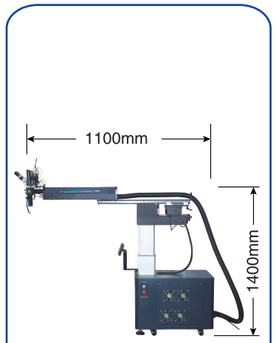
STL TechnoCoat Laser Overlay & Welding

YAG Laser Overlay & Welding Device

TechnoCoat Laser



【Image of Max Stroke】

STL–150 Specification

Beam Source	Nd: YAG	Laser Head Movable Stroke		X (Electromotion) :145mm
				Y (Electromotion) :1100mm
				Z (Electromotion) :505mm
				Turn Around : ± 45°
Wavelength	1064nm	Table Movable Stroke		X :130mm
				Y :85mm
Laser Power	150W			Z (Electromotion) :150mm
		Table Load Capacity		30kg
Pulse Energy	100Joules	Size	・Main Unit Include Laser Head	W550 × L1400 × H1270mm
			・Main Unit Box	W550 × L830 × H620mm
Pulse Width	0.1~20ms(0.1ms Step)		・Laser Head	W110 × L1100 × H140mm
			・Fume Collector	W420 × L240 × H460mm
			・Chiller	1.5P W420 × L580 × H730mm
Pulse Frequency	1.0~200Hz(0.1Hz Step)		・Work Table	W410 × L510 × H635mm
			・Table Board	W350 × L450mm
Spot Diameter	Φ 0.15~2.0 mm	Weight	・Main Unit & Laser Head	150kg
			・Fume Collector (Optional)	14kg
Electrical Supply	3 Phases AC 380V 50HZ Single Phase 220V 50HZ		・Chiller	60kg
			・Work Table	45kg

※ Straight Wires:
- Better Handling
- Less Loss
- Tip Color to Avoid Mixing

Overlay / Welding Wire

Material (Size: ϕ 0.1~0.5mm)		
SKD–61	Maraging Steel	BeCu
NAK–80	Stainless	Al
Cr–Mo Steel	SKD–11	Ti Alloy
13 Cr Steel	SKH–51	Others

Please Contact for the Wire different Material and Size

Various Jigs

<Universal Jig> <Rotational Angular Jig> <Swing Lens>

Fume Collector

Optional Part

- CCD Camera
- Protective Goggles
- Wire Holder
- Others
- Jigs
- 3D Worksation
- Fume Collector

■ Laser Safety Caution

Our laser repairing welder belongs to class 4 laser product. In order to prevent laser damage, we have take the safety measures by relevant provisions during the manufacturing process. When using the laser, we remind you to implement the safety management about laser class. In order to understand the content about safety and caution of laser, if necessary, we will provide you training on safety and expertise.

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TechnoCoat® Infinite possibility **Technocoat Shanghai Co., Ltd.**

http://www.technocoat.co.jp

TechnoCoat Laser

STL-150

YAG Laser Overlay & Welding Device
Precision Repair for Molds & Dies

Low Cost / High Performance

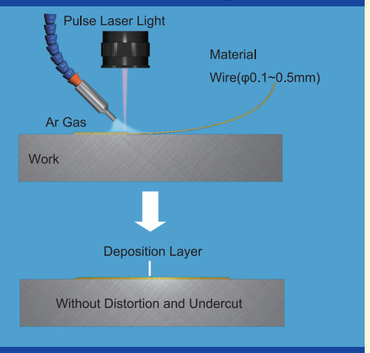
STL TechnoCoat Laser Overlay & Welding

《Advantages of TechnoCoat Laser》

- Operation is easy. high skill is not needed.
- Heat input is low. There is no distortion, undercut, stress and pinhole occured.
- Wire is melt completely into the base material, strength is very high.
- With Ar gas protection, there is no oxidation occured on the welding point.
- Possible to weld at bottom, inner wall, inside corner of deep narrow grooves and hole.
- Possible to weld accurately with a few deposition. Finishing time and cost is reduced.
- There is no nessesary to pre–heat and post–heat comparing with TIG welding.
- Possible to weld wire to same material. No hardness changed, etch treatment is possible.
- Possible to weld dissimilar metals.
- Possible to weld almost metal, steel, Al, Cu, Ti, SUS, Au, etc.

Comparison of Laser and Argon Welding (TIG)

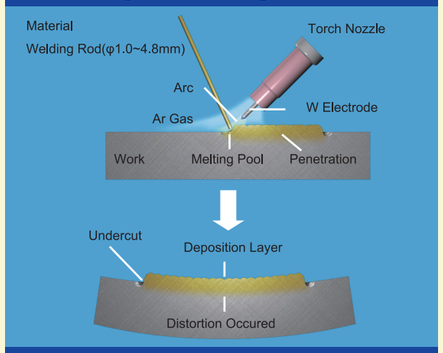
Laser Welding



Advantages
① Easy Operation
② Low–Heat Input : No Distortion, Stress, Undercut, Oxidation.
③ Precision Reparing : Reducing Finishing Time, and Cost
④ Possible to Repair Deep Narrow Groove and Hole.
⑤ No Pre–Heating and Post–Heating.

