

# MIRROR PUNCH

# G★SHOT



TUBE PUNCH  
G★SHOT



TUBE PUNCH  
WG★SHOT



SPRING PUNCH  
G★SHOT



SIDE PUNCH  
G★SHOT



CANNONBALL SHAPED PUNCH  
G★SHOT



NEW  
SEAL PUNCH  
G★SHOT



## Strongest lineup!

- ▲ Unparalleled cutting ability!
- ▲ Incomparable precision!
- ▲ Amazing cut surface!

Special package to keep high quality

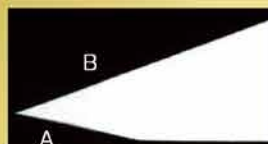
### TUBE PUNCH 8.0φ EDGE CROSS SECTION (X200)

#### STANDARD POLISHED EDGE

#### G★SHOT



SURFACE ROUGH	MEAS. POSITION	
	FACET A	FACET B
Ra	0.238	1.798
Ry	1.730	10.210
Rz	0.891	6.833



SURFACE ROUGH	MEAS. POSITION	
	FACET A	FACET B
Ra	0.125	0.100
Ry	0.740	0.640
Rz	0.568	0.582

TUBE PUNCH G★SHOT		G★SHOT	Standard
	Thickness Size	0.7mm Integer ⇒ 2.0ø~30.0ø (0.5mm × n) Broken number ⇒ 1.8ø~30.2ø (0.1mm × n)	0.7mm
	Edge shape 1st bevel angle 2nd bevel angle	Outer double bevel (inner single bevel) ≤ 2.9ø (outer and inner double bevels) In/out 23° (46°) Out 6°	Same as G★SHOT Same as G★SHOT Same as G★SHOT
	Edge tolerance	+ 0.03mm, - 0mm	≤ 10.0ø ⇒ ±0.05 10.1ø~ 20.2ø ⇒ ±0.08 20.1ø~ 30.2ø ⇒ ±0.13
	Roundness	±0.07mm	±0.1
	Outer diameter tolerance	+ 0mm, - 0.02mm	≤ 10.0ø ⇒ ±0.05 10.1ø~ 20.2ø ⇒ ±0.08 20.1ø~ 30.2ø ⇒ ±0.13
	Height tolerance	+ 0.03mm, - 0mm	+ 0.05, - 0
	Hardness	HRC 60 ± 2 (HS 82)	HRC 55 ± 2 (HS 73)

### [Features]

It is usable in all business just like common TUBE PUNCH.  
 Its overwhelming sharpness and precision make it effective to cut the material which common punch can not and it can be a countermeasure against paper dust.  
 It is also be usable to cut PP or PET on cardboard.  
 It is so sharp that the waste can be removed easier.  
 As edge angle and thickness are like TUBE PUNCH, it can be replaced easily.

TUBE PUNCH WG★SHOT		G★SHOT	Standard
	Thickness Size	0.7mm Integer ⇒ 2.0ø~30.0ø (0.5mm × n) Broken number ⇒ 1.8ø~30.2ø (0.1mm × n)	0.7mm
	Edge shape 1st bevel angle 2nd bevel angle	Outer/inner double bevel blade (WG shape) IN/OUT 25° (50°), IN/OUT 30° (60°) IN/OUT 17° (34°)	— — —
	Edge tolerance	+ 0.03mm, - 0mm	— —
	Roundness	±0.07mm	—
	Outer diameter tolerance	+ 0mm, - 0.02mm	— —
	Height tolerance	+ 0.03mm, - 0mm	—
	Hardness	HRC 60 ± 2 (HS 82)	—

### [Features]

It is used for cardboards and paper containers and in some industry.  
 More effect will be expected by choosing TUBE PUNCH WG SHOT for those who use WG cutting rule because center bevel is not enough strong to cut particular material.  
 As well as WG cutting rule, a countermeasure against paper dust is expected.

SPRING PUNCH G★SHOT		G★SHOT	Standard
	Thickness Size	0.7mm Integer ⇒ 2.0ø~13.0ø (0.5mm × n) Broken number ⇒ 1.8ø~13.2ø (0.1mm × n)	0.7mm
	Edge shape 1st bevel angle 2nd bevel angle	Outer double bevel (inner single bevel) ≤ 2.5ø (outer and inner double bevels) In/out 23° (46°) Out 6°	Same as G★SHOT Same as G★SHOT Same as G★SHOT
	Edge tolerance	+ 0.03mm, - 0mm	≤ 10.0ø ⇒ ±0.05 10.1ø~ 15.0ø ⇒ ±0.08
	Roundness	±0.07mm	±0.1
	Outer diameter tolerance	+ 0mm, - 0.02mm	≤ 10.0ø ⇒ ±0.05 10.1ø~ 15.0ø ⇒ ±0.08
	Height tolerance	+ 0.03mm, - 0mm	+ 0.05, - 0
	Hardness	HRC 60 ± 2 (HS 82)	HRC 58 ± 2 (HS78) cementation 0.1

### [Features]

It is used in test mold and in all businesses.  
 Considering the troubles of clogging and blowout, it is structured to cut quite thick materials.  
 It can be used to cut the material such as PP or PET on cardboard.

