

表 1 变形高温合金牌号及其化学成分

铁或铁镍(镍小于 50%)为主要元素的变形高温合金化学成分(质量分数)/%										
新牌号	原牌号	C	Cr	Ni	W	Mo	Al	Ti	Fe	Nb
GH1015	GH15	≤0.08	19.00~22.00	34.00~39.00	4.80~5.80	2.50~3.20	—	—	余	1.10~1.60
GH1016 ^a	GH16	≤0.08	19.00~22.00	32.00~36.00	5.00~6.00	2.60~3.30	—	—	余	0.90~1.40
GH1035 ^b	GH35	0.06~0.12	20.00~23.00	35.00~40.00	2.50~3.50	—	≤0.50	0.70~1.20	余	1.20~1.70
GH 1040 ^c	GH40	≤0.12	15.00~17.50	24.00~27.00	—	5.50~7.00	—	—	余	—
GH1131 ^d	GH131	≤0.10	19.00~22.00	25.00~30.00	4.80~6.00	2.80~3.50	—	—	余	0.70~1.30
GH 1139 ^e	GH139	≤0.12	23.00~26.00	15.00~18.00	—	—	—	—	余	—
GH1140	GH140	0.06~0.12	20.00~23.00	35.00~40.00	1.40~1.80	2.00~2.50	0.20~0.60	0.70~1.20	余	—
GH2035A	GH35A	0.05~0.11	20.00~23.00	35.00~40.00	2.50~3.50	—	0.20~0.70	0.80~1.30	余	—
GH2036	GH36	0.34~0.40	11.50~13.50	7.00~9.00	—	1.10~1.40	—	≤0.12	余	0.25~0.50
GH2038	GH38A	≤0.10	10.00~12.50	18.00~21.00	—	—	≤0.50	2.30~2.80	余	—
GH2130	GH130	≤0.08	12.00~16.00	35.00~40.00	1.40~2.20	—	—	2.40~3.20	余	—
GH2132	GH132	≤0.08	13.50~16.00	24.00~27.00	—	1.00~1.50	≤0.40	1.75~2.35	余	—
新牌号	原牌号	Mg	V	B	Ce	Si	Mn	P	S	Cu
								不大于		
GH1015	GH15	—	—	≤0.010	≤0.050	≤0.60	≤1.50	0.020	0.015	0.250
GH1016	GH16	—	0.100~0.300	≤0.010	≤0.050	≤0.60	≤1.80	0.020	0.015	—
GH1035	GH35	—	—	—	≤0.050	≤0.80	≤0.70	0.030	0.020	—
GH1040	GH40	—	—	—	—	0.50~1.00	1.00~2.00	0.030	0.020	0.200
GH1131	GH131	—	—	0.005	—	≤0.80	≤1.20	0.020	0.020	—
GH1139	GH139	—	—	≤0.010	—	≤1.00	5.00~7.00	0.035	0.020	—
GH1140	GH140	—	—	—	≤0.050	≤0.80	≤0.70	0.025	0.015	—
GH2035A	GH35A	≤0.010	—	0.010	0.050	≤0.80	≤0.70	0.030	0.020	—
GH2036	GH36	—	1.250~1.550	—	—	0.30~0.80	7.50~9.50	0.035	0.030	—
GH2038	GH38A	—	—	≤0.008	—	≤1.00	≤1.00	0.030	0.020	—
GH2130	GH130	—	—	0.020	0.020	≤0.60	≤0.50	0.015	0.015	—
GH2132	GH132	—	0.100~0.500	0.001~0.010	—	≤1.00	1.00~2.00	0.030	0.020	—

表 1 (续)

