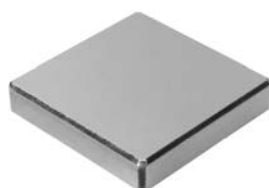
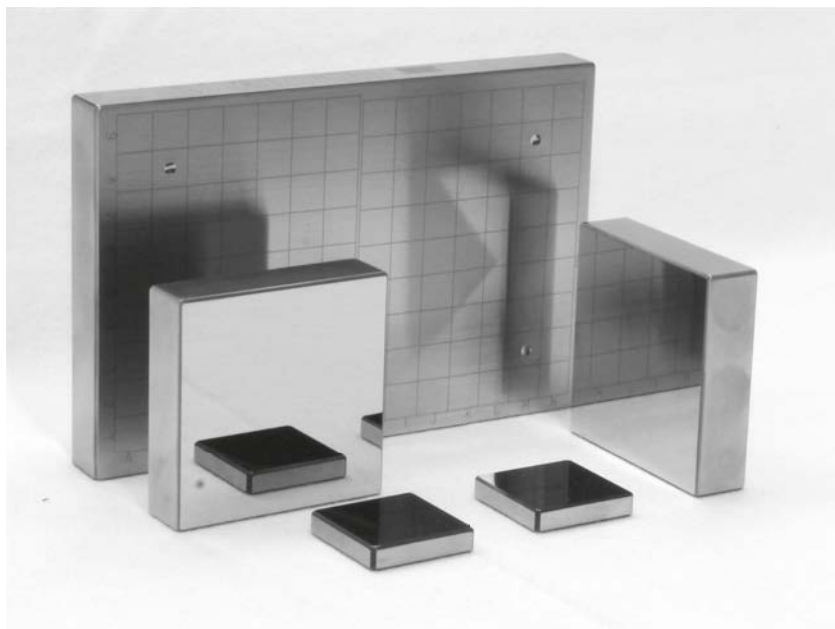


Blocos Padrão de Dureza

Indentadores

The daily or periodic verification of the hardness testing machine by the user is an important point on the way to a safe test result. In order to ensure perfect functioning of the hardness testing system, an indirect check of the machine by means of calibrated reference materials, also called hardness test blocks, is recommended to be carried out right before the daily use. In the indirect test, all parameters of the hardness testing system (test force, measuring system, indenter) are checked by the indentation on the calibrated reference material block. If the device is used only once a week, the check should only take place on this day. In three-shift operation, a check at the beginning of the shift is useful.

The hardness range of the hardness comparison plates should be selected so as to correspond as closely as possible to the hardness of the material to be tested. Now, at least one indentation, but more preferably several, is generated and evaluated. For example, damage to the indenter, and other disturbances are easily noticed before testing the actual material.



