

## 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"/>

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|----|---|--------------------------|--------------------------|
| 4. | Technical product information of the insulation materials ( <i>if applicable</i> )  | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | 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"/> |

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

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|----|---|--------------------------|--------------------------|
| 1. | Roof layout and sectional details of the development.   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Extracts of the tender specification which states the thermal transmittance properties of roof.                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | Detailed sectional drawings showing the roof composition and the respective U-values and calculation showing the average reduction. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Technical product information of the insulation materials ( <i>if applicable</i> )  | <input type="checkbox"/> | <input type="checkbox"/> |

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"/>