铁或铁镍(镍小于 50%)为主要元素的变形高温合金化学成分(质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb
GH2135	GH135	≤0.08	14.00~16.00	33.00~36.00	—	1.70~2.20	1.70~2.20	2.00~2.80	2.10~2.50	余	—
GH2150	GH150	≤0.08	14.00~16.00	45.00~50.00	—	2.50~3.50	4.50~6.00	0.80~1.30	1.80~2.40	余	0.90~1.40
GH2302	GH302	≤0.08	12.00~16.00	38.00~42.00	—	3.50~4.50	1.50~2.50	1.80~2.30	2.30~2.80	余	—
GH2696	GH696	≤0.10	10.00~12.50	21.00~25.00	—	—	1.00~1.60	≤0.80	2.60~3.20	余	—
GH2706	GH706	≤0.06	14.50~17.50	39.00~44.00	—	—	—	≤0.40	1.50~2.00	余	2.50~3.30
GH2747	GH747	≤0.10	15.00~17.00	44.00~46.00	—	—	—	2.90~3.90	—	余	—
GH2761	GH761	0.02~0.07	12.00~14.00	42.00~45.00	—	2.80~3.30	1.40~1.90	1.40~1.85	3.20~3.65	余	—
GH2901	GH901	0.02~0.06	11.00~14.00	40.00~45.00	—	—	5.00~6.50	≤0.30	2.80~3.10	余	—
GH2903	GH903	≤0.05	—	36.00~39.00	14.00~17.00	—	—	0.70~1.15	1.35~1.75	余	2.70~3.50
GH2907	GH907	≤0.06	≤1.00	35.00~40.00	12.00~16.00	—	—	≤0.20	1.30~1.80	余	4.30~5.20
GH2909	GH909	≤0.06	≤1.00	35.00~40.00	12.00~16.00	—	—	≤0.15	1.30~1.80	余	4.30~5.20
GH2984	GH984	≤0.08	18.00~20.00	40.00~45.00	—	2.00~2.40	0.90~1.30	0.20~0.50	0.90~1.30	余	—
新牌号	原牌号	B			Zr	Ce	Si	Mn	P	S	Cu
		不大于									
GH2135	GH135	≤0.015			—	≤0.030	≤0.50	0.40	0.020	0.020	—
GH2150	GH150	≤0.010			≤0.050	≤0.020	≤0.40	0.40	0.015	0.015	0.070
GH2302	GH302	≤0.010			≤0.050	≤0.020	≤0.60	0.60	0.020	0.010	—
GH2696	GH696	≤0.020			—	—	≤0.60	0.60	0.020	0.010	—
GH2706	GH706	≤0.006			—	—	≤0.35	0.35	0.020	0.015	0.300
GH2747	GH747	—			—	≤0.030	≤1.00	1.00	0.025	0.020	—
GH2761	GH761	≤0.015			—	≤0.030	≤0.40	0.50	0.020	0.008	0.200
GH2901	GH901	0.010~0.020			—	—	≤0.40	0.50	0.020	0.008	0.200
GH2903	GH903	0.005~0.010			—	—	≤0.20	0.20	0.015	0.015	—
GH2907	GH907	≤0.012			—	—	0.07~0.35	1.00	0.015	0.015	0.500
GH2909	GH909	≤0.012			—	—	0.25~0.50	1.00	0.015	0.015	0.500
GH2984	GH984	—			—	—	≤0.50	0.50	0.010	0.010	—

表 1 (续)

镍为主要元素的变形高温合金化学成分(质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb
GH3007	GH5K	≤0.12	20.00~35.00	余	—	—	—	—	—	≤8.00	—
GH3030	GH30	≤0.12	19.00~22.00	余	—	—	—	≤0.15	0.15~0.35	≤1.50	—
GH3039	GH39	≤0.08	19.00~22.00	余	—	—	1.80~2.30	0.35~0.75	0.35~0.75	≤3.00	0.90~1.30
GH3044	GH44	≤0.10	23.50~26.50	余	—	13.00~16.00	≤1.50	≤0.50	0.30~0.70	≤4.00	—
GH3128	GH128	≤0.05	19.00~22.00	余	—	7.50~9.00	7.50~9.00	0.40~0.80	0.40~0.80	≤2.00	—
GH3170	GH170	≤0.06	18.00~22.00	余	15.00~22.00	17.00~21.00	—	≤0.50	—	—	—
GH3536	GH536	0.05~0.15	20.50~23.00	余	0.50~2.50	0.20~1.00	8.00~10.00	≤0.50	≤0.15	17.00~20.00	—
GH3600	GH600	≤0.15	14.00~17.00	≥72.00	—	—	—	≤0.35	≤0.50	6.00~10.00	≤1.00
新牌号	原牌号	La	B	Zr	Ce	Si	Mn	P	S	Cu	
						不大于					
GH3007	GH5K	—	—	—	—	1.00	0.50	0.040	0.040	0.500~2.000	
GH3030	GH30	—	—	—	—	0.80	0.70	0.030	0.020	≤0.200	
GH3039	GH39	—	—	—	—	0.80	0.40	0.020	0.012	—	
GH3044	GH44	—	—	—	—	0.80	0.50	0.013	0.013	≤0.070	
GH3128	GH128	—	≤0.005	≤0.060	≤0.050	0.80	0.50	0.013	0.013	—	
GH3170	GH170	0.100	≤0.005	0.100~0.200	—	0.80	0.50	0.013	0.013	—	
GH3536	GH536	—	≤0.010	—	—	1.00	1.00	0.025	0.015	≤0.500	
GH3600	GH600	—	—	—	—	0.50	1.00	0.040	0.015	≤0.500	

