

BRAMMER STANDARD

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HIGH ALLOY STEEL

Part Number: **BS-HAS-12** Set of 12 0.27" (7 mm ±0.7 mm) THICK DISCS

Grade	Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	B	Co	N	Nb	Sn	Ti	V	W	Other
AL6XN	BS 189A	0.0147	0.639	0.019	(0.001)	0.30	0.184	23.8	20.4	6.04	0.0129	(0.0002)	0.100	0.198	0.13**	0.0035	0.0065	0.054	0.037	
Alloy 255	BS 179A	0.017	1.04	0.021	0.001	0.44	1.94	5.84	25.45	3.24	(0.009)	(0.001)	0.58	0.184	0.030	0.005	0.006	0.070	(0.2)	
Greek Ascology	BS 183	0.16	0.43	0.020	0.013	0.33	0.068	2.00	12.81	0.35	----	----	0.029	----	(0.003)	(0.0016)	0.003	0.12	2.77*	
Invar 36	BS 186A	0.040	0.72	0.008	0.005	0.19	0.016	35.86	0.16	0.003	(0.001)	----	0.028	0.0026	<0.002	(0.002)	<0.003	0.001	<0.03	Se: 0.229
Carp. 20Cb3	BS 187A	0.022	0.52	0.017	0.0025	0.26	3.10	33.06	19.75	2.06	(0.009)	0.0022	0.32	0.0157	0.57	0.003	(0.002)	0.10	(0.02)	Ce: (0.025)
A-286	BS 188A	0.050	0.139	0.015	0.0049	0.15	0.099	24.61	14.04	1.10	0.19	0.0065	0.18	0.0029	0.050	0.002	2.21	0.24	0.055	
Nitronic® 40	BS 190	0.022	9.72	0.015	0.001	0.46	0.072	6.74	19.57	0.15	(0.004)	0.0005	0.044	0.255	(0.004)	0.003	0.002	0.11	0.015	O: 0.0045
Nitronic® 50	BS 180A	0.018	5.05	0.012	0.001	0.32	0.067	13.19	21.09	2.04	0.012	(0.0024)	0.039	0.334	0.20	(0.002)	(0.002)	0.20	0.02	O: 0.003
Nitronic® 60	BS 181A	0.071	8.16	0.019	0.001	4.03	0.18	8.15	16.52	0.21	0.022	0.0009	0.072	0.148	0.017	0.005	0.007	0.094	0.04	O: 0.0010
18Cr-12Mn	BS 193	0.104	12.11	0.018	0.002	0.66	0.088	1.82	18.48	0.21	(0.003)	0.0007	0.028	0.37	0.014	0.004	0.003	0.107	(0.007)	
17Cr-15Mn	BS 182	0.037	15.09	0.022	0.003	0.46	0.56	1.11	16.67	0.99	----	----	0.033	(0.40)	(0.005)	0.003	(0.003)	0.059	(0.01)	
16Cr-6Mn-4Si	BS 191	0.098	5.71	0.024	0.023	3.66	0.33	5.34	16.33	0.36	(0.002)	(0.0006)	0.11	0.117	0.024	(0.006)	0.012	0.083	0.033	O: 0.002

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* The tungsten value for BS 183 was revised on September 30, 1996.

** The Niobium value for BS 189A is a reference value and not certified.

Certificates of Analysis are supplied for each certified reference material listed in the set.