

Features

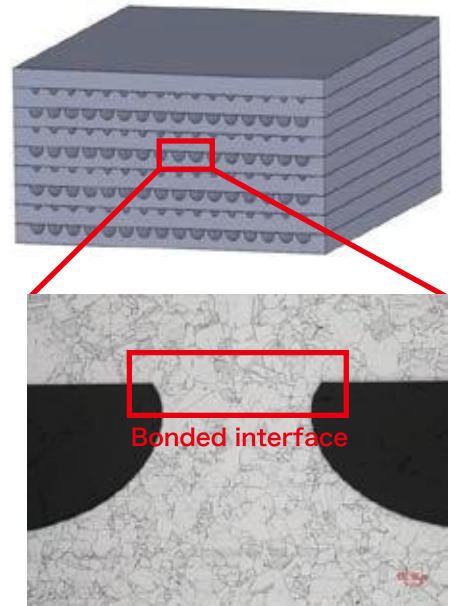
- A large number of etched plates are stacked and integrated by diffusion bonding technology.
- Joint strength is equal to mother metal.
- Basically stainless steel is applied.

Advantages

- Compactness
- High heat transfer performance
- High temperature resistance
- Corrosion resistance
- High pressure resistance
- High durability
- Thermal stress resistance

Applications

- Process cooler / heater
- Gas compression cooler
- Vaporizer
- BOG recovery
- Cold heat recovery



Evaluations

Tensile testing	<ul style="list-style-type: none"> ● Ductile fracture ● Mechanical properties (TS, YS, elongation) of diffusion bonded sample satisfied the original material specifications.
Microstructural evaluation	<ul style="list-style-type: none"> ● Metallurgical fusion along the bonded interface ● No crack and no void
Burst test	<ul style="list-style-type: none"> ● No burst over 4 times of design pressure ● The highest burst record is 640MPa.
Durability test	<ul style="list-style-type: none"> ● 1 million cycles between 1-99 MPa

Example of installation

Gas compression cooler for hydrogen refueling station

Double-pipe heat exchanger



Our diffusion bonded heat exchanger



Installation space was reduce to 1/50

Qty of fittings was reduced.



Design pressure	98MPa
Design temp	150°C
Dimension	480 x 125x230mm