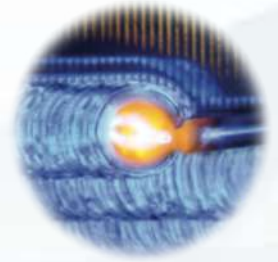


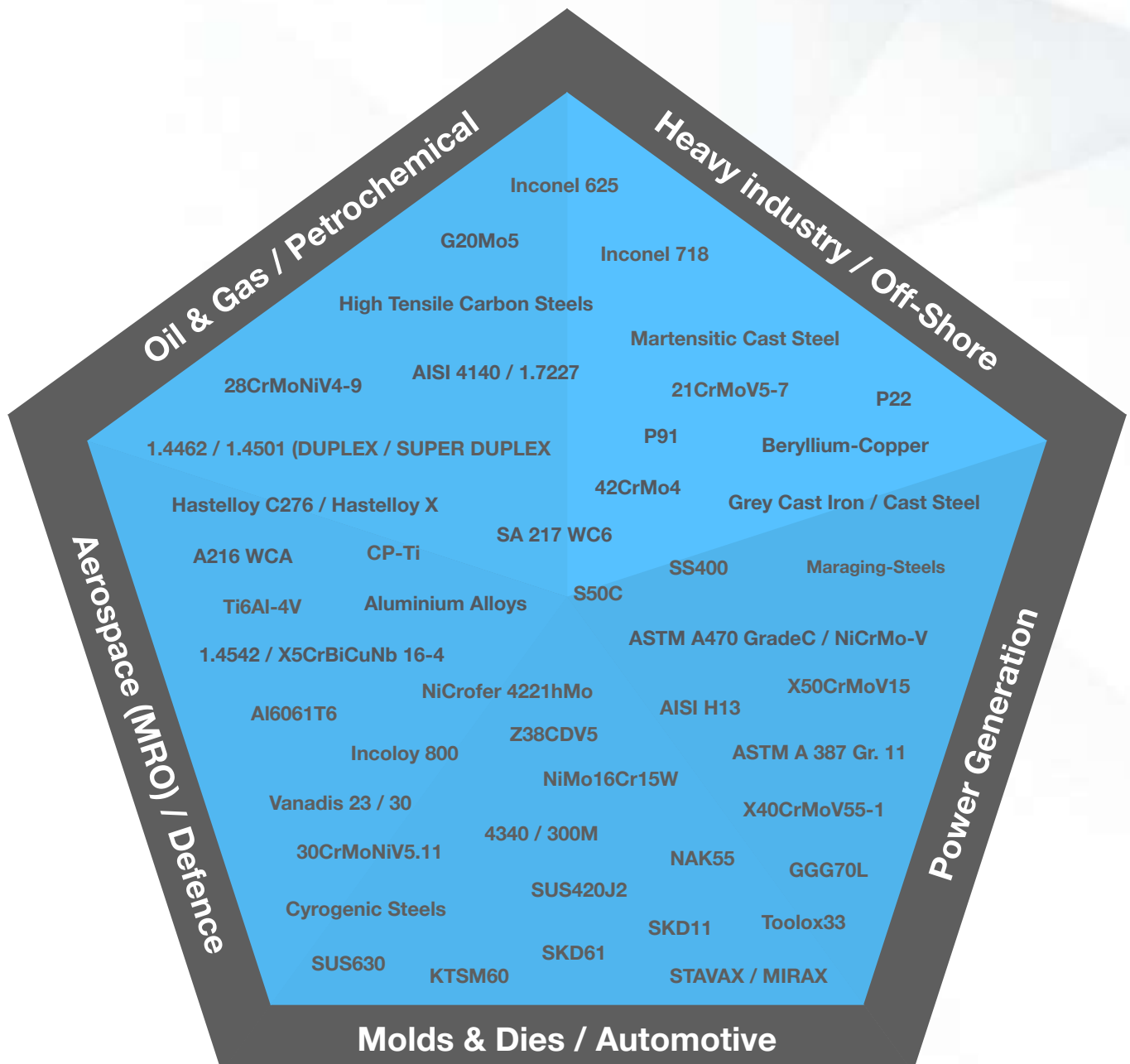


Good to know : The Technology of Pulse Laser Welding provides (almost) unlimited applications. Based on always full metallurgical bonding, **ANY metal material** can be welded by pulsed Light and its Speed. „**WHY?**“ → page 17.



