

Instruction

Super High Frequency Linear Vibration Welding

by CNZHENBO | MP Sonic



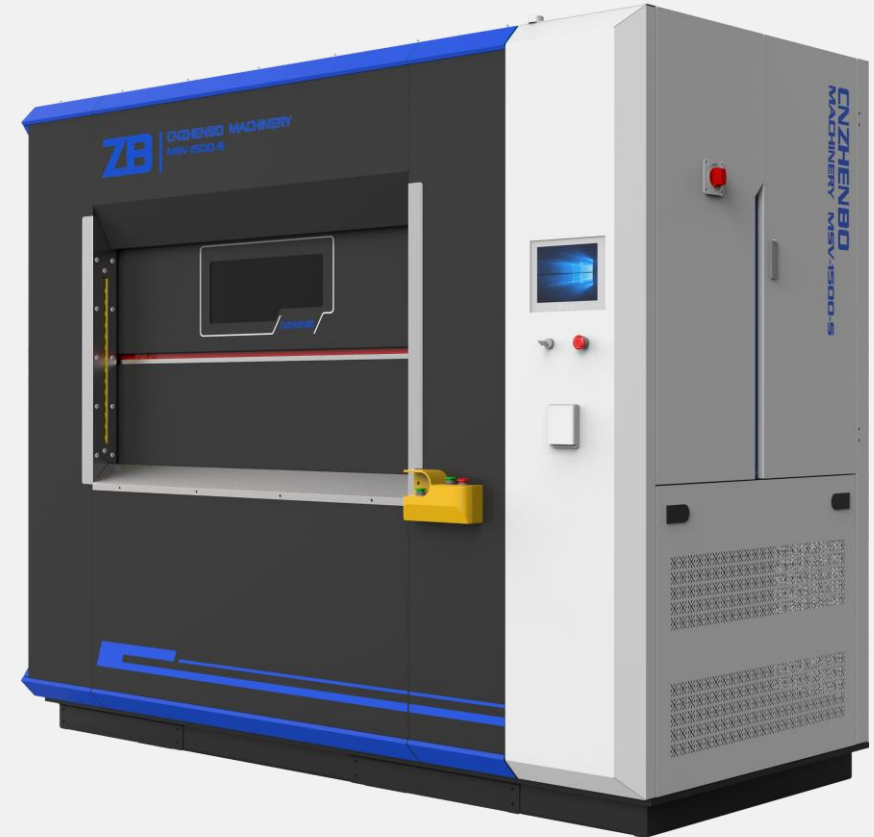
Zhejiang Zhenbo Precision Machinery Co.,Ltd

by Alex Lee

28-02-2-22

Super-high frequency linear vibration friction welding technique is the newest vibration welding developed by CNZHENBO | MP Sonic, which applies vibration frequency up to 365Hz. The machine by this technology has been certificated as “The 1st Set of Manufactured Products” by Department of economy and information technology of Zhejiang Province.

With the super have vibration frequency, system achieve enough friction energy to melt plastic material and form thermoplastic welding in vibration amplitude as low as 0.3mm, which with the advantages of clean vibration welding performance, high welding ability and small limit to parts geometric design.