(30x30x6 mm)
Grid on request



(150x100x16 mm)
Grid on request



(60x60x16 mm)
Grid on request

Blocos Padrão de Dureza

1. Rockwell Test Block with DAKKS / ISO certificate

Ref.	Descrição	Value	Escala	Shape	Tamanho	Material
63ETB001	Reference material Rockwell ISO 6508-3	31	HRA	rectangle	60x60x16 mm	aluminum
63ETB010	Reference material Rockwell ISO 6508-3	68	HRA	rectangle	60x60x16 mm	steel
63ETB018	Reference material Rockwell ISO 6508-3	85	HRA	rectangle	60x60x16 mm	steel
63ETB021	Reference material Rockwell ISO 6508-3	40	HRBW	rectangle	60x60x16 mm	aluminum
63ETB023	Reference material Rockwell ISO 6508-3	65	HRBW	rectangle	60x60x16 mm	aluminum
63ETB028	Reference material Rockwell ISO 6508-3	95	HRBW	rectangle	60x60x16 mm	steel
63ETB031	Reference material Rockwell ISO 6508-3	20	HRC	rectangle	60x60x16 mm	steel
63ETB037	Reference material Rockwell ISO 6508-3	45	HRC	rectangle	60x60x16 mm	steel
63ETB042	Reference material Rockwell ISO 6508-3	65	HRC	rectangle	60x60x16 mm	steel
63ETB045	Reference material Rockwell ISO 6508-3	40	HRD	rectangle	60x60x16 mm	steel
63ETB050	Reference material Rockwell ISO 6508-3	60	HRD	rectangle	60x60x16 mm	steel
63ETB055	Reference material Rockwell ISO 6508-3	74	HRD	rectangle	60x60x16 mm	steel
63ETB059	Reference material Rockwell ISO 6508-3	81	HREW	rectangle	60x60x16 mm	aluminum
63ETB060	Reference material Rockwell ISO 6508-3	86	HREW	rectangle	60x60x16 mm	aluminum
63ETB065	Reference material Rockwell ISO 6508-3	80	HRF	rectangle	60x60x16 mm	aluminum
63ETB066	Reference material Rockwell ISO 6508-3	94	HRF	rectangle	60x60x16 mm	aluminum
63ETB071	Reference material Rockwell ISO 6508-3	32	HRG	rectangle	60x60x16 mm	aluminum
63ETB073	Reference material Rockwell ISO 6508-3	66	HRG	rectangle	60x60x16 mm	steel
63ETB075	Reference material Rockwell ISO 6508-3	83	HRG	rectangle	60x60x16 mm	steel
63ETB082	Reference material Rockwell ISO 6508-3	56	HRK	rectangle	60x60x16 mm	aluminum
63ETB083	Reference material Rockwell ISO 6508-3	73	HRK	rectangle	60x60x16 mm	aluminum
63ETB085	Reference material Rockwell ISO 6508-3	95	HRK	rectangle	60x60x16 mm	aluminum
63ETB089	Reference material Rockwell ISO 6508-3	72	HR15N	rectangle	60x60x16 mm	steel
63ETB094	Reference material Rockwell ISO 6508-3	85	HR15N	rectangle	60x60x16 mm	steel
63ETB096	Reference material Rockwell ISO 6508-3	90	HR15N	rectangle	60x60x16 mm	steel
63ETB102	Reference material Rockwell ISO 6508-3	46	HR30N	rectangle	60x60x16 mm	steel
63ETB106	Reference material Rockwell ISO 6508-3	64	HR30N	rectangle	60x60x16 mm	steel
63ETB109	Reference material Rockwell ISO 6508-3	77	HR30N	rectangle	60x60x16 mm	steel
63ETB115	Reference material Rockwell ISO 6508-3	25	HR45N	rectangle	60x60x16 mm	steel
63ETB120	Reference material Rockwell ISO 6508-3	55	HR45N	rectangle	60x60x16 mm	steel
63ETB122	Reference material Rockwell ISO 6508-3	66	HR45N	rectangle	60x60x16 mm	steel
63ETB128	Reference material Rockwell ISO 6508-3	73	HR15TW	rectangle	60x60x16 mm	aluminum
63ETB130	Reference material Rockwell ISO 6508-3	82	HR15TW	rectangle	60x60x16 mm	aluminum
63ETB131	Reference material Rockwell ISO 6508-3	88	HR15TW	rectangle	60x60x16 mm	aluminum
63ETB139	Reference material Rockwell ISO 6508-3	43	HR30TW	rectangle	60x60x16 mm	aluminum
63ETB141	Reference material Rockwell ISO 6508-3	60	HR30TW	rectangle	60x60x16 mm	aluminum
63ETB142	Reference material Rockwell ISO 6508-3	73	HR30TW	rectangle	60x60x16 mm	aluminum
63ETB147	Reference material Rockwell ISO 6508-3	12	HR45TW	rectangle	60x60x16 mm	aluminum
63ETB149	Reference material Rockwell ISO 6508-3	38	HR45TW	rectangle	60x60x16 mm	aluminum
63ETB151	Reference material Rockwell ISO 6508-3	58	HR45TW	rectangle	60x60x16 mm	aluminum

