

## Part 1 Energy Efficiency

### NRB 1-3 Building Envelope - Design / Thermal Parameters

Actual Assessment Submission Site Verification Submission 

Criteria	Credit Available	Credit Claimed
(a) Minimum direct west facing façade	10	
(b) (i) Minimum west facing window opening (ii) Minimum shading of 30% for west façade	10	
(c) Better thermal transmittance (U-value) of west facing walls	5	
(d) Better thermal transmittance (U-value) of roof	5	

#### Strategies:

## Documentary Evidences:

*Order of documents to be submitted accordingly and clearly labeled.*

Actual Assessment	Submitter	Assessor
<i>1-3(a) Minimum direct west facing façade</i>		
1. Architectural plan layouts and elevation drawings of all façade. Highlight those areas that are considered as west facing façade.	<input type="checkbox"/>	<input type="checkbox"/>
2. Calculation showing the percentage of west facing façade areas in the prescribed tabulated format as shown in Table 1-3(a).	<input type="checkbox"/>	<input type="checkbox"/>
<i>1-3(b) (i) and (ii)</i>		
1. Architectural plan layouts and elevation drawing of west facing façade and highlight the window openings.	<input type="checkbox"/>	<input type="checkbox"/>
2. Sectional drawing showing the details of the sun shading devices. Highlight those sun shading devices that meet the 30% shading requirement.	<input type="checkbox"/>	<input type="checkbox"/>
3. Window schedules.	<input type="checkbox"/>	<input type="checkbox"/>
4. Calculation showing the percentage of west facing window areas in the prescribed tabulated format.	<input type="checkbox"/>	<input type="checkbox"/>
5. Calculation showing the percentage of west facing window with the provision of sun shading devices meet at least of 30%.	<input type="checkbox"/>	<input type="checkbox"/>
<i>1-3(c) Better thermal transmittance (U-value) of west facing walls</i>		
1. Architectural drawings highlighting the material types and walls.	<input type="checkbox"/>	<input type="checkbox"/>
2. Detailed sectional drawings showing the wall composition and the respective U-values calculation.	<input type="checkbox"/>	<input type="checkbox"/>
3. Extracts of the tender specification which states the thermal transmittance (K-value) properties to be adopted for west facing walls.	<input type="checkbox"/>	<input type="checkbox"/>

4. Technical product information of the insulation materials (*if applicable*)

5. Calculation showing the percentage of west facing window areas in the prescribed tabulated format as shown in Table 1-3(c).

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*1-3(d) Better thermal transmittance (U-value) of roof*

1. Roof layout and sectional details of the development.

2. Extracts of the tender specification which states the thermal transmittance properties of roof.

3. Detailed sectional drawings showing the roof composition and the respective U-values and calculation showing the average reduction.

4. Technical product information of the insulation materials (*if applicable*)

Site Verification	Submitter	Assessor
<i>1-3(a) Minimum direct west facing façade</i>		
1. As-built architectural plan layouts and elevation drawings of all façade. Highlight those areas that are considered as west facing façade	<input type="checkbox"/>	<input type="checkbox"/>
2. Calculation showing the percentage of west facing façade areas in the prescribed tabulated format as shown in Table 1-3(a).	<input type="checkbox"/>	<input type="checkbox"/>
3. Photographic evidences	<input type="checkbox"/>	<input type="checkbox"/>
4. Describe any deviations or changes to the AA submission.	<input type="checkbox"/>	<input type="checkbox"/>
<i>1-3(b) (i) and (ii)</i>		
1. As-built architectural plan layouts and elevation drawing of west facing façade and window openings.	<input type="checkbox"/>	<input type="checkbox"/>
2. As-built sectional drawing showing the details of the sun shading devices. Highlight those sun shading devices that meet the 30% shading requirement.	<input type="checkbox"/>	<input type="checkbox"/>
3. As-built window schedules.	<input type="checkbox"/>	<input type="checkbox"/>
4. Calculation showing the percentage of west facing window areas in the prescribed tabulated format as shown in Table 1-3(b)(i).	<input type="checkbox"/>	<input type="checkbox"/>
5. Calculation showing the percentage of west facing window with the provision of sun shading devices meet at least of 30%.	<input type="checkbox"/>	<input type="checkbox"/>
6. Photographic evidences.	<input type="checkbox"/>	<input type="checkbox"/>
7. Describe any deviations or changes to the AA submission.	<input type="checkbox"/>	<input type="checkbox"/>

Site Verification	Submitter	Assessor
<i>1-3(c) Better thermal transmittance (U-value) of west facing walls</i>		
1. As-built architectural drawings highlighting the material types and walls.	<input type="checkbox"/>	<input type="checkbox"/>
2. As-built drawings showing the wall composition and the respective U-values.	<input type="checkbox"/>	<input type="checkbox"/>
3. Technical product information and relevant calculation on the U-value of the wall materials used.	<input type="checkbox"/>	<input type="checkbox"/>
4. Calculation showing the percentage of west facing window areas in the prescribed tabulated format as shown in Table 1-3 (c).	<input type="checkbox"/>	<input type="checkbox"/>
5. Purchase and delivery order of the insulation material (if available).	<input type="checkbox"/>	<input type="checkbox"/>
6. Photographic evidences during installation.	<input type="checkbox"/>	<input type="checkbox"/>
7. Describe any deviations and changes to the AA submission.	<input type="checkbox"/>	<input type="checkbox"/>
<i>1-3(d) Better thermal transmittance (U-value) of roof</i>		
1. As-built roof layout and sectional details of the different roof types of the development.	<input type="checkbox"/>	<input type="checkbox"/>
2. Detailed sectional drawings showing the roof composition and the respective U-values.	<input type="checkbox"/>	<input type="checkbox"/>
3. Technical product information and relevant calculation of the U-value of the roof.	<input type="checkbox"/>	<input type="checkbox"/>
4. Purchase and delivery order of the insulation material (if available).	<input type="checkbox"/>	<input type="checkbox"/>
5. Photographic evidences during installation.	<input type="checkbox"/>	<input type="checkbox"/>
6. Describe any deviations or changes to the AA submission.	<input type="checkbox"/>	<input type="checkbox"/>