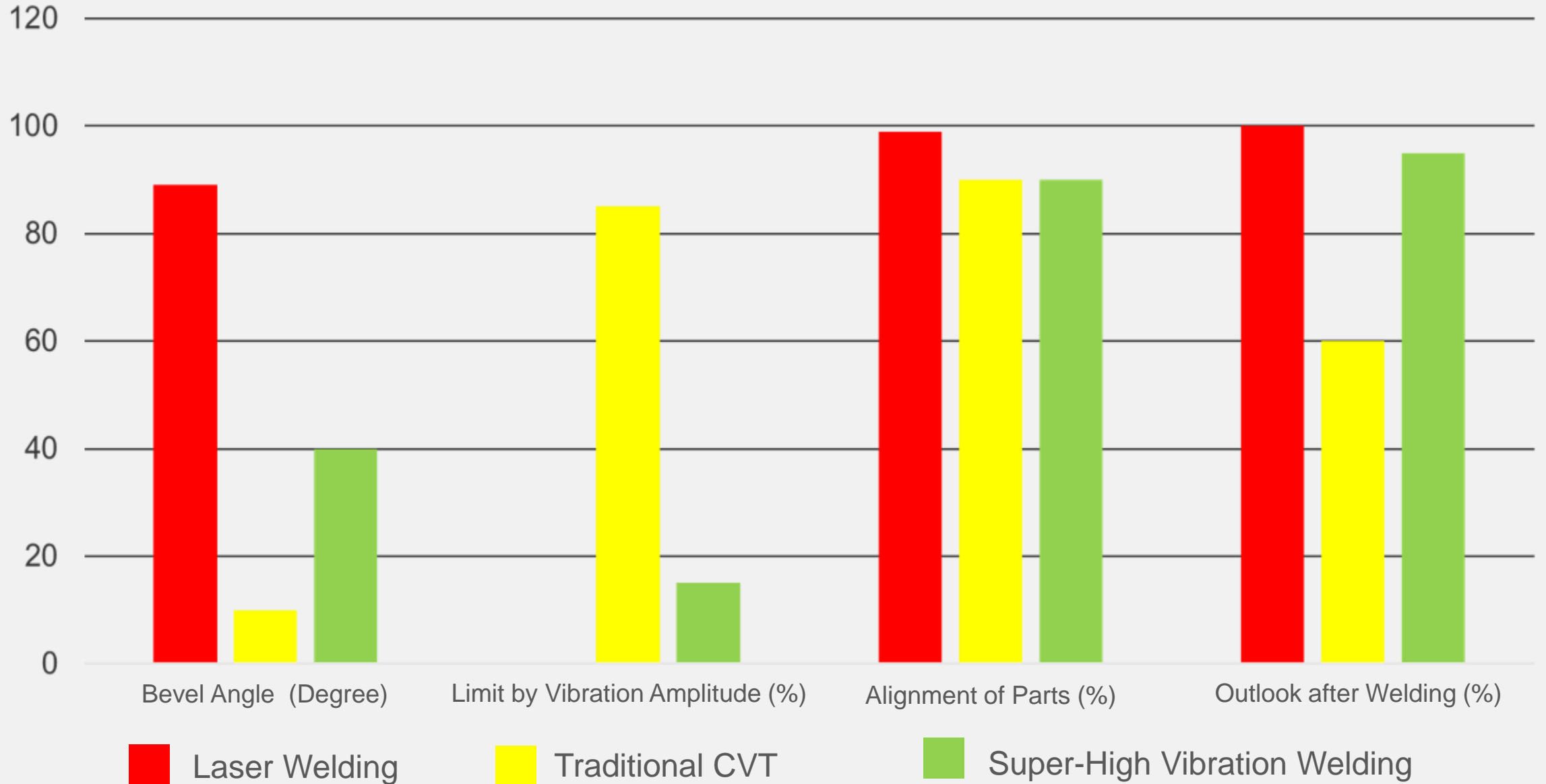
The critical technical parameters for vibration welding:

- A. Vibration Amplitude,
- B. Vibration Frequency;
- C. Plastic Part measurement;
- D. bevel angle of welding surface;
- E. Welding Depth;
- F. Welding Force (Pressure);
- G. Welding Time.

The latter page will show the advantages of super-high frequency vibration with data comparison between super-high frequency vibration welding, traditional vibration welding / Traditional CVT (Pre-heating Type Clean Vibration Technique) and laser welding.

