

JIS

JAPANESE INDUSTRIAL STANDARD

Symbols of Metal Working Processes

JIS B 0122 —1978

Translated and Published

by

Japanese Standards Association



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JAPANESE INDUSTRIAL STANDARD

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Symbols of Metal Working Processes

B 0122-1978

1. Scope

This Japanese Industrial Standard specifies the symbols used for indicating the working processes, which are generally used after the secondary processes mainly for metals, on the drawings, progress chart, etc.

2. Classification

The classification shall be as follows:

- (1) Casting
- (2) Plastic working (forging, press working, spinning, forming by rolling, rolling, extruding and drawing)
- (3) Machining (cutting, grinding and special processing)
- (4) Hand finishing
- (5) Welding
- (6) Heat treatment
- (7) Surface treatment
- (8) Assembly
- (9) Others

3. Form of Symbol

The symbol shall be of single capital letter of alphabet in Latin letter or combination of several letters.

Remark: In the case where the number of letters of symbols are required to unify, letter X of alphabet is to be used for filling up a blank. However, this shall not be used for the symbol of working process.

Applicable Standard:

JIS H 0404-Graphical Symbols for Electroplated Coating

4. Symbols

The symbols shall be as follows: Further, quoted English words are given in Informative Reference. Boldfaced letters express the letters which have been quoted.

(1) C Casting

Symbol	Informative reference
CS	Sand Mold Casting
CSG	: Green Sand
CSS	: Surface Dry Sand
CSD	: Dry Sand
CSH	: Self-Hardening Mold Process
CSFS	: Fluid Sand Mixture Process
CSC	: Carbon Dioxide Process
CSV	: V Process
CSFM	: Full Mold Process
CSM	: Shell Mold Process
CM	Metal Mold Casting
CP	Precision Casting
CPL	: Lost Wax Process
CPS	: Shaw Process
CD	Die Casting
CCR	Centrifugal Casting
CL	Low Pressure Casting
CV	Vacuum Casting
CH	High Pressure Casting
CCN	Continuous Casting

(2) P ⁽¹⁾ Plastic Working

Note ⁽¹⁾ This symbol is generally omitted with the exception of being used individually.

(a) F Forging

Symbol	Informative reference
FF	Free Forging
FFST	: Stretching
FFSW	: Swaging
FFSP	: Spreading
FFU	: Upsetting
FFP	: Piercing
FFM	: Mandrel Forging
FFR	: Ring Forging
FFB	: Bending
FFT	: Twisting
FFC	: Cutting
FD	Dies Forging
FDU	: Upsetting
FDH	: Heading
FDSW	: Swaging
FDE	: Extruding
FDP	: Piercing
FDT	: Trimming
FDSZ	: Sizing
FDC	: Coining

(b) P Press Working (of Sheet Metal)

Symbol(2)	Informative reference
PS	Shearing
PSR	: Rotary Shearing
PSS	: Slitting
PP	Punching
PPC	: Cutting
PPB	: Blanking
PPPC	: Piercing
PPN	: Notching
PPSL	: Slitting
PPPR	: Parting
PPT	: Trimming
PPD	: Dinking
PPL	: Lancing
PPH	: Half Blanking
PPF	: Fine Blanking
PPSH	: Shaving
PB	Bending
PBD (3)	: Dies Bending
PBF (3)	: Folding
PBR	: Roller Bending
PD	Drawing
PDRD	: Redrawing
PDRV	: Reverse Drawing
PDI	: Drawing with Ironing
PF	Forming
PFBL	: Bulging
PPF	: Flanging
PFN	: Necking
PFCR	: Corrugating
PFBR	: Burring
PFST	: Staking
PFBD	: Beading
PFCL	: Curling
PFHM	: Hemming
PFSM	: Seaming
PFW	: Wiring
PFEM	: Embossing
PFEP	: Expanding
PFHD	: Hydraulic Forming
PFRB	: Rubber Forming
PFSR	: Stretch Forming
PFRL	: Roll Forming