Blocos Padrão de Dureza

2. Brinell Test Block with DAKKs / ISO certificate

Ref.	Descrição	Value	Escala	Shape	Tamanho	Material
63ETB238	Referenrence material Brinell ISO 6506-3	80	HBW 1/30	rectangle	60x60x16 mm	aluminum
63ETB242	Referenrence material Brinell ISO 6506-3	200	HBW 1/30	rectangle	60x60x16 mm	steel
63ETB246	Referenrence material Brinell ISO 6506-3	400	HBW 1/30	rectangle	60x60x16 mm	steel
63ETB250	Referenrence material Brinell ISO 6506-3	600	HBW 1/30	rectangle	60x60x16 mm	steel
63ETB299	Referenrence material Brinell ISO 6506-3	80	HBW 2,5/62,5	rectangle	60x60x16 mm	aluminum
63ETB318	Referenrence material Brinell ISO 6506-3	200	HBW 2,5/187,5	rectangle	60x60x16 mm	steel
63ETB322	Referenrence material Brinell ISO 6506-3	400	HBW 2,5/187,5	rectangle	60x60x16 mm	steel
63ETB324	Referenrence material Brinell ISO 6506-3	500	HBW 2,5/187,5	rectangle	60x60x16 mm	steel
63ETB326	Referenrence material Brinell ISO 6506-3	600	HBW 2,5/187,5	rectangle	60x60x16 mm	steel
63ETB343	Referenrence material Brinell ISO 6506-3	80	HBW 5/62,5	rectangle	60x60x16 mm	aluminum
63ETB345	Referenrence material Brinell ISO 6506-3	130	HBW 5/62,5	rectangle	60x60x16 mm	aluminum
63ETB358	Referenrence material Brinell ISO 6506-3	80	HBW 5/125	rectangle	60x60x16 mm	aluminum
63ETB359	Referenrence material Brinell ISO 6506-3	110	HBW 5/125	rectangle	60x60x16 mm	aluminum
63ETB360	Referenrence material Brinell ISO 6506-3	130	HBW 5/125	rectangle	60x60x16 mm	aluminum
63ETB387	Referenrence material Brinell ISO 6506-3	80	HBW 5/250	rectangle	150x100x16 mm	aluminum
63ETB388	Referenrence material Brinell ISO 6506-3	110	HBW 5/250	rectangle	150x100x16 mm	aluminum
63ETB389	Referenrence material Brinell ISO 6506-3	130	HBW 5/250	rectangle	150x100x16 mm	aluminum
63ETB390	Referenrence material Brinell ISO 6506-3	160	HBW 5/250	rectangle	150x100x16 mm	aluminum
63ETB403	Referenrence material Brinell ISO 6506-3	110	HBW 5/750	rectangle	150x100x16 mm	aluminum
63ETB408	Referenrence material Brinell ISO 6506-3	300	HBW 5/750	rectangle	150x100x16 mm	steel
63ETB412	Referenrence material Brinell ISO 6506-3	500	HBW 5/750	rectangle	150x100x16 mm	steel
63ETB415	Referenrence material Brinell ISO 6506-3	650	HBW 5/750	rectangle	150x100x16 mm	steel
63ETB418	Referenrence material Brinell ISO 6506-3	80	HBW 10/250	rectangle	150x100x16 mm	aluminum
63ETB450	Referenrence material Brinell ISO 6506-3	80	HBW 10/1000	rectangle	150x100x16 mm	aluminum
63ETB451	Referenrence material Brinell ISO 6506-3	110	HBW 10/1000	rectangle	150x100x16 mm	aluminum
63ETB454	Referenrence material Brinell ISO 6506-3	200	HBW 10/1000	rectangle	150x100x16 mm	steel
63ETB488	Referenrence material Brinell ISO 6506-3	400	HBW 10/3000	rectangle	150x100x16 mm	steel
63ETB490	Referenrence material Brinell ISO 6506-3	500	HBW 10/3000	rectangle	150x100x16 mm	steel
63ETB493	Referenrence material Brinell ISO 6506-3	650	HBW 10/3000	rectangle	150x100x16 mm	steel

