

LASER WELDING: HANDHELD AND AUTOMATED

Laser Welding Project Brief and Sample Evaluation Request

EMAIL THIS FORM TO
sales@vytek.com

All forms: vytek.com/smp

QR CODE
vytek.com/smp?process=welding

Use this form to describe your welding application and request a sample evaluation. You do not need a laser system to start, and you are not expected to know process times, achievable quality or cycle times. Those are what sample evaluation is for. Complete what you know; where you are unsure, choose "Vytek to determine" or leave it blank.

1 DESCRIBE	2 SEND FILES	3 SHIP SAMPLES	4 CONFIRM SCOPE	5 GET RESULTS
Complete Parts 1 to 3. Skip anything you do not know.	Email this form, drawings, photos and video to sales@vytek.com . Forms for each process are at vytek.com/smp .	Print a copy of this form and include it with labeled samples.	Vytek confirms scope, timing and any cost within three business days of receiving complete information.	Receive a Sample Evaluation Report with photos, results and cycle-time estimates.

SAMPLE EVALUATION SCOPE AND COST

Most initial sample evaluations are performed at no charge. Where testing requires custom fixturing, extended development, multiple iterations or formal reporting, Vytek will confirm scope and any cost before work begins. Results are laboratory estimates; production performance is confirmed during acceptance testing of the final system.

PART 1 · PROJECT BRIEF

About you, your part and your production

01 CONTACT AND COMPANY

Company		Facility / location	
Primary contact	Title / department	Date	
Phone	Email		
Project name / reference		How did you hear about Vytek?	
Industry ☐ Aerospace / defense ☐ Electronics / semiconductor ☐ General fabrication ☐ Automotive / transportation ☐ Energy / batteries ☐ Other ☐ Medical device ☐ Tooling / molds			

02 PROJECT STATUS AND TIMING

Project status ☐ Initial investigation ☐ Replacing existing equipment ☐ Other			☐ Budgetary planning ☐ Production problem / capacity need			☐ Active capital project ☐ Approved project / sourcing		
Desired equipment timing ☐ Immediately ☐ 6–12 months			☐ Less than 3 months ☐ More than 12 months			☐ 3–6 months ☐ Not yet determined		
Target installation date, if known				Budget range, if established (optional)				

03 APPLICATION AND CURRENT PROCESS

Briefly describe what you need to join, and why

What are you trying to improve?

- | | | |
|---|---|---|
| ☐ Speed / throughput | ☐ Weld quality / consistency | ☐ Appearance / less rework |
| ☐ Less distortion / heat input | ☐ Dissimilar or thin materials | ☐ Operator skill dependence |
| ☐ Reduce filler / consumables | ☐ Automation | ☐ Other <input type="text"/> |

Is this process performed today?

- ☐ Yes ☐ No ☐ New product / new process

Current method

- | | | |
|---|---|--|
| ☐ TIG | ☐ MIG | ☐ Resistance / spot welding |
| ☐ Existing laser welding | ☐ Brazing / soldering | ☐ Adhesive / mechanical fastening |
| ☐ None / new | ☐ Other <input type="text"/> | |

Existing equipment make / model

Current time per part or rate, if known

What problems or limitations do you have today?

04 PART AND MATERIAL

Part name

Part number(s)

Number of part types

Smallest part (L × W × H)

Largest part (L × W × H)

Weight range

Material

- | | | |
|--|---|--|
| ☐ Carbon / mild steel | ☐ Stainless steel | ☐ Tool steel |
| ☐ Aluminum | ☐ Anodized aluminum | ☐ Titanium |
| ☐ Copper / brass | ☐ Nickel alloys | ☐ Galvanized / coated steel |
| ☐ Nickel-plated steel | ☐ Other <input type="text"/> | |

Specific alloy / grade, if known

Coating or finish type and thickness, if any

Surface condition

- | | | |
|--|---|--|
| ☐ Bare / as received | ☐ Machined | ☐ Polished / ground |
| ☐ Painted | ☐ Powder coated | ☐ Anodized |
| ☐ Plated | ☐ Heat treated / passivated | ☐ Oxidized / rusted |
| ☐ Oily / contaminated | ☐ Other <input type="text"/> | |

05 PRODUCTION AND HANDLING

Required output (parts per hour or takt)

Shifts per day / days per week

Annual volume

Required cycle time per part, if known

Typical batch size / changeovers per shift

Do not know your cycle time? Leave it blank. The sample evaluation measures laser process time and estimates total cycle time for different ways of loading and unloading parts.