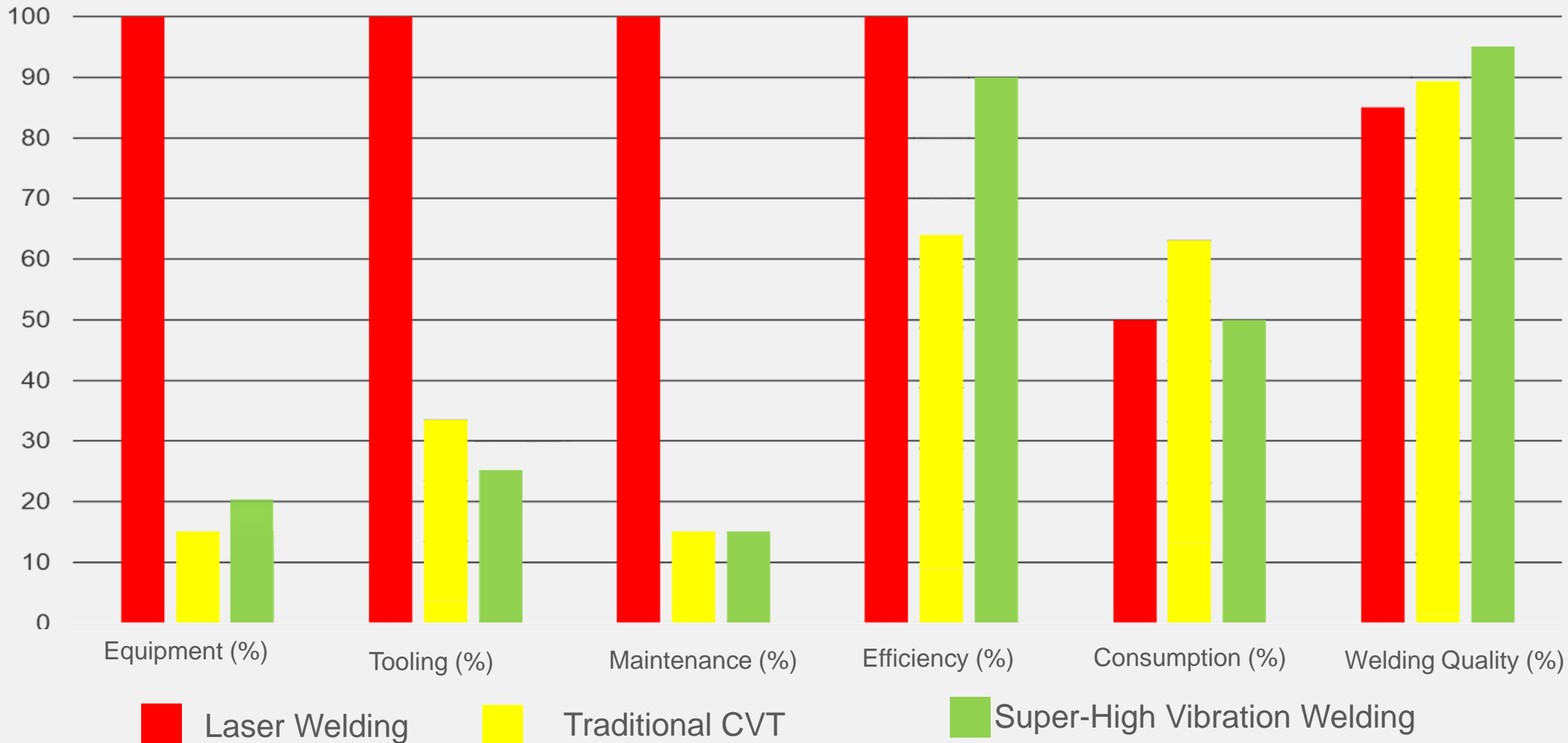


Comparison—Requirement to Plastic Parts Geometric Design



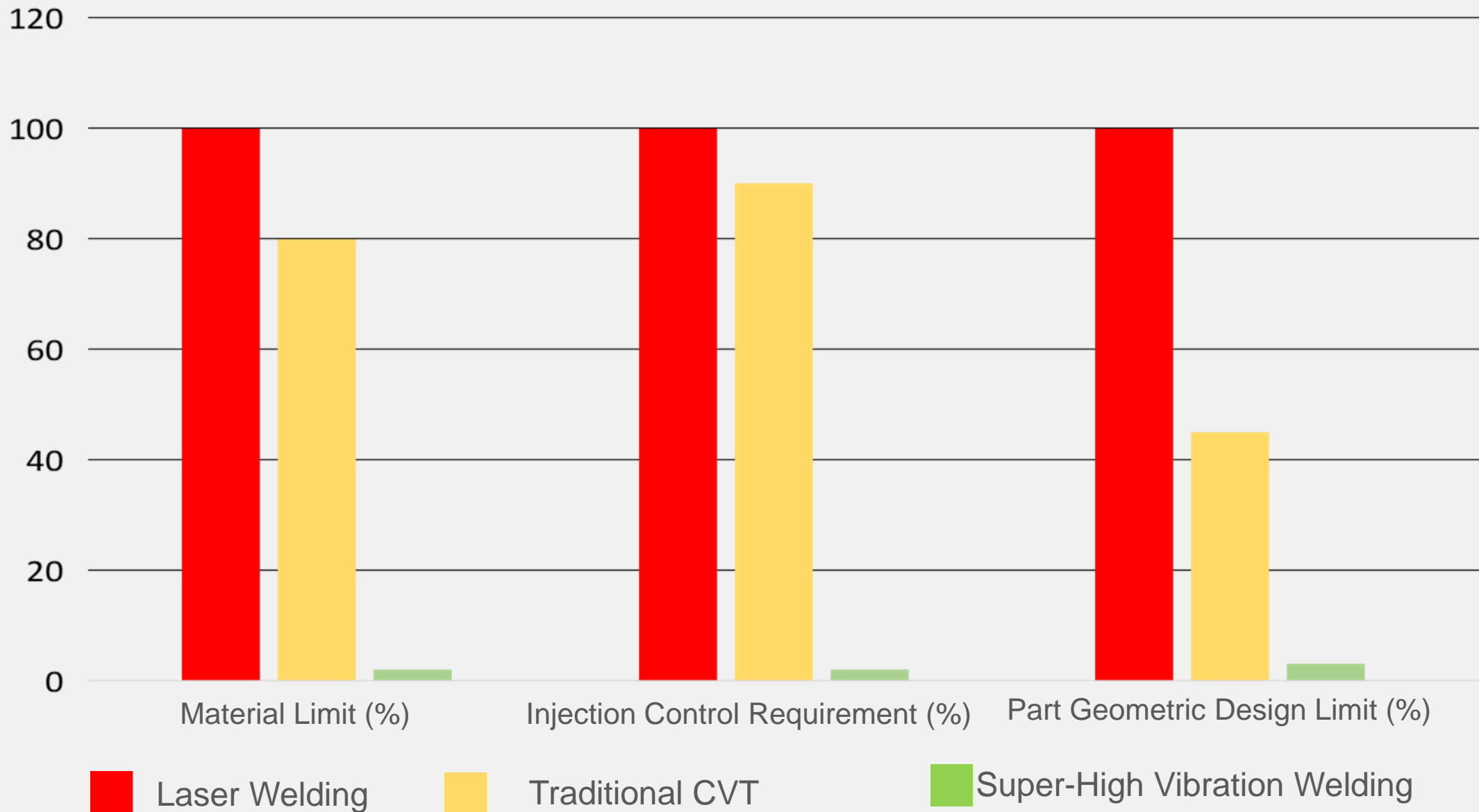


Comparison—Cost





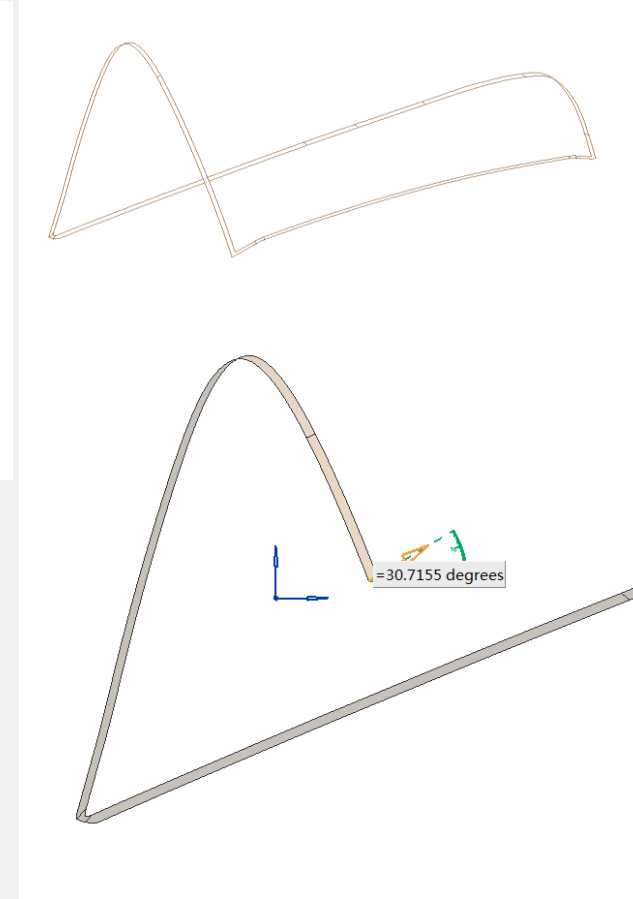
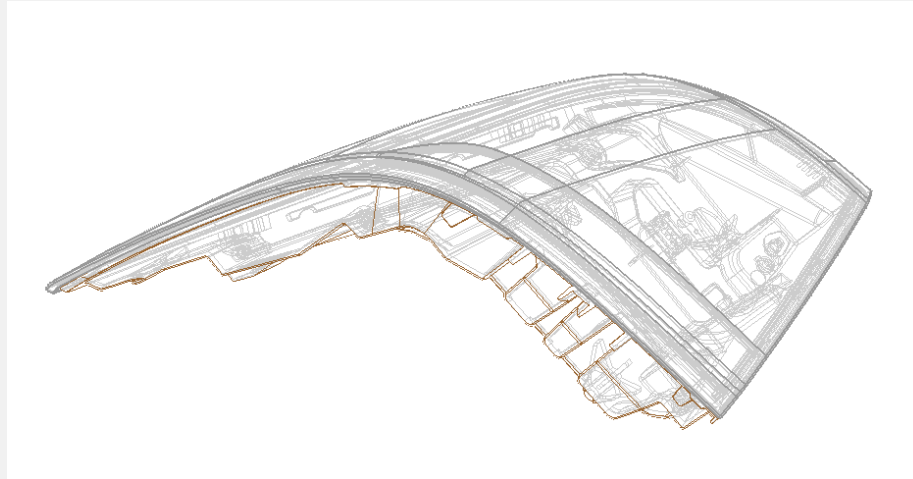
Comparison—Limit to Application