Blocos Padrão de Dureza

3. Vickers Test Block with DAKKS / ISO certificate

Ref.	Descrição	Value	Escala	Shape	Tamanho	Material
63ETB497	Reference material Vickers ISO 6507-3	200	HV0,01	square	30x30x6 mm	steel
63ETB498	Reference material Vickers ISO 6507-3	250	HV0,01	square	30x30x6 mm	steel
63ETB499	Reference material Vickers ISO 6507-3	300	HV0,01	square	30x30x6 mm	steel
63ETB514	Reference material Vickers ISO 6507-3	200	HV0,015	square	30x30x6 mm	steel
63ETB516	Reference material Vickers ISO 6507-3	300	HV0,015	square	30x30x6 mm	steel
63ETB518	Reference material Vickers ISO 6507-3	400	HV0,015	square	30x30x6 mm	steel
63ETB531	Reference material Vickers ISO 6507-3	200	HV0,02	square	30x30x6 mm	steel
63ETB535	Reference material Vickers ISO 6507-3	400	HV0,02	square	30x30x6 mm	steel
63ETB537	Reference material Vickers ISO 6507-3	500	HV0,02	square	30x30x6 mm	steel
63ETB548	Reference material Vickers ISO 6507-3	200	HV0,025	square	30x30x6 mm	steel
63ETB553	Reference material Vickers ISO 6507-3	450	HV0,025	square	30x30x6 mm	steel
63ETB558	Reference material Vickers ISO 6507-3	700	HV0,025	square	30x30x6 mm	steel
63ETB578	Reference material Vickers ISO 6507-3	200	HV0,05	square	30x30x6 mm	steel
63ETB583	Reference material Vickers ISO 6507-3	450	HV0,05	square	30x30x6 mm	steel
63ETB591	Reference material Vickers ISO 6507-3	850	HV0,05	square	30x30x6 mm	steel
63ETB595	Reference material Vickers ISO 6507-3	200	HV0,1	square	30x30x6 mm	steel
63ETB600	Reference material Vickers ISO 6507-3	450	HV0,1	square	30x30x6 mm	steel
63ETB607	Reference material Vickers ISO 6507-3	800	HV0,1	square	30x30x6 mm	steel
63ETB612	Reference material Brinell ISO 6507-3	200	HV0,2	square	30x30x6 mm	steel
63ETB617	Reference material Vickers ISO 6507-3	450	HV0,2	square	30x30x6 mm	steel
63ETB624	Reference material Vickers ISO 6507-3	800	HV0,2	square	30x30x6 mm	steel
63ETB629	Reference material Vickers ISO 6507-3	200	HV0,3	square	30x30x6 mm	steel
63ETB634	Reference material Vickers ISO 6507-3	450	HV0,3	square	30x30x6 mm	steel
63ETB641	Reference material Vickers ISO 6507-3	800	HV0,3	square	30x30x6 mm	steel
63ETB647	Reference material Vickers ISO 6507-3	200	HV0,5	square	30x30x6 mm	steel
63ETB652	Reference material Vickers ISO 6507-3	450	HV0,5	square	30x30x6 mm	steel
63ETB659	Reference material Vickers ISO 6507-3	800	HV0,5	square	30x30x6 mm	steel
63ETB664	Reference material Vickers ISO 6507-3	200	HV1	square	30x30x6 mm	steel
63ETB669	Reference material Vickers ISO 6507-3	450	HV1	square	30x30x6 mm	steel
63ETB676	Reference material Vickers ISO 6507-3	800	HV1	square	30x30x6 mm	steel
63ETB764	Reference material Vickers ISO 6507-3	200	HV1	square	60x60x16 mm	steel
63ETB769	Reference material Vickers ISO 6507-3	450	HV1	square	60x60x16 mm	steel
63ETB776	Reference material Vickers ISO 6507-3	800	HV1	square	60x60x16 mm	steel
63ETB684	Reference material Vickers ISO 6507-3	200	HV2	square	60x60x16 mm	steel
63ETB689	Reference material Vickers ISO 6507-3	450	HV2	square	60x60x16 mm	steel
63ETB696	Reference material Vickers ISO 6507-3	800	HV2	square	60x60x16 mm	steel
63ETB704	Reference material Vickers ISO 6507-3	200	HV3	square	60x60x16 mm	steel
63ETB709	Reference material Brinell ISO 6507-3	450	HV3	square	60x60x16 mm	steel
63ETB716	Reference material Vickers ISO 6507-3	800	HV3	square	60x60x16 mm	steel
63ETB724	Reference material Vickers ISO 6507-3	200	HV5	square	60x60x16 mm	steel
63ETB729	Reference material Vickers ISO 6507-3	450	HV5	square	60x60x16 mm	steel
63ETB736	Reference material Vickers ISO 6507-3	800	HV5	square	60x60x16 mm	steel
63ETB743	Reference material Vickers ISO 6507-3	200	HV10	square	60x60x16 mm	steel
63ETB853	Reference material Vickers ISO 6507-3	450	HV10	square	60x60x16 mm	steel
63ETB755	Reference material Vickers ISO 6507-3	800	HV10	square	60x60x16 mm	steel
63ETB869	Reference material Vickers ISO 6507-3	200	HV20	square	60x60x16 mm	steel
63ETB874	Reference material Vickers ISO 6507-3	450	HV20	square	60x60x16 mm	steel
63ETB881	Reference material Vickers ISO 6507-3	800	HV20	square	60x60x16 mm	steel
63ETB891	Reference material Vickers ISO 6507-3	200	HV30	square	60x60x16 mm	steel
63ETB896	Reference material Vickers ISO 6507-3	450	HV30	square	60x60x16 mm	steel
63ETB903	Reference material Vickers ISO 6507-3	800	HV30	square	60x60x16 mm	steel
63ETB909	Reference material Vickers ISO 6507-3	200	HV50	square	60x60x16 mm	steel
63ETB914	Reference material Vickers ISO 6507-3	450	HV50	square	60x60x16 mm	steel
63ETB921	Reference material Vickers ISO 6507-3	800	HV50	square	60x60x16 mm	steel
63ETB927	Reference material Vickers ISO 6507-3	800	HV100	square	60x60x16 mm	steel
63ETB932	Reference material Vickers ISO 6507-3	450	HV100	square	60x60x16 mm	steel
63ETB939	Reference material Vickers ISO 6507-3	800	HV100	square	60x60x16 mm	steel