SIDE PUNCH G★SHOT		G★SHOT	Standard
	Thickness Size	— Integer ⇒ 1.5 $\phi$ ~12.0 $\phi$ (0.5mm × n) Broken number ⇒ 1.3 $\phi$ ~12.2 $\phi$ (0.1mm × n)	—
	Edge shape 1st bevel angle 2nd bevel angle	Outer double bevel (inner single bevel) In/out 23° (46°) Out 6°	Same as G★SHOT IN/OUT 27° (54°) Same as G★SHOT
	Edge tolerance	+ 0.03mm, - 0mm	≤ 10.0 $\phi$ ⇒ ±0.05 10.1 $\phi$ ~ 12.0 $\phi$ ⇒ ±0.10
	Roundness	±0.07mm	±0.1
	Outer diameter tolerance	+ 0mm, - 0.02mm	≤ 12.0 $\phi$ ⇒ ±0.05
	Height tolerance	+ 0.03mm, - 0mm	+ 0.05, - 0
	Hardness	HRC 60±2 (HS 82)	HRC 53±2 (HS 70)

**[Features]**

It is often used in mass production mold for electronic parts and industrial parts.

It is effective to cut the material which common punch can not cut as well as the materials which have problem of waste removal.

CANNONBALL SHAPED PUNCH G★SHOT		G★SHOT	Standard
	Thickness Size	— Integer ⇒ 1.5 $\phi$ ~25.0 $\phi$ (0.5mm × n) Broken number ⇒ 1.3 $\phi$ ~25.2 $\phi$ (0.1mm × n)	—
	Edge shape 1st bevel angle 2nd bevel angle	Outer double bevel (inner single bevel) In/out 23° (46°) Out 8°	Same as G★SHOT IN/OUT 27° (54°) OUT 14°
	Edge tolerance	+ 0.03mm, - 0mm	≤ 10.0 $\phi$ ⇒ ±0.05 10.1 $\phi$ ~ 30.0 $\phi$ ⇒ ±0.10
	Roundness	±0.07mm	±0.1
	Outer diameter tolerance	±0.05mm (1.3 $\phi$ ~10.0 $\phi$ ) ±0.07mm (10.1 $\phi$ ~15.0 $\phi$ ) ±0.10mm (15.1 $\phi$ ~25.2 $\phi$ )	≤ 10.0 $\phi$ ⇒ ±0.05 10.1 $\phi$ ~ 30.0 $\phi$ ⇒ ±0.10
	Height tolerance	+ 0.03mm, - 0mm	+ 0.05, - 0
	Hardness	HRC 60±2 (HS 82)	HRC 53±2 (HS 70)

**[Features]**

It is used for industrial parts.

Its improved sharpness makes it possible to reduce deficit cutting and increase durability.

By grinding finish, it is also expected to reduce the time of make ready for the mold with many cavities. The blowout will be reduced too.

SEAL PUNCH G★SHOT		G★SHOT	Standard
	Thickness Size	0.5mm Integer ⇒ 2.0 $\phi$ ~15.0 $\phi$ (0.5mm × n) Broken number ⇒ 1.8 $\phi$ ~15.2 $\phi$ (0.1mm × n)	0.5mm
	Edge shape 1st bevel angle 2nd bevel angle	Single bevel blade (OUT/IN single bevel blade) IN/OUT 23° (46°)	Same as G★SHOT IN/OUT 20° (40°)
	Edge tolerance	+ 0.03mm, - 0mm	≤ 10.0 $\phi$ ⇒ ±0.05 10.1 $\phi$ ~ 15.0 $\phi$ ⇒ ±0.07
	Roundness	±0.07mm	±0.1
	Outer diameter tolerance	+ 0mm, - 0.02mm	≤ 10.0 $\phi$ ⇒ ±0.05 10.1 $\phi$ ~ 15.0 $\phi$ ⇒ ±0.07
	Height tolerance	+ 0.03mm, - 0mm	+ 0.05, - 0
	Hardness	HRC 55±2 (HS 73)	HRC 52±2 (HS 69)

**[Features]**

It is used for seal and electronic industry.

Owing to precise height, it reduces the time of make ready, especially for the seal industry which needs kiss cut.



## Special Order Product List of G★SHOT

Available to change followings;

### 【TUBE PUNCH G★SHOT】

- Height (23.6H~32.0H)
- Acute Angle ( $\angle 40^\circ, \angle 30^\circ, \angle 20^\circ$ )
- Irregular Angle ( $\angle 10^\circ 15^\circ (\angle 25^\circ)$ )
- Thickness 1.0mm
- Non-Through
- Side Bevel (Inside or Outside straight)

### 【TUBE PUNCH WG★SHOT】

- Height (23.6H~32.0H)
- Non-Through

### 【SPRING PUNCH G★SHOT】

- Strong Spring
- Weak Spring
- Side Bevel (Inside or Outside straight)

### 【SIDE PUNCH G★SHOT】

- Height (23.6H~32.0H)
- Acute Angle ( $\angle 40^\circ, \angle 30^\circ$ )
- Position, Size and Slope Degree of Ejection Hole
- Length of Inside Facet
- Reverse Tapered Shape
- Rotation Prevented Side Punch
- Side Punch with Step

### 【CANNONBALL SHAPED PUNCH G★SHOT】

- Height (23.6H~32.0H)
- Acute Angle ( $\angle 40^\circ, \angle 30^\circ$ )
- Cannonball Shaped Punch with Step
- Reverse Tapered Shape
- Inside / Outside Diameter
- Length of Inside Facet

### 【SEAL PUNCH G★SHOT】

- Thickness (0.45t etc,)
- Acute Angle ( $\angle 30^\circ, \angle 20^\circ$ )
- Irregular Angle ( $\angle 10^\circ 15^\circ (\angle 25^\circ)$ )
- Cannonball Shaped Seal Punch
- Side Bevel (Inside or Outside straight)

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