much higher risk of spontaneous breakage due to thermal stress. To reduce or eliminate this risk the unit should be thermally toughened.

Thermally Toughened Laminated Unit's

This specification can be used within a VCR but the end user must be made aware of the possibility of 'Roller Wave Distortion'. This effect is a result of the thermal toughening process and although the unit will comply with all current British & EU standards this visual distortion can become far more apparent in a VCR because of the inclination of glass and acute angles of vision sometimes required when looking out of an ATC cabin.

Chemically Toughened Laminated Unit's

Chemically toughened glass is stronger than a thermally toughened unit and still retains the same visual perfection as basic annealed glass however laminated units may still suffer from condensation problems in certain climatic conditions without a heating source being applied to the internal surface.

Sonarview Chemically Toughened, Electrically Heated Glass

This product offers the best structural & visual performance of any glass specification available. Stronger than thermally toughened, without roller wave distortion & clear of any condensation problems that may be encountered. This is the best possible performance specification of glass that can be installed in a VCR and industry standard for many of the world's major airports and military units.



Glass Type	Has strength for vertical high vision joints	Does not suffer double imaging problems	Does not suffer condensation problems	Does not suffer roller wave distortion	Is not high risk to heat stress
Sealed Double Glazed Units	☹️	☹️	😊😊😊	😊	😊
Basic Annealed, Laminated Units	😊	😊😊😊	😊	😊😊😊	☹️
Thermally Toughened, Laminated Units	😊😊	😊😊😊	😊	☹️	😊😊
Chemically Toughened, Laminated Units	😊😊😊	😊😊😊	😊	😊😊😊	😊😊😊
Sonarview, Chemically Toughened, Electrically Heated, Laminated.	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