表 1 (续)

镍为主要元素的变形高温合金化学成分(质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb
GH3625	GH625	≤0.10	20.00~23.00	余	≤1.00	—	8.00~10.00	≤0.40	≤0.40	≤5.00	3.15~4.15
GH3652	GH652	≤0.10	26.50~28.50	余	—	—	—	2.80~3.50	—	≤1.00	—
GH4033	GH33	0.03~0.08	19.00~22.00	余	—	—	—	0.60~1.00	2.40~2.80	≤4.00	—
GH4037	GH37	0.03~0.10	13.00~16.00	余	—	5.00~7.00	2.00~4.00	1.70~2.30	1.80~2.30	≤5.00	—
GH4049	GH49	0.04~0.10	9.50~11.00	余	14.00~16.00	5.00~6.00	4.50~5.50	3.70~4.40	1.40~1.90	≤1.50	—
GH4080A	GH80A	0.04~0.10	18.00~21.00	余	≤2.00	—	—	1.00~1.80	1.80~2.70	≤1.50	—
GH4090	GH90	≤0.13	18.00~21.00	余	15.00~21.00	—	—	1.00~2.00	2.00~3.00	≤1.50	—
GH4093	GH93	≤0.13	18.00~21.00	余	15.00~21.00	—	—	1.00~2.00	2.00~3.00	≤1.00	—
GH4098	GH98	≤0.10	17.50~19.50	余	5.00~8.00	5.50~7.00	3.50~5.00	2.50~3.00	1.00~1.50	≤3.00	≤1.50
GH4099	GH99	≤0.08	17.00~20.00	余	5.00~8.00	5.00~7.00	3.50~4.50	1.70~2.40	1.00~1.50	≤2.00	—
新牌号	原牌号	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
							不大于				
GH3625	GH625	—	—	—	—	—	0.50	0.50	0.015	0.015	0.070
GH3652	GH652	—	—	—	—	≤0.030	0.80	0.30	0.020	0.020	—
GH4033	GH33	—	—	≤0.010	—	≤0.020	0.65	0.40	0.015	0.007	—
GH4037	GH37	—	0.100~0.500	≤0.020	—	≤0.020	0.40	0.50	0.015	0.010	0.070
GH4049	GH49	—	0.200~0.500	≤0.025	—	≤0.020	0.50	0.50	0.010	0.010	0.070
GH4080A	GH80A	—	—	≤0.008	—	—	0.80	0.40	0.020	0.015	0.200
GH4090	GH90	—	—	≤0.020	≤0.150	—	0.80	0.40	0.020	0.015	0.200
GH4093	GH93	—	—	≤0.020	—	—	1.00	1.00	0.015	0.015	0.200
GH4098	GH98	—	—	≤0.005	—	≤0.020	0.30	0.30	0.015	0.015	0.070
GH4099	GH99	≤0.010	—	≤0.005	—	≤0.020	0.50	0.40	0.015	0.015	—

表 1 (续)

