

STWB SIS Tailor Welded Blanks

LASER PROCESSING & PRODUCTION SERVICE



About SIS CORPORATION



BEST CHOICE FOR CUSTOMER

We provide world class quality & service

SIS CORPORATION is first of company had supplied Tailor Welded Blank Production line in Korea. Our Excellent performance machine are recognized by most of reputed customers like POSCO, HYSCO, HYUNDAI, GM, RENAUTSAMSUNG are using our machine.

Beyond machine manufacturer, we are also supplying customers TWB product of diverse auto parts through huge experience as TWB production line manufacturer. We have various patents and technologies in TWB production and We have high capability's TWB production line with Quality management system.

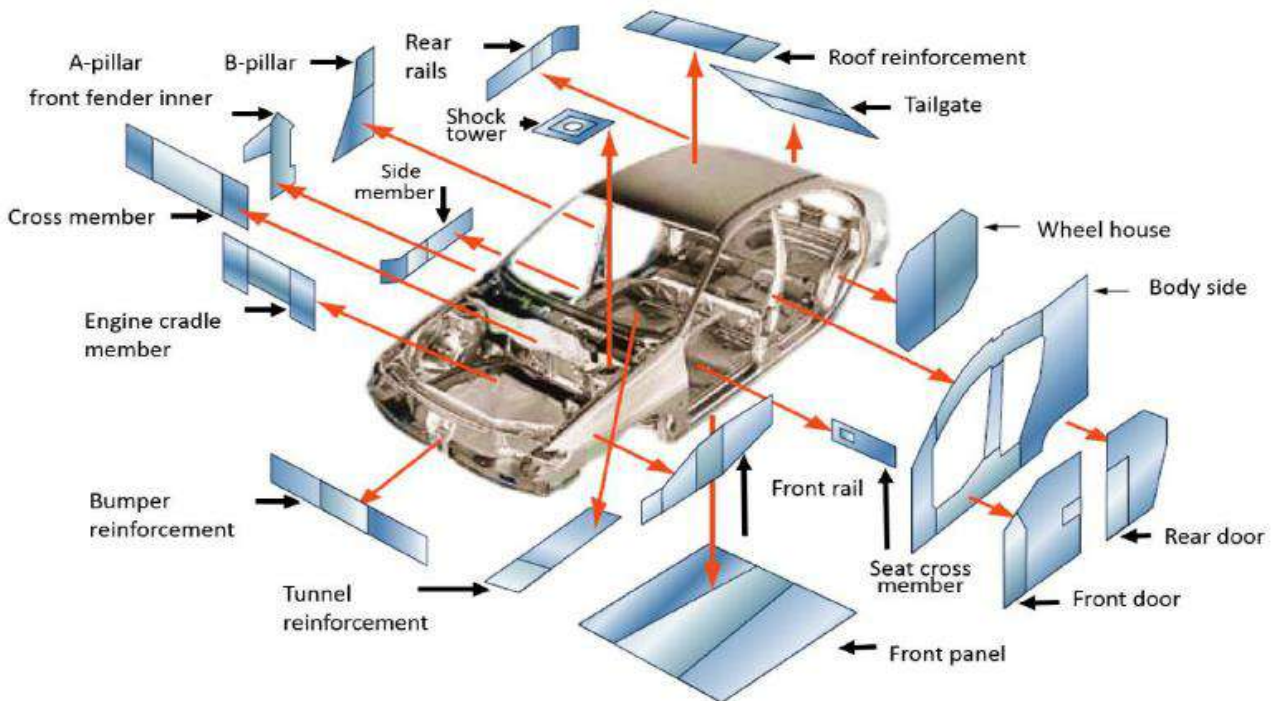
We promise you to supply high quality TWB material of defect free on time.

C.E.O Shin In Seung

FOR BETTER SAFETY AND LIGHT WEIGHT

Specialized SIS laser processing technology

SIS LASER PROCESSING SERVICE



TWB (Tailor Welded Blank), HFTWB (Hot Formed Tailor Welded Blank) Product technology

Tailored welded blank (TWB) is a material for press forming obtained by welding two or more steel sheets and tailored to a specific requirement like greater strength, better corrosion resistance, etc.

By using a TWB, it is possible to modify the properties of parts of the blank, improve the yield and reduce the number of parts.

Hot Formed Tailor Welded Blank(HFTWB) is to add Hot stamping process which heat steel panel after TWB process. Advanced this technology has advantage for improved safety and low weight than previous TWB blanks.

We have many primary technology and patent for above processing technology based on experience of manufacturer of TWB laser welding line and Laser Ablation line. And It can make High quality and high productivity TWB production.