Production type

- ☐ Continuous
 ☐ Batch
 ☐ High-mix / low-volume
 ☐ Low-mix / high-volume
- ☐ Prototype / R&D
 ☐ Job shop / contract

How do parts arrive and get presented today?

- ☐ Operator loads one at a time
 ☐ Fixture / nest
 ☐ Tray / pallet
- ☐ Conveyor
 ☐ Robot / cobot
 ☐ Existing production line
- ☐ Bulk / loose
 ☐ Unknown
 ☐ Other

Desired level of automation

- ☐ Handheld laser welding
 ☐ Manual workstation
 ☐ Semi-automatic
- ☐ Robot / fully automatic
 ☐ Integrated into existing line
 ☐ Automation Ready (automate later)
- ☐ Vytek to recommend

06 WHAT GOOD LOOKS LIKE

Describe acceptance criteria: what makes a part good or rejected?

Can you provide good and rejected examples (parts or photos)?

☐ Yes
 ☐ No
 ☐ Some

Top priorities (choose up to three)

- ☐ Weld strength
 ☐ Leak-tight / hermetic
 ☐ Appearance
 ☐ Low distortion
- ☐ Speed / throughput
 ☐ Penetration control
 ☐ Capital cost
 ☐ Ease of operation
- ☐ Future automation

07 WHAT VARIES?

Variation drives automation. Mark what changes from part to part or batch to batch. The perfect part is easy; production lives in the exceptions.

- ☐ Joint gap / fit-up
 ☐ Seam position
 ☐ Material thickness
- ☐ Material or alloy
 ☐ Coating / plating
 ☐ Part position / orientation
- ☐ Part size / geometry
 ☐ Cleanliness before welding
 ☐ Frequent new part numbers
- ☐ Other

Describe the variation or exceptions you see most often

PART 2 · WELDING DETAILS

Tell us about the joint, the strength and appearance it needs, and how parts are held

08 JOINT AND MATERIALS

Joint type

- | | | |
|---|--|---|
| ☐ Butt | ☐ Lap | ☐ Fillet / T-joint |
| ☐ Corner | ☐ Edge / flange | ☐ Spot / stitch |
| ☐ Continuous seam | ☐ Circumferential | ☐ Hermetic seal |
| ☐ Other <input type="text"/> | | |

	MATERIAL / ALLOY	THICKNESS	COATING / PLATING
Part A			
Part B			

Weld length or number of welds per part

Joint access (one side / both sides)

Joint gap and fit-up tolerance

Seam position variation

09 WELD REQUIREMENTS

Required penetration / depth

Weld width limits

Strength requirement

Weld must be

- | | | |
|---|---|--|
| ☐ Structural / load bearing | ☐ Leak-tight | ☐ Hermetic |
| ☐ Cosmetic / visible | ☐ Low distortion | ☐ Electrically conductive |
| ☐ Other <input type="text"/> | | |

Are there heat-sensitive components near the weld?

- ☐ Yes ☐ No ☐ Unknown

Weld specification

- ☐ AWS specification ☐ ISO 13919 / ISO specification ☐ Customer specification ☐ None / unknown

Inspection or testing after welding

- | | | |
|---|-------------------------------------|--|
| ☐ Visual | ☐ Leak test | ☐ Pull / shear test |
| ☐ Cross-section | ☐ X-ray / CT | ☐ Dye penetrant |
| ☐ Other <input type="text"/> | | |

10 PROCESS, FIXTURING AND OPERATION

Filler wire required or used today?

