

ULTRA SUPER PUNCHING

Registered trademark



More details about Super Punching

World-class perforating technology.

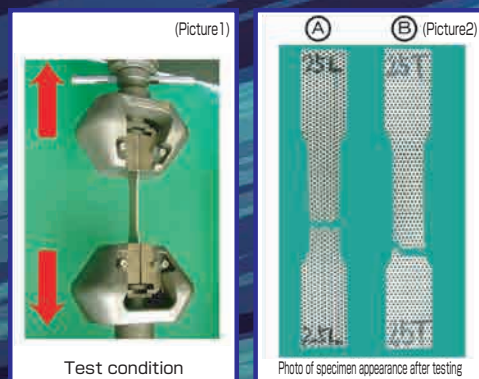
ULTRA SUPER PUNCHING™



TENSILE TEST

Tested at Kobe Material Testing Laboratory Group.

1.Purpose	Tensile strength test for perforated metal
2.Samples to be tested	①SUS304 and ②③SUS316L
3.Test Method	Photo of test condition in shown in Picture1. ◎Tensile Test (1)Testing equipment : Shimazu Universal Tester type : AG-X300kN(E2-020) (2)Test Conditions (a) Number of test pieces : 6 pieces (d) Dimensions of test piece : 25mm width x 280mm length (b) Environmental temperature : Room temperature 23°C±5°C Thickness ① 3t (SUS304) ③ 6t (SUS316L) (c) Testing speed : 30% of width (mm)/min ② 3t (SUS316L) (3)Two patterns, which are Staggered and Reverse Staggered, were tested
4.Result	The test results are summarized in the following pictures and table. Picture1. Test condition. Picture2. Test piece after the test. Chart3. Stress-Strain Curve. Table1. Result of tensile test.



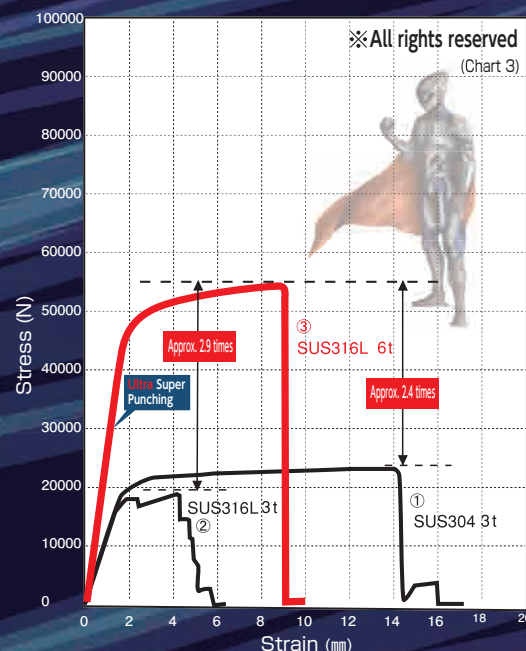
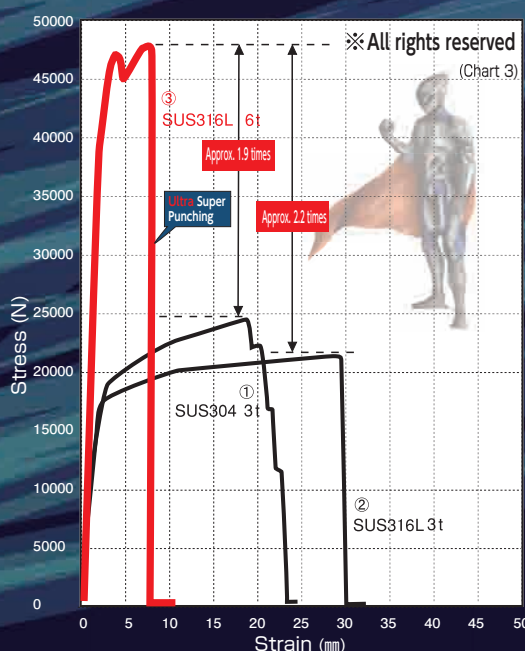
Result of tensile test.

(Table 1)

Chart		Material	Thickness	Number of test piece	Dimensions of test piece		Environmental temperature	Ultimate Strength (N)
					Width	Thickness		
					(mm)	(mm)		
A	①	SUS304	3	Staggered A-①	24.98	2.92	RT (23°C)	24525
	②	SUS316L	3	Staggered A-②	24.95	2.84		21320
	③	SUS316L	6	Staggered A-③	24.92	5.79		46874
B	①	SUS304	3	Reverse Staggered B-①	24.94	2.92		22914
	②	SUS316L	3	Reverse Staggered B-②	24.94	2.85		19055
	③	SUS316L	6	Reverse Staggered B-③	24.94	5.84		54314
Applicable Test Standard : JIS Z224(11) # of the test equipment : E2-020								
Remarks		Testing speed : 30%/min Room temperature : 23°C± 5°C						

(A) Stress-Strain Curve (Staggered)

(B) Stress-Strain Curve (Reverse Staggered)



Compared with conventional perforated metal,

It is possible to improve utilization and productivity of the vibrating sieve.