Many reputed company use our TWB blank and HFTWB blank providing service stably with reasonable servicing cost.

HIGH PRODUCTIVITY & HIGH SUPPLYING CAPABILITY

PROVEN QUALITY AND QUICK RESPONSE SERVICE

SIS LASER PROCESSING SERVICE



1. HIGH PRODUCTIVITY AND FLEXIBLE PRODUCTION FOR CUSTOMER.

- 1) Many automatic laser welding line have mass production capability.
- 2) Intelligent Compact welding line can provide various welding shape blanks and less production welding blanks flexibly.

2. STRICT QUALITY MANAGEMENT

- 1) Real time laser inspection camera can make free of defect product.
- 2) We observe global quality standard for various quality inspection.

3. SPECIALIZED MACHINE OPERATION

- 1) As manufacturer for TWB LASER WELDING LINE, we operate machine professionally based on our laser processing technology.
- 2) We have expertized operator and maintenance engineer is working for many years for laser processing line.

4. QUICK & ON TIME DELIVERY SERVICE

- 1) We have on time delivery service with online customer service can see detail of production schedule.
- 2) We are operating machine 24 hours with customer service globally.

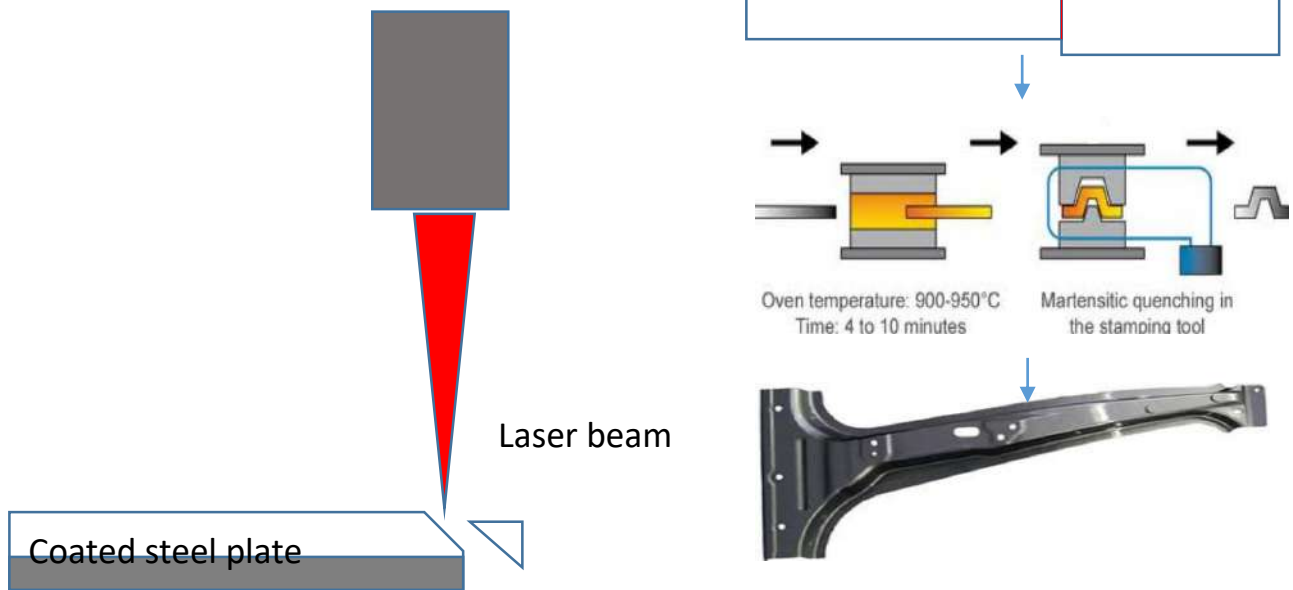
TECHNICAL SPECIFICATION FOR TWB PRODUCTION SYSTEM



Description		Linear	Non Linear	
Line		# 1,2,3 LWL	# 4 LWL	
Product		Automobile inner Door, Pillar, Member etc.		
Material		GA, GI, CR		
Major specification	Feeding device	Destacking Robot Pre-positioning Table	Destacking Robot Pre-positioning Table	
	Clamping device	Welding shuttle	Magnetic	
	Welder	- Welding thickness : 0.5~5.0mm - Welding length : 200~3600 mm - Welding speed : Max. 12mpm	- Welding thickness : 0.6~5.0mm - Welding length : X 3600mm, Y 2200 mm - Welding speed : Max. 12mpm	
		- Gap compensation : Souka, Vision camera	- Gap compensation : : Vision camera & Filler Wire	
		- Welding quality inspection system: Servo robot laser vision camera *Function : Welding Seam Tracking, Welding Seam Geometry & Seam Surface Inspection		
	Dimple Machine	- Laser Type: Fiber Laser(4 ~6 kW) - Beam delivery : Fiber cable	- Laser Type: Fiber laser (4~6kW) - Beam delivery : Fiber cable	
- Dimple Type: Oval 15 x 35mm, Circle Ø 20 mm - Dimple Depth: : 0~3mm				
Capability (300mm welding length)	approx. 2million product for each machine	approx. 2million product for each machine		

