

[TECHNICAL DATA] BASIS OF SELECTION FOR FITS

Excerpt from "Usage of JIS series"
Manual for Designing
(Precision Ver.)

Applicable part	Functional classification	Application example	H6		H7		H8		H9	
			Clearance fit	Transition fit	Clearance fit	Transition fit	Clearance fit	Transition fit	Clearance fit	Transition fit
Can be moved relatively	Functionally, the part which requires large clearance space { Expense. Positioning error is large. Length of fit is long. For reducing { Production cost { Safety cost	Piston ring and piston ring groove Fit of loosening safety pin Crank web and pin bearing (Side surface) Exhaust valve cage and traveling part of spring sheet Piston ring and piston ring groove	g5	f6	f7	f8	d9	c9	d9	c9
			g6	f7	f8	e9	d9	c9		
Transition fit	The general rotating or traveling part. (The condition of good lubrication is required.) Ordinary fit parts. (Disassembling is often done.)	Pin for link system and lever Key and key groove Valve stem of precision control valve	h5	f6	f7	f8	d9	c9	d9	c9
			h6	f7	f8	e9	d9	c9		
Interference fit	Fit of rim and boss Fit of toothed gear of precision gear mechanism	Fit of rim and boss Fit of toothed gear of precision gear mechanism	js5	f6	f7	f8	d9	c9	d9	c9
			js6	f7	f8	e9	d9	c9		
Cannot be moved relatively	Transmission of power can not be done by only junction power of fit. The part which requires precision movement without any slack.	Reamer bolt Dowel pin MSTM (m6) Fixation of piston of hydraulic system and shaft Fit of joint flange and shaft	js6	f7	f8	e9	d9	c9	d9	c9
			js7	f8	e9	d9	c9			
Interference fit	Small power can be transmitted by junction power of fit. Hard to disassemble without damaging components.	Reamer bolt Dowel pin MSTM (m6) Fixation of piston of hydraulic system and shaft Fit of joint flange and shaft	js7	f8	e9	d9	c9	d9	c9	c9
			js8	e9	d9	c9	d9	c9		
Interference fit	Considerable power can be transmitted by junction power of fit.	Reamer bolt Dowel pin MSTM (m6) Fixation of piston of hydraulic system and shaft Fit of joint flange and shaft	js9	e9	d9	c9	d9	c9	d9	c9
			js10	d9	c9	d9	c9	d9	c9	

Press die parts are shown in the application example for the item written in red letters.

[TECHNICAL DATA] SYSTEM OF LIMITS AND FITS

Excerpt from JIS B 0401(1986)

1.1 Commonly used hole-basis fits

Basic hole	Tolerance zone class of shaft		
	Clearance fit	Transition fit	Interference fit
H6	g5	h5 js5 k5 m5	p6 *
	g6	h6 js6 k6 m6	p6 *
H7	f6	h6 js6 k6 m6	r6 *
	e7	h7 js7	
H8	f7	h7	
	e8	f8	h8
H9	d9	e9	h8
	c9	d9 e9	h9
H10	b9	c9 d9	

