

SANS 10400 XA (2021)

Changes which affects the glass & aluminium industry



The window to Floor Ratio has been increased from 15% to **20%** before a rational design needs to be done taking into account the U-Value and SHGC calculations.



Table 6 from SANS 204 with generic defaults based on window material (Aluminum, Thermal Break Etc), has been removed and all windows now need to be compliant to table 4 of SANS 10400 XA. The U-value requirement increases with a greater window to floor ratio and no mention is made of glazing type or framing materials. The SHGC has also taken into account alternate shading devices as well as the orientation of the glazing. The manufacturer will need to certify that their product supplied meets the designers calculation requirements.

(Refer to table 4 image below)



The use of Single Glazed Low E has been excluded in certain coastal towns, as when condensation forms on the glass, the coating will assume the emissivity of water which negates the energy performance of the glass surface, thereby increasing the U-Value. In clause 5.3.6 it now states:

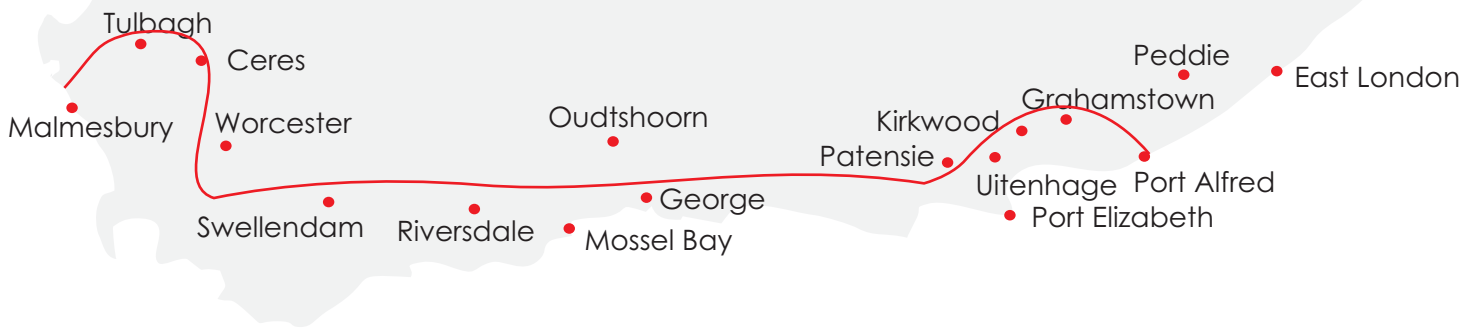
“ To reduce the formation of condensation in the Southern Cape Condensation Problem Area (see figure 5 and table C.1) the U-values of fenestration shall be achieved by means other than single low emissivity glass to maintain the energy efficiency properties. “

(Refer to Map and cities listed below)

This is because the single Low E coating increases condensation on the glass surface, thereby negatively impacting the U – Value.

Table 4: Area weighted average maximum whole fenestration element performance values for vertical fenestration.

1 Total fenestration area for each storey/nett floor area for each storey (%)	2 U-Value (W/m2.K)	3 Maximum solar heat gain coefficient (SHGC)		
		Vertical fenestration with West, North-West, North, North-East and East sector orientation		Vertical fenestration with South-West, South and South East orientation
		With shading in accordance with 5.2.2	With no shading or not in accordance with 5.2.2	All
≤ 20%		Any Solution		Any Solution
≤ 25%	5.20	0.66	0.49	
≤ 30%	4.40	0.53	0.44	
≤ 35%	3.80	0.49	0.40	
≤ 40%	3.30	0.44	0.35	
≤ 45%	3.00	0.40	0.33	
≤ 50%	2.60	0.35	0.30	
≤ 55%	2.40	0.33	0.28	
≤ 60%	2.20	0.30	0.25	
> 60%	2.00	0.28	0.22	



The SSCP area is readily identified by combining the following environmental features:

- a) It lies south of the major mountain ranges in the Southern Cape.
- b) It includes the area that receives winter and all-year-round rainfall.
- c) It receives an annual rainfall of between 250 mm and 500mm per year.

Towns that lie on the SSCP boundary

Albertinia	Gouda	Katara	Prince Alfred	Swellendam
Alicedale	Grahamstown	Kirkwood	Riebeeck East	Tulbagh
Barrington	Greyton	Langholm	Riebeeck West	Uitenhage
Bathurst	Hamlet	Lindeshof	Riversdale	Villiersdorp
Blanco	Hankey	Louterwater	Riviersonderend	Wellington
Bluecliff	Heidelberg	Malmesbury	Ruiterbos	Wolseley
Ceres	Herbertsdale	Mamre	Stormsvlei	
Franschhoek	Joubertina	Paarl	Suurberg	
Genadendal	Kammiebos	Port Alfred	Suurbrak	

Towns that lie within the SSCP area

Addo	Dana Bay	Kalbaskraal	Papiesvlei	Stellenbosch
Alexandria	Despatch	Kareedouw	Paradise Beach	St Francis Bay
Amsterdamhoek	Droë Vlakte	Kariega	Paterson	Still Bay
Askraal	Elgin	Kasuka	Pearly Beach	Storms River
Aston Bay	Elim	Kenton on Sea	Philadelphia	Strand
Atlantis	Fairfield	Kleinmond	Plettenberg Bay	Struis Bay
Baardskeerdersbos	Firgrove	Klipdale	Pniel	Sunland
Bellevue	Fish Hoek	Knysna	Port Beaufort	Swartkops
Bethelsdorp	Gans Bay	Kommetjie	Port Elizabeth	The Craggs
Betty's Bay	George	Kruisfontein	Protem	Vermaaklikheid
Bloubergstrand	Gordon's Bay	Kuilsrivier	Riethuiskraal	Viljoenskroon
Bluecliff	Gouritsmond	Kylemore	Rietpoel	Vlees Bay
Boesmansriviermond	Grabouw	Loerie	Rondevlei	Waenhuiskrans
Boknesstrand	Groot Brakrivier	Malgas	Salem	Wilderness
Botrivier	Groot Jongensfontein	Melkbosstrand	Scarborough	Windmill
Brandwag	Hartenbos	Milnerton	Sea View	Witsand
Bredasdorp	Hawston	Mossel Bay	Sedgefield	Wittedrif
Caledon	Hermanus	Muizenberg	Simon's Town	Witteklip
Cape Town	Hermon	Napier	Sinksabrug	Woodlands
Clarkson	Herold's Bay	Noanaha	Skipskop	Wydgeleë
Coega	Hout Bay	Onrus	Slangrivier	
Coerney	Humansdorp	Oukraal	Somerset West	
Colchester	Jefferys Bay	Oyster Bay	Southwell	
		Pacaltsdorp	Stanford	