HOT FORMED TAILOR WELDED BLANK & ABLATION SYSTEM

TWB ABLATION PROCESSING FOR HOT STAMPING MATERIAL



Hot stamping part have light weight with high strengths of 1,500 Mpa. But because of high strengths, stamping part cannot absorb impact. Hence, in somewhere of stamping part, less strengths part material is required. For this purpose, Tailor welded blank is required to weld different material has different physical properties.

But To weld hot stamping blank, it needs advance processing before welding by TWB Ablation processing of SIS corporation. Because Boron steel is coated by aluminum & silicon and it is very difficult to welding.

We are supplying new advance TWB oblition blank to reputed customer with technology.

TECHNICAL SPECIFICATION FOR TWB ABLATION SYSTEM



DESCRIPTION		ALBATION	
LASER POWER	kw	3	
ABALIALE BLANK SIZE	mm	200~2500 X 1500	
Thickness	mm	3-4	
Operation mode		Fully automation	
Ablation speed		2~8m/min	
Handling unit		6 axis robot	
Loading table		Interchange type table	
Inspection type		Surface scanning type	

TECHNICAL SPECIFICATION FOR TWB BLANKING LINE



Description		#1 BL
1. Material spec	Material thickness / weight	0.4~5.0t / 25,000Kg
	Coil width	400~1,880mm
	Coil inner diameter	508/610mm
	Coil outer diameter	610~2,100mm
	Pilling length	Main : 250~4,000mm, Side : 250~2,300mm
2. Machine spec	Pilling width	Main, Side : 400~1,880mm
	Pilling accuracy	±1mm below
	Pilling height	500mm with out pallet
	Feeding length	250~4,000mm
	Feeding accuracy	±0.5mm
3. Press spec	Frame payload	600 TON
	Driving force	600 TON
	Slide stroke	300 mm
	Slide stroke no.	20~80 spm
	Die height	1250 mm
	Slide adjustment	350 mm
	Slide size	4300 mm × 2200 mm

TECHNICAL SPECIFICATION FOR SS LINE (정밀 절단기)



Description		SSL
Cutting thickness (Max)	mm	3-5
Cutting width(Max)	mm	3070
Cutting length(Max)	mm	3-3050
Blank (width : length)	mm	230 : 290
Cutting incline angle	°	0.5-2.0
Shearing Force	Kgf	8,160
SPM	S/min	22-35
Main Motor Power	Kw	4
Frame gap size	mm	250
Destacking Cart	mm	1800 x 3300
Machine dimension (W:H:L)	mm	1620:1705:3550
Machine weight	Ton	4.8

TECHNICAL SPECIFICATION FOR LASER CUTTING SYSTEM



Model		SDLASER 8030
Working range	X,Y,Z B,C axis	3000,1300,600 mm $\pm 135^\circ$ n x 360°
Axis speed	X,Y,Z B,C axis	100m/min 60l/min
Axis acceleration	X,Y,Z B,C axis	10,10,10 m/s ² 30,30 rad/s ²
Positioning range	X,Y,Z B,C axis	0.03 mm 0.005°
Positioning deviation	X,Y,Z B,C axis	0.08 mm 0.015°
Laser power		2000~6000w
Beam quality		2~4mm.rad
Rotary indexing table		4800mm diameter 300kg load 2~3 workstation
Twin cutting table		1500mm each table 300kg load 2 workstation

TECHNICAL SPECIFICATION FOR LASER CUTTING SYSTEM



Model		SRLASER CUTTING
Working range	X,Y,Z B,C axis	5000,3000,600 mm $\pm 135^\circ$ n x 360°
Axis speed	X,Y,Z B,C axis	60m/min 60l/min
Axis acceleration	X,Y,Z B,C axis	10,10,10 m/s ² 30,30 rad/s ²
Positioning range	X,Y,Z B,C axis	0.03 mm 0.005°
Positioning deviation	X,Y,Z B,C axis	0.08 mm 0.015°
Laser power		2000~6000w
Beam quality		2~4mm.rad
Options		
Rotary positioner		5000mm length 300kg load 2 workstation

