

STANDARD BLOCKS FOR RELIABLE HARDNESS TESTS



Based on JIS/ISO Standard Blocks for Hardness

To improve tester performance before use



- Hardness uniformity meeting world's highest standards.
- Universal reference values based on JIS/ISO standards for international acceptance.
- Highly stable and reliable hardness values.

Types and nominal Hardness Values

HR C	70,67,64,62,60
HR C	57,55,50,45,40,35,30,25,20,10
HR A	87,85,83,81,78,75,71,65,56
HR30N	83,81,78,73,67,60,55,50,41
HR15N(45N)	92,90,87,85,80,75(43)(23)
HRB W	100,95,90,82,72,62,52,42,32
HR30T W	78,72,62,52,42,38,32
HR15T W	87,82,78
HRE 90,HRM 107,67,HRL 118,92,HRR 123,105,HRF 90,HRS 90	
HMV(1,0.1)	1600
HMV(1,0.1,0.01)	900,800,700,600,500,400,300,200,100,40
HMV(0.1,0.01,0.001)	30(Au)
HV(30,1)	1000,900,800,700
HV(10,1)	600,500,400,300,200,150,100,40
UMV(0.01,0.002)	900,700,500,200 (Berkovich 9.8mN tested)
★ HN-W Single crystal block for nanoindentation (≈430HV 0.01,0.001,Berkovich 9.8mN tested)	
HS	100,95,90,80,70,60,50,40,30,20,7
HLE(Dia)	850,800,700,600,500
HLD(WC)	880,830,730,630,520
HBW(10/3000)	600,550,500,450,400,350
HBW(10/3000)	300,250,229(d=4mm),200,180,150
HBW(10/500)	125,100

Combinations for diamond indenter verification

HR C 55,25 HR45N 43, 23 HR15N 90

Combinations for daily control

HR C 60,50,30
HS 90,60,30
HBW 229

Charpy V-Notch Test Blocks

- In compliance with JIS B7740-1990
Feature:Extremely small irregularity in Charpy absorption energy(CV:3% or less)
- Material:SNM439.Q.T(complying with JIS test piece No.4)
- NK verification provided.



Type A	Energy Level approx. 30J
Type B	Energy Level approx. 100J
Type C	Energy Level approx. 160J
5 pieces each energy levels per 1set	

Standard Microstructure

Standard pieces of metal material microstructures and detailed explanations with photographs.



Group 1~6 : 25 types each
Group 7 : 23 types

- Group 1. Carbon steel,Cast iron
- Group 2. Alloy tool steel, High-speed tool steel
- Group 3. Structural alloy steel, steel for special use
- Group 4. Non-ferrous alloys
- Group 6. Metallic surface, modifications
- Group 7. Abnormal structure

Standard Piece for Spark Test

Based on JIS G 0566-1980 (Manual with CD-ROM)

For studying Grinding Spark Test for Steel.

Gr. "K"	Gr. "F"	Gr. "G"	Gr. "H"
SUY	SUY	SKS2	SNC631
S10C	S10C	SKS3	SNC415
S20C	S15C	SKS4	SNCM447
S45C	S20C	SKS93	SNCM420
SK105	S30C	SKD11	SCR440
SKS2	S35C	SKD4	SCR420
SKD11	S40C	SKD61	SCM440
SKD61	S45C	SKT4	SCM415
SKH55	S50C	SKH2	SUS410
SUJ2	S55C	SKH4	SUS420J2
SCM440	SK85	SKH51	SUS430
SCM415	SK105	SKH55	SUS304
SUS420J2	S10C(Carburized)	SKH57	SUS316
SUS304	SWRCH10R	SUJ2	SUH3
SUP6	FC30	SKS3	SUP6
(Educational)	(Carbon steel)	(Tool steel)	(Structural steel)

Hardnester

Standard File for Scratch Hardness

PAT.No. 196592

(Manual with DVD-ROM)

HRC 8 Hardness(20~67),HV 8 Hardness(200~900),
HV 16 Hardness(200~950)
with one T.M each Hardness value.