Realizes material thickness twice the hole diameter by punching press.
Excellent durability and pressure resistance.

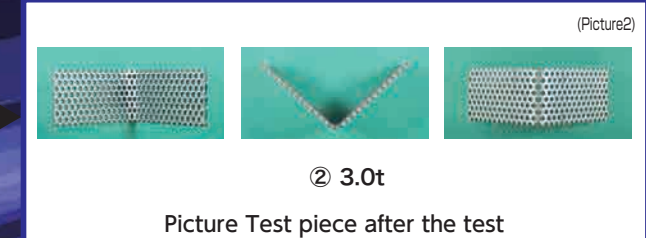
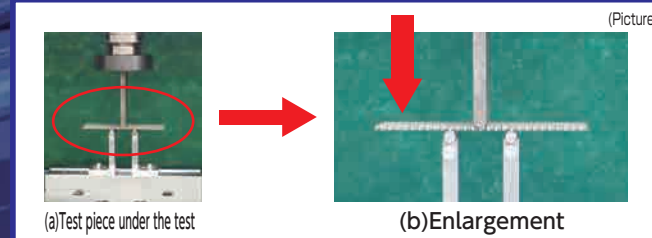
- Tensile Strength increased approx. 1.9~2.9 times.
- Flexural Strength increased approx. 4.8~8.8 times.
- Please refer to the result of Tensile Test and Flexural Test below.

※depends on material thickness and pitch direction.

Flexural Test

Tested at Kobe Material Testing Laboratory Group.

1.Purpose	Flexural test for perforated metal
2.Samples to be tested	①SUS304 ②③SUS316L
3.Test Method	Picture 1 shows a pre-test appearance and picture 2 shows test piece after the test. ◎Flexural test (1)Testing equipment : AG-X300kN(E2-020) (Shimazu) (2)Test Conditions (a) # of test pieces : 3 pieces (d) Dimensions of test piece : 40mm width x 140mm length (b) Environmental temperature : Room temperature (23°C±5°C) Thickness ① 3t (SUS304) ③ 6t (SUS316L) (c) Testing speed : 1mm/min ② 3t (SUS316L)
4.Result	The test results are summarized in the following pictures and table. Picture 1. Test conditions. Picture 2. Test piece after the test. Chart3. Stress-Strain Curve Table 1. Result of flexural test.

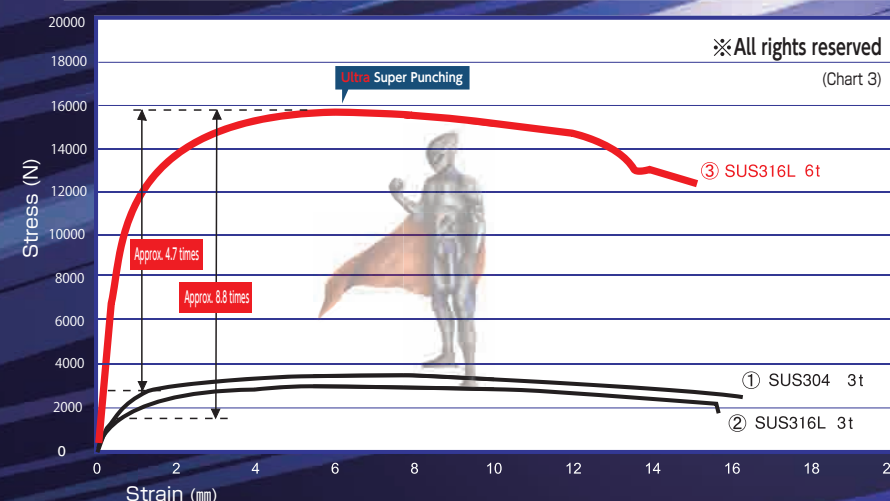


Result of flexural test

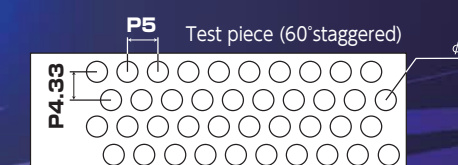
(Table 1)

Chart		Material	Thickness	Number of test piece	Dimensions of test piece (found value)		Environmental temperature	Ultimate Strength (N)	Nominal maximum stress
					width	thickness			
					(mm)	(mm)			
C	①	SUS304	3.0	①	39.95	2.92	RT (23°C)	3399	959
	②	SUS316L	3.0	②	40.03	2.84		1812	836
	③	SUS316L	6.0	③	40.20	5.84		15876	1099
Number of equipment for ① & ② : E2-020 # of equipment for ③ : E2-018									
Remarks		Testing speed : 1mm/min Room temperature : 23°C± 5°C Nominal maximum stress = 3PL/2bh² P:Max. test force L:Span 40mm b:Width b´ =b-3x5(hole ϕ 3 pitch 5) h:thickness							

(C) Stress-Strain Curve (Three-point bending test)



- ① SUS304 3t x ϕ 3 x P5/60°staggered
- ② SUS316L 3t x ϕ 3 x P5/60°staggered
- ③ SUS316L 6t x ϕ 3 x P5/60°staggered



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