Therefore PLW-Technology is successfully applied in any industrial sector.

Base Materials (Selection)





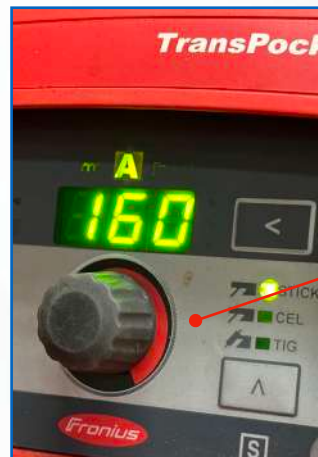
WHY the pulsed Laser can weld any metal material ?

WHY the pulsed Laser can even join very different base materials ?

WHY any Laser Welding Wire can be deposited on any base metal material ?

Classical arc welding methods like GTAW, GMAW, SMAW allows to adjust only one or max. two parameter : Welding Current / Ampere [A]

Welding arc voltage [V]



Welding Current [A]

Pulse Laser Welding allows to adjust FIVE different parameters

Peak Power [W]	→	9200 W	→	
Pulse Duration [ms]	→	2.7 ms	→	
Frequency [Hz]	→	38.0 Hz	→	
Beam Diameter [mm]	→	2.7 mm	→	
Pulse Shape [1-5]	→	S_3	→	

Additional controls visible on the panel: 21.11 J, 802 W, Mem IN, Mem OUT, Pulse Mode, Reset Error, Joystick ON.



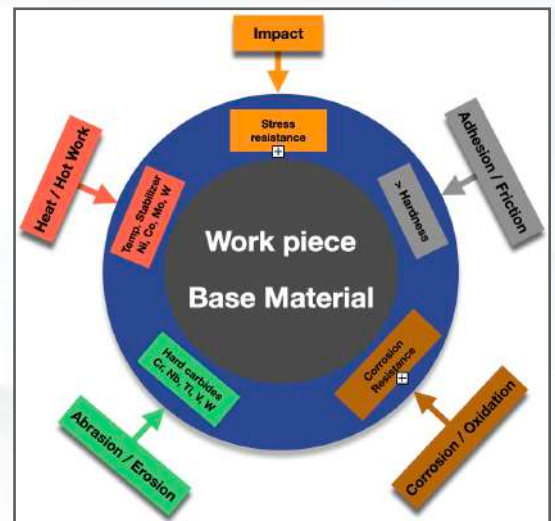
Conclusion : By adjusting those five parameters in a correct composition, any metal material can be welded and joined. More applications → page 32.



Pulse Laser Welding offers the possibility of significantly increasing the performance of components - static and rotating parts - by selecting a welding filler material specifically tailored to the application.

This systematic **DSI Surface Engineering** increase the operating life of the component, which in turn significantly reduces the downtime of the production plant.

In fact : **DSI Surface Engineering** is a cost-down service for customers in any industry.



HOW to select the right filler material

Performance Upgrade (Sample)



Base Material
Super Duplex
1.4501



Advantages of PLW & DSI M ST 6 :

- Full metallurgical bonding
- Crack-Free Pulse Laser Weld (Stelite 6)
- Distortion free / very low heat impact during PLW.



Filler Material
DSI M ST 6
Stelite 6



Good to know : both *similar* and *dissimilar* filler materials can be used for **DSI Surface Engineering**.