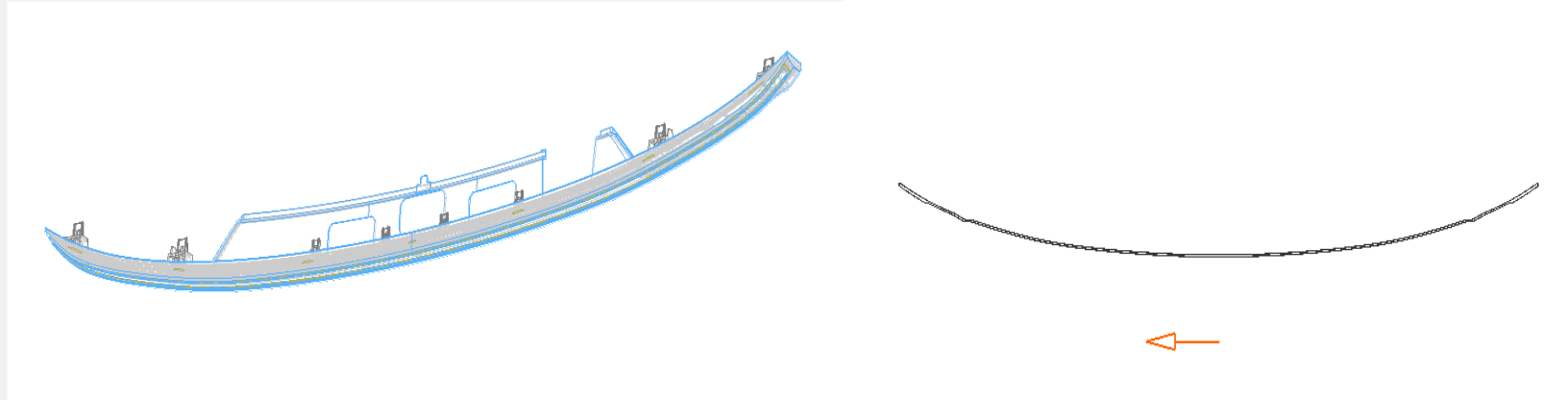


Advantages:

- A. Low limit to material, injection control and procedure control;
- B. Low investment in parts development, equipment, tooling, equipment maintenance and lower cost in consumption;
- C. High welding ability, can achieve welding with bevel angle up to 45° ;
- D. Small vibration amplitude minimum to 0.3mm can realize welding, more easy for parts design;
- E. Small vibration amplitude friction welding, avoiding material dust cased, achieving clean vibration welding without preheating, welding quality is high, performance is stable.



