



DSI Laser Service (Thailand) & Pulse Laser Welding Technology

comply the quality requirements certified according to **ISO 3834-2:2021**



CERTIFICATE

D-ZE-16083-01-00-ISO3834-2015.0053.006

DVS ZERT hereby certifies that the company

DSI Laser Service Thailand Co. Ltd.
33/1 Moo 5 Tambol Nongmaidang
20000 Chonburi
Thailand

has furnished proof to fulfil
the quality requirements for welding according to

ISO 3834-2:2021

in the extent mentioned on the reverse side.

validity: 25.11.2022 until 16.02.2026

Düsseldorf, 25.11.2022
Place and date of issue

Prof. Dr.-Ing. Kuschner
Lead Assessor



Dipl.-Ing. Gurschke
Head of certification body



DVS ZERT GmbH, Aachener Straße 172, 40223 Düsseldorf, GERMANY



DAkkS
Deutsche
Akademie
für
Qualitätsmanagement
D-ZE-16013-01-00



Pulse Laser Welding Technology can follow any welding standard and its examinations like ISO, AWS, ASME, JIS, GB/T.

Pulse Laser Welding Processes are specified and qualified by :



Welding Procedure Qualification Record (WPQR)



Welding Procedure Specification (WPS)

DSI-Thailand PL-Welders & PLW-Machine-Operators are certified according to:



ISO 14732:2013-12



AWS D14.6/D14.6M:2012



AWS D17.1/D17.1M:2017

[illegible]

	KMUTT's Welding Research and Consulting Center 126 Pichay-Uthit Rd., Bangmod, Tunpuri, Bangkok 10160	Page No. _____ of 3																			
Welding Procedure Qualification Record (PQR) of Pulsed-Laser Beam Welding																					
Company:	(S) LASER SYSTEM (THAILAND) CO., LTD.	WPS Record No.:	PQR-01 (TH-AS-1-NICK2)																		
Project Name:	Year 04-07-2003 Beam Turbine	Date of Issue of PQR:	February 20, 2004																		
Laser (Make and Model):	ACP-1412000	Serial No.:	001111031123																		
Welding Position:	Near position: 100 mm Near position: 100 mm	Welding Position:																			
Process performed on the work station:	Pulsed Laser Welding	Material Product Name:	316L																		
Welding Process:	Laser	Welding Process:																			
Name of Validating Operation:		IAE TOWAPATONG SURANGSUKH																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Item</th> <th style="width: 30%;">Units</th> <th style="width: 20%;">Actual</th> <th style="width: 20%;">Comments</th> </tr> </thead> <tbody> <tr> <td>Weld size (penetration, Lap weld, Butt weld)</td> <td></td> <td>Butt weld</td> <td></td> </tr> <tr> <td>Type of weld (lap weld, butt weld, double bevel)</td> <td></td> <td>Single bevel weld</td> <td></td> </tr> <tr> <td>Welding position</td> <td></td> <td>30 Horizontal</td> <td></td> </tr> </tbody> </table>				Item	Units	Actual	Comments	Weld size (penetration, Lap weld, Butt weld)		Butt weld		Type of weld (lap weld, butt weld, double bevel)		Single bevel weld		Welding position		30 Horizontal			
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Weld joint preparation:		Schematic cross section of the weld:																			
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Notes for Reading:		Notes for Reading:																			
1. Drawing process used for welding and post-welding	1. Drawing process used for welding and post-welding																				
2. Using start stop lap for the welding and dipping welding respectively	2. Using start stop lap for the welding and dipping welding respectively																				
3. Test weld by using (S) in (NICK2) after model	3. Test weld by using (S) in (NICK2) after model																				
4. Comparing welding specimens using strip clamp to rotation position and adjust distortion during	4. Comparing welding specimens using strip clamp to rotation position and adjust distortion during																				
5. Intersect drawing by the welding	5. Intersect drawing by the welding																				
6. Control heat distribution and distortion by using finish sequence like, preheat, welding, heat	6. Control heat distribution and distortion by using finish sequence like, preheat, welding, heat																				

[illegible]



Standards & Norms used by DSI Laser Service (Thailand) / Selection

Quality assurance management

DIN EN ISO 3834-2:2021

Education / Laser Beam Specialist

DVS 1187-2:2021-09

Quality / Examination

DIN EN ISO 13919-1:1996-09

DIN EN ISO 6520-1:2007

Process Qualifications

DIN EN ISO 15609-4:2009-10

DIN EN ISO 15613:2004-09

DIN EN ISO 15614-7:2007

DIN EN ISO 15614-11:2026-04

American Welding Society Standards (AWS) Process Specifications

AWS B2.1/B2.1M:2021

AWS C7.4/C7.4M:2017

AWS D14.6/D14.6M:2024

AWS Standards for Aerospace

AWS D17.1/D17.1M:2024

Safety Training Laser Radiation / Laser Welding

DGUV Vorschrift 11 (Former BGV-B2)

ANSI Z136.1-2014 (American Standard)

Laser Welder and Laser-welding-machine Operator Training

DIN EN ISO 14732:2013-12

DIN ISO 24394:2021-05

SLV-H-LS0 acc. to EN ISO 9606-1:2017

Filler materials / Laser Welding Wires

EN 10204 Type 3.1

Filtration Systems / Dust Collection

DIN EN ISO 14121-1

ASME Standards Boiler and Pressure Vessel Code

ASME BPVC 2023 Section IX

AWS Standards for Space Systems

ANSI/AIAA S-080A-2018

Japan Industrial Standard (JIS) Laser Welding

JIS Z 3001-5



Good to know : Pulse Laser Welding Technology can follow any welding standard and any weld examination.