镍为主要元素的变形高温合金化学成分(质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb
GH4105	GH105	0.12~0.17	14.00~15.70	余	18.00~22.00	—	4.50~5.50	4.50~4.90	1.18~1.50	≤1.00	—
GH4133	GH33A	≤0.07	19.00~22.00	余	—	—	—	0.70~1.20	2.50~3.00	≤1.50	1.15~1.65
GH4133B	GH4133B	≤0.06	19.00~22.00	余	—	—	—	0.75~1.15	2.50~3.00	≤1.50	1.30~1.70
GH4141	GH141	0.06~0.12	18.00~20.00	余	10.00~12.00	—	9.00~10.50	1.40~1.80	3.00~3.50	≤5.00	—
GH4145	GH145	≤0.08	14.00~17.00	≥70.00	≤1.00	—	—	0.40~1.00	2.25~2.75	5.00~9.00	0.70~1.20
GH4163	GH163	0.04~0.08	19.00~21.00	余	19.00~21.00	—	5.60~6.10	0.30~0.60	1.90~2.40	≤0.70	—
GH4169	GH169	≤0.08	17.00~21.00	50.00~55.00	≤1.00	—	2.80~3.30	0.20~0.80	0.65~1.15	余	4.75~5.50
GH4199	GH199	≤0.10	19.00~21.00	余	—	9.00~11.00	4.00~6.00	2.10~2.60	1.10~1.60	≤4.00	—
GH4202	GH202	≤0.08	17.00~20.00	余	—	4.00~5.00	4.00~5.00	1.00~1.50	2.20~2.80	≤4.00	—
GH4220	GH220	≤0.08	9.00~12.00	余	14.00~15.50	5.00~6.50	5.00~7.00	3.90~4.80	2.20~2.90	≤3.00	—
新牌号	原牌号	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
							不大于				
GH4105	GH105	—	—	0.003~0.010	0.070~0.150	—	0.25	0.40	0.015	0.010	0.200
GH4133	GH33A	—	—	≤0.010	—	≤0.010	0.65	0.35	0.015	0.007	0.070
GH4133B	GH4133B	0.001~0.010	—	≤0.010	0.010~0.100	≤0.010	0.65	0.35	0.015	0.007	0.070
GH4141	GH141	—	—	0.003~0.010	≤0.070	—	0.50	0.50	0.015	0.015	0.500
GH4145	GH145	—	—	—	—	—	0.50	1.00	0.015	0.010	0.500
GH4163	GH163	—	—	≤0.005	—	—	0.40	0.60	0.015	0.007	0.200
GH4169	GH169	≤0.010	—	≤0.006	—	—	0.35	0.35	0.015	0.015	0.300
GH4199	GH199	≤0.050	—	≤0.008	—	—	0.55	0.50	0.015	0.015	0.070
GH4202	GH202	—	—	≤0.010	—	≤0.010	0.60	0.50	0.015	0.010	—
GH4220	GH220	≤0.010	0.250~0.800	≤0.020	—	≤0.020	0.35	0.50	0.015	0.009	0.070

表 1 (续)