Tail Lamp: Bevel angle is about 30°



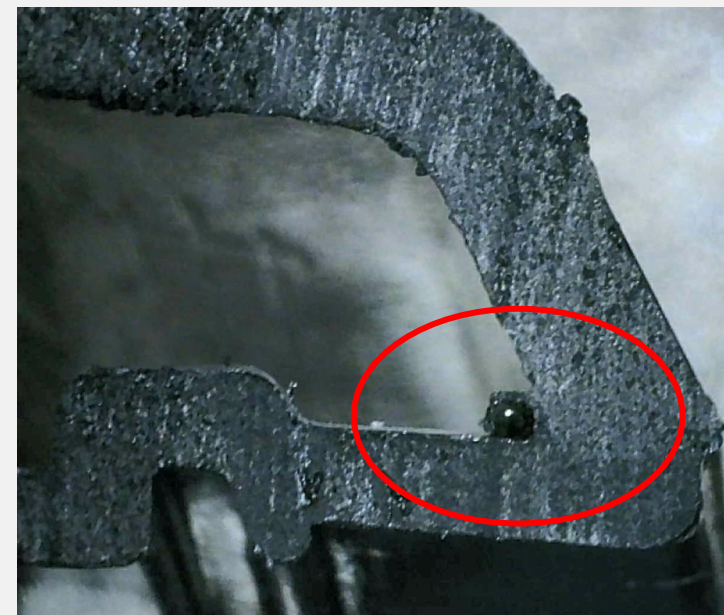
Through Type Tail Lam: Bevel Angle is over than 25°

Traditional Vibration Welding: can not achieve welding in quality;

Laser Welding: can achieve good welding, but equipment investment is very high;

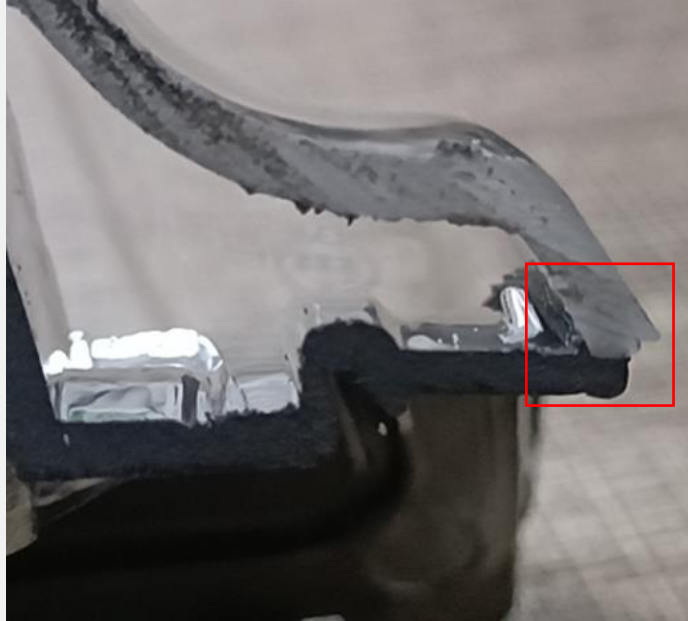
Super High Frequency Vibration Welding: achieve good welding in lower equipment investment.

Welding Comparison—Traditional VW VS Super High Frequency VW



Fre-330Hz, Amp-1.0mm

Welding Comparation—Traditional VW VS Super High Frequency VW



Fre-230Hz, Amp-1.8mm

Thanks

Tel :+86-577-61517751

Fax :+86-577-61517750

Mob:+86 15918523336

Email :alex.lee@mp-sonic.com; alexlee2696@163.com

Add :No.289, Weiqi Road, Yueqing Economic
Development Zone, Wenzhou, China

Web:www.cnzhenbo.com; www.mp-sonic.cn