☐ Yes ☐ No ☐ Vytek to determine

Filler wire type / diameter, if known

Shielding gas used today

Cleaning before welding

☐ None ☐ Solvent wipe ☐ Brushing / grinding ☐ Laser cleaning wanted
☐ Unknown

Do fixtures or clamping exist today?

☐ Yes ☐ No ☐ Can be developed

Is seam tracking or vision likely needed?

☐ Yes ☐ No ☐ Vytek to determine

Expected operation

☐ Handheld ☐ Fixed workstation ☐ Rotary / positioner ☐ Robot
☐ Vytek to recommend

Laser type, if you have a preference

☐ Fiber CW ☐ Wobble head ☐ Pulsed ☐ Vytek to recommend

PART 3 · SAMPLES, FILES AND SUBMISSION

What to send and where to send it

11 SAMPLES

Can sample parts be supplied?

☐ Yes ☐ No ☐ To be determined

Send unwelded parts or coupon pairs in each material and thickness combination, enough for several welds, plus a welded reference part if one exists. Include parts with your worst-case fit-up. Label each sample with your company name and a sample ID.

SAMPLE ID	DESCRIPTION / VARIATION (TYPICAL, WORST CASE, FINISH)	QTY	NOTES

May samples be permanently processed or destroyed?

☐ Yes ☐ No ☐ Limited quantity

May Vytek section or cut samples if needed?

☐ Yes ☐ No ☐ Ask first

After testing, samples should be

☐ Returned to address below ☐ Scrapped by Vytek ☐ Untested parts returned only

Coated, treated or hazardous material? Safety data sheet attached

☐ Yes ☐ No ☐ Not applicable

Export control: do not send export-controlled technical data or parts (ITAR / EAR) without contacting Vytek first. Files and data you send are kept for the evaluation and follow-up, and deleted on request.

What should the evaluation tell you?

☐ Feasibility / can it be done ☐ Weld speed / time per part ☐ Appearance (photos)
☐ Penetration / cross-section ☐ Strength or leak test ☐ Gap tolerance window
☐ Cycle-time estimate with handling ☐ Recommended laser and configuration

12 FILES, PHOTOS AND VIDEO

Included with this request

☐ Part drawing (PDF with dimensions) ☐ STEP / 3D CAD ☐ Part photos
☐ Video of current process ☐ Good / rejected examples ☐ Quality specification
☐ Fixture / tray drawings ☐ Weld symbols / weld map ☐ Weld procedure or specification
☐ Fixture / clamping drawings ☐ Other

Photo tips: photograph each part beside a ruler, show the area to be processed close up, show how parts arrive and leave the station, and include good and rejected examples. Large files: email sales@vytek.com and we will send a secure upload link.

13 RETURN SHIPPING AND SUBMISSION

Return ship-to company and attention

Carrier / account number (optional)

Return street address, city, state, ZIP

Date samples will ship

Tracking number

Submitted by

Additional notes or instructions for the applications engineer

SEND FILES AND SAMPLES

Email this form and your files to sales@vytek.com. Ship samples, with a printed copy of this form, to: Vytek, Attn: SMP Dept, 195 Industrial Road, Fitchburg, MA 01420, USA. Questions: 978-342-9800.

QR CODE
vytek.com/smp
?process=welding

WHAT YOU WILL RECEIVE

A Sample Evaluation Report with photos of welded samples, measured weld speed and time per part, cross-section or penetration results where requested, observations on fit-up sensitivity and distortion, estimated cycle time for handheld, manual and automated options, identified risks, and a recommended laser type, power, wire and gas configuration, and next step.

FOR VYTEK USE

SMP number

Date received

Applications engineer

Sales contact

Evaluation level

☐ Feasibility check

☐ Process evaluation

☐ Process development (quoted)

Scope and cost confirmed with customer (date / by)

Report due