

Base data

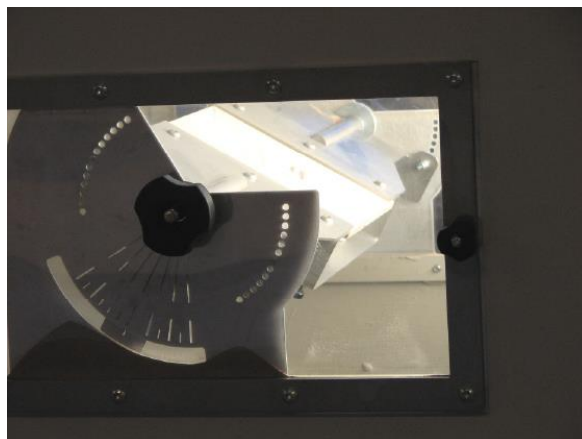
Task No:	WT-01, ES-01
Task requester/Customer	Customer X
Contact	
Task responsible	Morten Dahl
Test responsible	Okan Özcelik
Date for request	23-11-2022
Date for completion	Unspecified

Test description

The Wind Tunnel & Erosion Chamber provides simple and reliable results showing the effect of wind and erosion particles on a test sample. Samples of rectangular shape are placed within a chamber where the angle of impact and wind velocity is adjustable for both erosion and wind test. The test results are evaluated with hands-on examination and documentation of the samples weight loss with provided pictures. These tests are desirable methods when simulates real-life conditions, making it suitable for transportation vehicles, wind turbines, and solar panels, coated surfaces, wood, and plastics.

Standard test configuration

Wind Tunnel		Erosion Particles	
Paramter	Value	Paramter	Value
Speed	0-90 m/s	Erosion particle	Korund
Temperatur	30-50 °C	Particle size	0.125 mm
Specimen dimension:	150x150x4 mm	Erosion mass flow	0-3 kg/h
Duration	2 hours	Duration	2 hours
Mass-flow	2.5 kg/h		



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Purpose of the test – Solar panels from Customer X

Solar panels from Customer X are cut down to a dimension of 150x150 mm for the wind tunnel test, and 110x110x for the erosion test. The wind tunnel is supposed to simulate the real-life wind conditions of a transportation vehicle driving at high velocities, as well as the impact of sand and hail during extreme weather conditions.

Test material

Raw materials	QTY	Unit	Batch number
Solar panels from Customer X	1		

Test conditions

Solid Particle Impact test		Wind tunnel	
Test Conditions	Specimen 1	Test Conditions	Specimen 1
Avg. speed [m/s]	15	Speed [m/s]	90
Duration [hours]	24 h	Duration [hours]	24
Impact angle [°]	30	Impact angle [°]	10
Avg. temperature [°C]	7	Avg. temperature [°C]	7
Materials	Steel	Sand simulation	Yes
Diameter [mm]	Ø6	Sand material	Korund [Ø 0,125 mm]