TWB SUPPLYING SERVICE

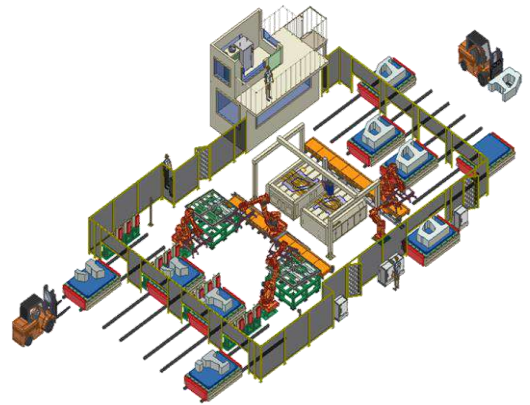
Reliable Production machine and expertized engineers

Reliable high capability machine

SIS, we are first developer and supplier for TWB laser welding system in Korea.

This product's reliable quality is proven from many our customer in the various market.

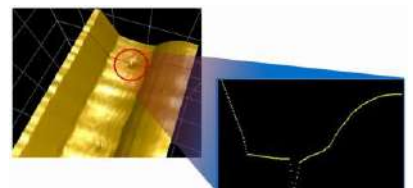
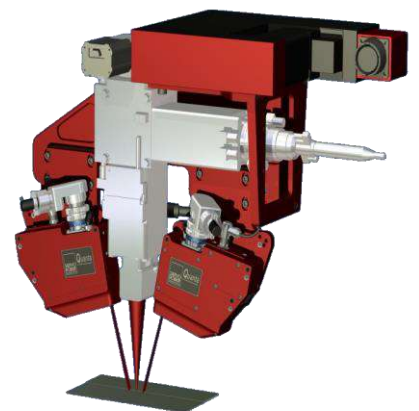
Tailor welded blanks have evolved from same gauge steel sheets welded together to different thickness and/or strengths that are joined together to consolidate stampings and achieve cost effective weight reduction. We recommend you to improve welding capacity from old welding method by SIS corporation high welding automation technology.



SIS CORE LASER TECHNOLOGY

TWB blank need to weld each blank precisely due to narrow beam shape. It is very difficult to guide laser beam along butt joint blank line without vision system. And during welding, operator cannot find welding defect like pinhole, undercut, lack of fusion. Only operator can see these defects after completed lot production. Hence, operator can inspect first welded quality. But our machine can inspect above defects during welding by online seam tracking system with inspect system.

Whenever products are dispatched, Quality team issue quality test report as per ISO standard. It is managed by our QMS(Quality management system).



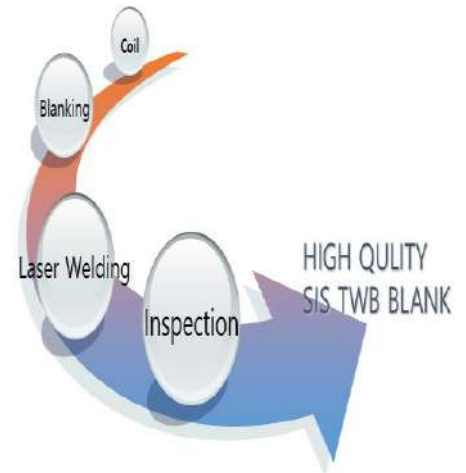
EXPERTIZED LASER PROCESSING SERVICE

Based on laser equipment manufacturing technology

DEFECT FREE PRODUCTION SERVICE

SIS, We provide full service from coil to delivery. Once coil is delivery us, we cut coil or slit coil to make square blank. Or If there is need to designed blank, we can cut coil on designed blanking die.

The cut material is kept in storage before it be used in TWB production line. While welding blank, operator control machine and after completed welding, quality management team issue report of quality. And all production history is tracked by PMS(Production Management System)



Special Utilities for various product

SIS laser processing equipment require position change, inversion, and dimpling according to different characteristics of the product, and have welding part oil ring and pollutant removal device to prevent rust of welding part after welding.

In addition, the most important basic material's cut quality for laser welding. It managed by SS line in the front section management for efficient and clean BLANK cutting.

We operate high efficiency BLANKING LINE.



Quality management services and quick customer response

All the products produced by SIS are traced and managed to prevent the production of defective products by detecting the cause of defective products and prevent inflows.

SIS promises quick response to various problems and inquiries about products



We are striving for total
Customer Satisfaction by Continuous Improvement
for the quality and process of
all our business activities to deliver Defect-Free &
premium value products
On Time

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