

# PV MODULE ENHANCED LISTING CHECKLIST

License Holder / Manufacturer	
APP Numbers	
Date submitted	

	Items to check	OK
<b>A</b>	<b>VDE Quality Tested or TUV Rheinland Quality Controlled PV (QCPV)</b>	
1	Check validity of VDE QT or QCPV certificate on certifier website	
2	Check certifier is also the certifier for main 61215/61730 listing	
3	Company names and factories match	
4	Model numbers match	
5	Expiry date is valid. Note QT Certificate is re-issued yearly but does not affect 3yr CEC listing	
<b>B</b>	<b>IEC TS 62941 Quality Standard</b>	
1	Check 62941 certificate on the certifier website	
2	Check the Audit Report linked to the certificate for satisfactory performance on each clause	
3	Check company name and all factories match the CEC-listed 61215/61730 certificate	
4	If different certifier to 61215/61730 cert, check that certificate covers production by CEC-listed 61215/61730 certificate.	
<b>C</b>	<b>PVEL Product Qualification Program (PQP)</b>	
1	Check you have received the Final Engineering Report dated 2016 or later	
2	Request the Factory Witness Report containing the BOM	
3	Check the BOM for correspondence with the main certificate CDF	
4	Get a Company Declaration (see text below)	
5	Check that degradation is < 3% on all test legs; <3% on LeTID; Pass Visual Inspection	
6	Verify the Final Engineering Report number on the PVEL Veracity Portal	
<b>D</b>	<b>IEC TS 62804 PID Resistance</b>	
1	Check the 62804 certificate (or equivalent certifier standard) on certifier website	
2	Method A only (85degC, 85%RH, 96hr) Both polarities (unless manual specifies one polarity must be connected to ground)	
3	Certificate/test report shows <3% degradation (because 62804 currently has no pass/fail)	
4	Check BOM for PID certificate <u>overlaps</u> CDF for 61215/61730 cert in <u>critical</u> components list below	
5	Get a Company Declaration (see text below)	
6	Certifier Mark for enhanced listing on label only if from same certifier as 61215/61730 NB: Post-stress light soaking at 0.8kWh/m2 per draft IEC 61215-1 Ed 2 is permitted	
<b>E</b>	<b>IEC 61701 Salt Mist Corrosion Resistance &lt;2km from sea</b>	
1	Check the certificate on the certifier website ;	
2	Check Severity 1, 5 or 6 for Ed2; Corrosivity classification C4, C5 or CX for Ed3	
3	Check BOM for Salt certificate <u>overlaps</u> CDF for 61215/61730 cert in critical components list	
4	Get a Company Declaration (see text below)	
5	Certifier Mark for enhanced listing on label only if from same certifier as 61215/61730	
<b>F</b>	<b>IEC 62716 Ammonia Resistance</b>	
1	Check the certificate on the certifier website	
2	Check BOM for Ammonia cert <u>overlaps</u> CDF for 61215/61730 cert in critical components list	
3	Get a Company Declaration (see text below)	
4	Certifier Mark for enhanced listing on label only if from same certifier as 61215/61730	
<b>G</b>	<b>Light and elevated Temperature Induced Degradation (LeTID)</b>	
1	Check the certificate on the certifier website (may be to Certifier standard eg TUV RH 2PfG 2689 04.19)	

PV MODULE ENHANCED LISTING CHECKLIST (APPLIES FROM 10-2020)

2	Check the Test Report for 75°C, 2x(Isc-Imp), 296-320 hr (unless Vd'.avg>Vd.min+0.3%).	
3	Check <u>Max 3% degradation</u> , B-O LID stabilisation permitted. Vd= dark voltage	
4	Check BOM for LeTID certificate <u>overlaps</u> CDF for 61215/61730 cert in critical components list	
5	Get a Company Declaration (see text below)	
<b>H</b>	<b>Backsheet Durability</b>	
1	Check if PVF (Tedlar) backsheets are on DuPont Global Certified Laminator list 05_DATA FILES\CEC Enhanced Listing\MAST Backsheet Durability	
2	<u>OR</u> for non-PVF backsheets; check Test Report from indep lab to DR IEC TS 62309-1 / DR IEC TS 62788-2-1 / MAST / PVEL BDS/ or NREL CAST	
3	-Check TR: no cracking, powdering, yellowing, de-lamination. Passed wet leakage test.	
4	-Check backsheet make and model in Test Report is on CDF for 61215/61730 certificate	
5	Get a Company Declaration (see Backsheet Durability text below)	
<b>J</b>	<b>Final Checks</b>	
1	Where multiple enhanced listings are requested, ensure that for each component, there is at least one make/model which is present on <u>all</u> certificates	
2	If not, client to remove any enhanced listings which cannot technically be met	
3	If the enhanced standard has a BOM which is incompatible with the 61215/61730 CDF, and the standard cannot technically be met, it must be removed from the datasheet	

**Text for Company Declaration:**

“In consideration of CEC granting an Enhanced Listing for the model numbers specified below, [company] undertakes that the bill of materials (BOM) used for all shipments of the specified model numbers of solar modules supplied to Australia will conform to the CDF for the main IEC 61215/61730 certificate, as well as any relevant Enhanced Listing certificates or test reports.

I understand that failure to comply may put the company in breach of the CEC listing Terms and Conditions relating to misleading application information and customer documentation. I understand that we can withdraw the Enhanced Listing at any time without affecting our basic CEC listing.”

- Declaration should detail the relevant model numbers or in an attachment.
- Declaration is to be on company letterhead and signed by senior management.

**Declaration for Backsheet Durability**

“In consideration of CEC granting an Enhanced Listing for Backsheet Durability for the model numbers specified below, [company] undertakes that the backsheets used for all PV module shipments to Australia of the specified model numbers will be on the DuPont global laminators list, or on the test report supplied to CEC.”

I understand that failure to comply may put the company in breach of the CEC listing Terms and Conditions relating to misleading application information and customer documentation. I understand that we can withdraw the Enhanced Listing at any time without affecting our basic CEC listing.”

## Critical components for Enhanced Listings

After consultation with certifiers, the following components of the BOM have been determined as critical to meet both the main certificate CDF and the enhanced testing CDF. All other components will be considered non-critical and not subject to the Enhanced Listing Declaration.

PV MODULE ENHANCED LISTING CHECKLIST (APPLIES FROM 10-2020)

	PID	Salt Mist	Ammonia	LeTID	PVEL PQP
Solar cell	Y	N	N	Y	Y
EVA	Y	Y	Y	N	Y
Frontsheet	Y	Y	Y	N	Y
Backsheet	Y	Y	Y	N	Y
Frame	N	Y	Y	N	Y
Frame adhesive	N	Y	Y	N	Y
J-box	N	Y	Y	N	N
Connector	N	Y	Y	N	N

Background

The Enhanced Listing program has always required that the bill of materials (BOM) of modules supplied to Australia would conform to both the main certificate CDF and the Enhanced Listing CDF or test report.

This requires a company Declaration to this effect.

The requirement has created problems for companies in unduly restricting their choice of materials. Therefore CEC consulted certifiers to ascertain which components were critical.

The PVEL PQP is designed to identify a specific BOM which has met testing to a higher standard. This scheme was intended to be used by customers as a guide to a particular BOM which could be relied upon in specification. As this covers such a wide range of testing, most components are considered critical.