4. Knoop Test Block with DAKKS / ISO certificate

Ref.	Descrição	Value	Escala	Shape	Tamanho	Material
63ETB942	Reference material Knoop ISO 4545-3	140	HK0,005	square	30x30x6 mm	steel

Blocos Padrão de Dureza

4. Knoop Test Block with DAKKS / ISO certificate

Ref.	Descrição	Value	Escala	Shape	Tamanho	Material
63ETB946	Reference material Knoop ISO 4545-3	450	HK0,005	square	30x30x6 mm	steel
63ETB950	Reference material Knoop ISO 4545-3	140	HK0,01	square	30x30x6 mm	steel
63ETB954	Reference material Knoop ISO 4545-3	450	HK0,01	square	30x30x6 mm	steel
63ETB958	Reference material Knoop ISO 4545-3	140	HK0,15	square	30x30x6 mm	steel
63ETB962	Reference material Knoop ISO 4545-3	450	HK0,15	square	30x30x6 mm	steel
63ETB966	Reference material Knoop ISO 4545-3	140	HK0,025	square	30x30x6 mm	steel
63ETB970	Reference material Knoop ISO 4545-3	450	HK0,025	square	30x30x6 mm	steel
63ETB973	Reference material Knoop ISO 4545-3	720	HK0,025	square	30x30x6 mm	steel
63ETB974	Reference material Knoop ISO 4545-3	140	HK0,05	square	30x30x6 mm	steel
63ETB978	Reference material Knoop ISO 4545-3	450	HK0,05	square	30x30x6 mm	steel
63ETB982	Reference material Knoop ISO 4545-3	840	HK0,05	square	30x30x6 mm	steel
63ETB983	Reference material Knoop ISO 4545-3	140	HK0,1	square	30x30x6 mm	steel
63ETB987	Reference material Knoop ISO 4545-3	450	HK0,1	square	30x30x6 mm	steel
63ETB991	Reference material Knoop ISO 4545-3	840	HK0,1	square	30x30x6 mm	steel
63ETB992	Reference material Knoop ISO 4545-3	140	HK0,2	square	30x30x6 mm	steel
63ETB995	Reference material Knoop ISO 4545-3	450	HK0,2	square	30x30x6 mm	steel
63ETB999	Reference material Knoop ISO 4545-3	840	HK0,2	square	30x30x6 mm	steel
63ETB563	Reference material Knoop ISO 4545-3	140	HK0,3	square	30x30x6 mm	steel
63ETB567	Reference material Knoop ISO 4545-3	450	HK0,3	square	30x30x6 mm	steel
63ETB571	Reference material Knoop ISO 4545-3	840	HK0,3	square	30x30x6 mm	steel
63ETB464	Reference material Knoop ISO 4545-3	140	HK0,5	square	30x30x6 mm	steel
63ETB468	Reference material Knoop ISO 4545-3	450	HK0,5	square	30x30x6 mm	steel
63ETB472	Reference material Knoop ISO 4545-3	840	HK0,5	square	30x30x6 mm	steel
63ETB473	Reference material Knoop ISO 4545-3	140	HK1	square	30x30x6 mm	steel
63ETB477	Reference material Knoop ISO 4545-3	450	HK1	square	30x30x6 mm	steel
63ETB495	Reference material Knoop ISO 4545-3	840	HK1	square	30x30x6 mm	steel
63ETB496	Reference material Knoop ISO 4545-3	140	HK2	square	60x60x16 mm	steel
63ETB530	Reference material Knoop ISO 4545-3	450	HK2	square	60x60x16 mm	steel
63ETB594	Reference material Knoop ISO 4545-3	840	HK2	square	60x60x16 mm	steel