Shortages:
① Deposition is slow.

Argon Welding (TIG)



Advantages
① Deposition is fast.
② On–site Operating is possible.

Shortages
① High–Skill is needed.
② High Heat Input : There is distortion and stress.
③ There is undercut.
④ Large Deposition Amount : Finishing Time and Cost is needed.
⑤ Difficult to repair at deep narrow groove, hole.

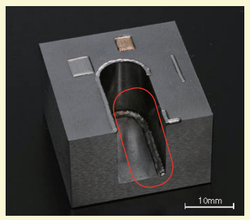
Application of TechnoCoat Laser

- Mold : Reparing Mold of Plastics, Rubber, Die–Casting.
- Mechanical Part : Reparing Wearing, Scuffing of Mechanical Parts.
- Welding Damege : Reparing the Undercut or Pinhole made by TIG.
- Precision Part : Welding Electric Component, Sensor, Connector.
- Dissimilar Metal : Welding Between Dissimilar Metals.
- Sheet Metal : Welding Thin Metal Plate like Stainless.
- Surface Treatment : Partial Reparing at the position of Thermal Spray, Plating, TD treatment etc.

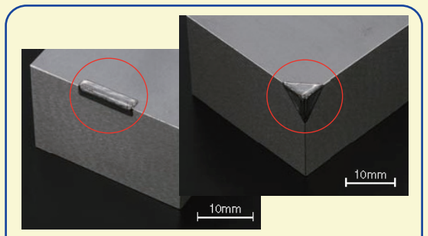
STL TechnoCoat Laser Overlay & Welding

Sample of Welding and Reparing

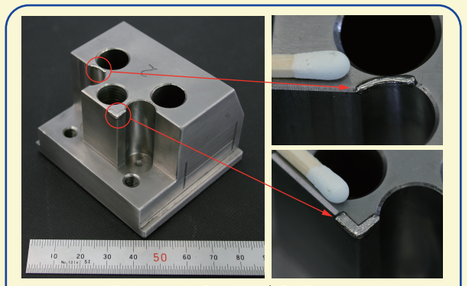
Best Reparing Method for Precision Mold



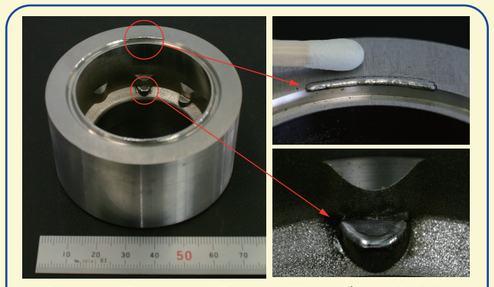
Inside Corner Filet (SKD–61)



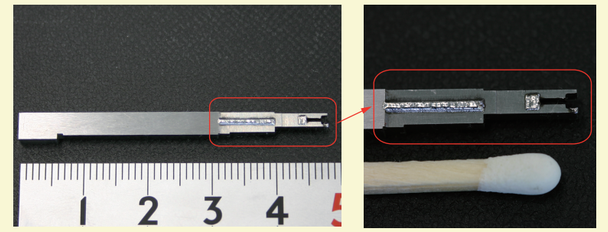
Edge and Corner (SKD–61)



Edge and Corner (SKD–61)

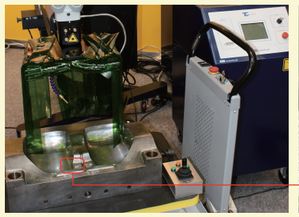


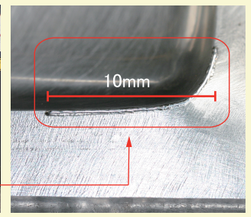
Bottom Face and Round Edge (NAK–80)



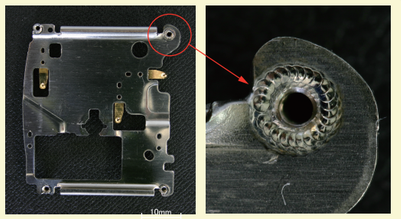
Insert Part of Mold (SKD–61)

High Precision & Quality Welding without Distortion,Undercut, Pinhole comes true

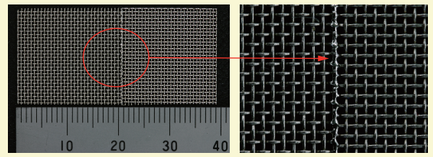




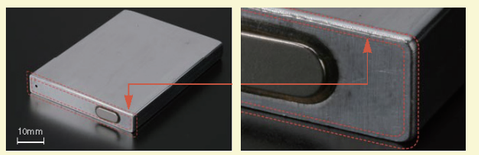
Reparing Large Mold with 3D Workstation



Welding Mobile Phone Parts



Welding Metal Net of dia. 0.5mm (SUS)



Welding Al Battery Case (Al, Thikness: 0.5mm)