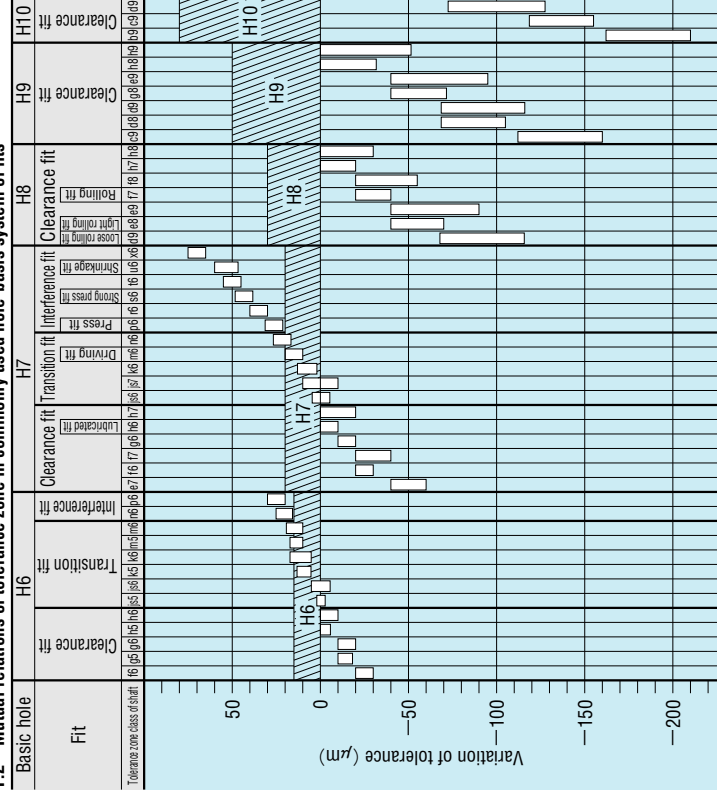
Notice (*) Fits will make exceptions according to the size steps.

2.1 Commonly used shaft-basis fits

Basic shaft	Tolerance zone class of hole		
	Clearance fit	Transition fit	Interference fit
h5	H6	JS6 K6 M6	P6
	F6	JS6 K6 M6	P6 *
h6	F7	JS7 K7 M7	P7 *
	E7	H7	R7 S7 T7 U7 X7
h7	F8	H8	
	D8 E8	F8	
h8	D9 E9	H9	
	D8 E8	H9	
h9	C9 D9 E9	H9	
	B10 C10 D10		

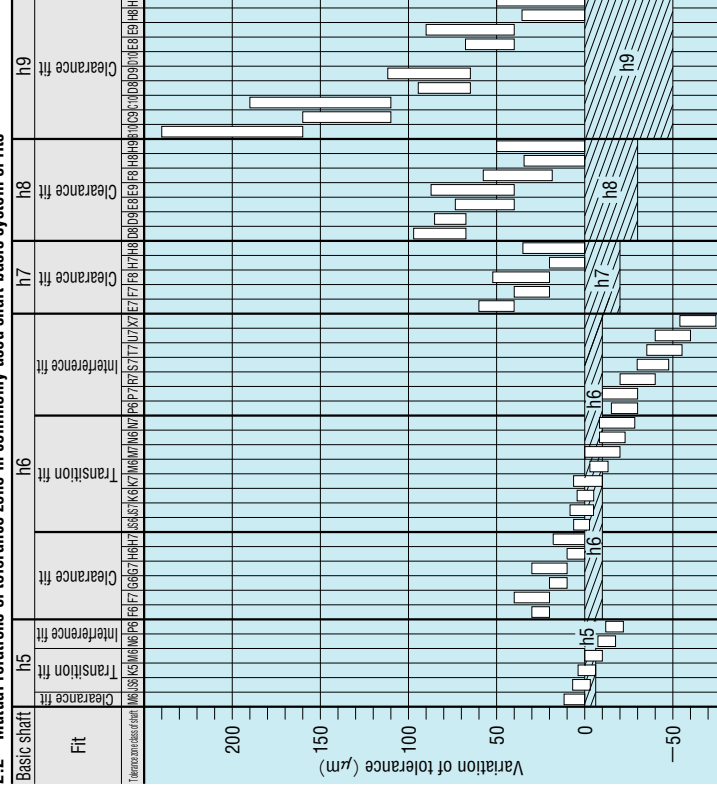
Notice (*) Fits will make exceptions according to the size steps.

1.2 Mutual relations of tolerance zone in commonly used hole-basis system of fits



* This table shows the case when basic size is over 18mm to 30mm.

2.2 Mutual relations of tolerance zone in commonly used shaft-basis system of fits



* This table shows the case when basic size is over 18mm to 30mm.