5. Brinell Indenter

Ref.	Penetrador de Esfera	Esfera avulso	Forma	Modelo de Máquina	Comentário
19BAA162		5 mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA162MPA		5mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	com certificado DKD
19BAA163		10 mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA163MPA		10mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	com certificado DKD
19BAA277	1mm		com esfera metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA279	2,5mm		com esfera metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA280	5mm		com esfera metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA281		1 m	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA281MPA		1mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	com certificado DKD
19BAA283		2,5 mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado
19BAA283MPA		2,5mm	metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	com certificado DKD
19BAA284	10mm		com esfera metal duro	HR-100-200-300-400-500 Série Durotwin Série HV-100	sem certificado

6. Vickers Indenter

Ref.	Indentador de diamante	Forma	Modelo de Máquina	Comentário
19BAA059MPA	HV 0,01	HM/MVK	Série MVK HM-100 HM-200	com certificado DKD
19BAA060MPA	HV 0,2	HV/AVK	HV-100 AVK Series	com certificado DKD

Knoop

Ref.	Indentador de diamante	Forma	Modelo de Máquina
19BAA062MPA	HK 0,01	HM/MVK	Série MVK HM-100 HM-200 com certificado DKD
19BAA063MPA	HK 0,2	HV/AVK	Série HV-100 AVK com certificado DKD

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8. Rockwell Indenter

Ref.	Indentador de diamante	Penetrador de Esfera	Esfera avulso	Forma	Modelo de Máquina	Comentário
19BAA072ASTM	Diamante Rockwell			standard	todos os durómetros Rockwell da Mitutoyo	ASTM E-18
19BAA072MPA	Diamante Rockwell			standard	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA072MPA10	Diamante Rockwell			standard	todos os durómetros Rockwell da Mitutoyo	intervalo de medição alargado até 10HRC
19BAA072MPAL	Diamante Rockwell			largura estreita 6mm	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA073MPA	Diamante Rockwell			standard	todos os durómetros Rockwell da Mitutoyo	ISO 6508-3
19BAA292MPA	Diamante Rockwell			baixo para Ø22mm	Série HR 500	com certificado DKD
19BAA504		3,175 mm		com esfera metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA505		6,35 mm		com esfera metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA506		12,7 mm		com esfera metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA507			1,5875 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA507MPA			1,5875 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA508			3,175 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA508MPA			3,175 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA509			6,35 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA509MPA			6,35 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA510			12,7 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado
19BAA510MPA			12,7 mm	metal duro	todos os durómetros Rockwell da Mitutoyo	com certificado DKD
19BAA515			1,5875 mm	com esfera metal duro	todos os durómetros Rockwell da Mitutoyo	sem certificado