镍为主要元素的变形高温合金化学成分 (质量分数)/%												
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb	
GH4413	GH413	0.04~0.10	13.00~16.00	余	—	5.00~7.00	2.50~4.00	2.40~2.90	1.70~2.20	≤5.00	—	
GH4500	GH500	≤0.12	18.00~20.00	余	15.00~20.00	—	3.00~5.00	2.75~3.25	2.75~3.25	≤4.00	—	
GH4586	GH586	≤0.08	18.00~20.00	余	10.00~12.00	2.00~4.00	7.00~9.00	1.50~1.70	3.20~3.50	≤5.00	—	
GH4648	GH648	≤0.10	32.00~35.00	余	—	4.30~5.30	2.30~3.30	0.50~1.10	0.50~1.10	≤4.00	0.50~1.10	
GH4698	GH698	≤0.08	13.00~16.00	余	—	—	2.80~3.20	1.30~1.70	2.35~2.75	≤2.00	1.80~2.20	
GH4708	GH708	0.05~0.10	17.50~20.00	余	≤0.50	5.50~7.50	4.00~6.00	1.90~2.30	1.00~1.40	≤4.00	—	
GH4710	GH710	≤0.10	16.50~19.50	余	13.50~16.00	1.00~2.00	2.50~3.50	2.00~3.00	4.50~5.50	≤1.00	—	
GH4738	GH738 (GH684)	0.03~0.10	18.00~21.00	余	12.00~15.00	—	3.50~5.00	1.20~1.60	2.75~3.25	≤2.00	—	
GH4742	GH742	0.04~0.08	13.00~15.00	余	9.00~11.00	—	4.50~5.50	2.40~2.80	2.40~2.80	≤1.00	2.40~2.80	
新牌号	原牌号	La	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
								不大于				
GH4413	GH413	—	≤0.005	0.200~1.000	0.020	—	0.020	0.60	0.50	0.015	0.009	0.070
GH4500	GH500	—	—	—	0.003~0.008	≤0.060	—	0.75	0.75	0.015	0.015	0.100
GH4586	GH586	≤0.015	≤0.015	—	≤0.005	—	—	0.50	0.10	0.010	0.010	—
GH4648	GH648	—	—	—	≤0.008	—	≤0.030	0.40	0.50	0.015	0.010	—
GH4698	GH698	—	≤0.008	—	≤0.005	≤0.050	≤0.005	0.60	0.40	0.015	0.007	0.070
GH4708	GH708	—	—	—	≤0.008	—	≤0.030	0.40	0.50	0.015	0.015	—
GH4710	GH710	—	—	—	0.010~0.030	≤0.060	0.020	0.15	0.15	0.015	0.010	0.100
GH4738	GH738 (GH684)	—	—	—	0.003~0.010	0.020~0.080	—	0.15	0.10	0.015	0.015	0.100
GH4742	GH742	≤0.100	—	—	≤0.010	—	0.010	0.30	0.40	0.015	0.010	—

表 1 (续)

钴为主要元素的变形高温合金化学成分 (质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb
GH5188	GH188	0.05~0.15	20.00~24.00	20.00~24.00	余	13.00~16.00	—	—	—	≤3.00	—
GH5605	GH605	0.05~0.15	19.00~21.00	9.00~11.00	余	14.00~16.00	—	—	—	≤3.00	—
GH5941	GH941	≤0.10	19.00~23.00	19.00~23.00	余	17.00~19.00	—	—	—	≤1.50	—
GH6159	GH159	≤0.04	18.00~20.00	余	34.00~38.00	—	6.00~8.00	0.10~0.30	2.50~3.25	8.00~10.00	0.25~0.75
GH6783 ^f	GH783	≤0.03	2.50~3.50	26.00~30.00	余	—	—	5.00~6.00	≤0.40	24.00~27.00	2.50~3.50
新牌号	原牌号	La	B				Si	Mn	P	S	Cu
									不大于		
GH5188	GH188	0.030~0.120	≤0.015				0.20~0.50	≤1.25	0.020	0.015	0.070
GH5605	GH605	—	—				≤0.40	1.00~2.00	0.040	0.030	—
GH5941	GH941	—	—				≤0.50	≤1.50	0.020	0.015	0.500
GH6159	GH159	—	≤0.030				≤0.20	≤0.20	0.020	0.010	—
GH6783	GH783	—	0.003~0.012				≤0.50	≤0.50	0.015	0.005	0.500
<p>a 氮含量在 0.130~0.250 之间。</p> <p>b 加钛或加铌,但两者不得同时加入。</p> <p>c 氮含量在 0.100~0.200 之间。</p> <p>d 氮含量在 0.150~0.300 之间。</p> <p>e 氮含量在 0.300~0.450 之间。</p> <p>f 钽含量不大于 0.050。</p>											

表 2 铸造高温合金牌号及其化学成分

等轴晶铸造高温合金化学成分(质量分数)/%

新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	
K211	K11	0.10~0.20	19.50~20.50	45.00~47.00	—	7.50~8.50	—	—	—	余	
K213	K13	<0.10	14.00~16.00	34.00~38.00	—	4.00~7.00	—	1.50~2.00	3.00~4.00	余	
K214	K14	≤0.10	11.00~13.00	40.00~45.00	—	6.50~8.00	—	1.80~2.40	4.20~5.00	余	
K401	K1	≤0.10	14.00~17.00	余	—	7.00~10.00	≤0.30	4.50~5.50	1.50~2.00	≤0.20	
K402	K2	0.13~0.20	10.50~13.50	余	—	6.00~8.00	4.50~5.50	4.50~5.30	2.00~2.70	≤2.00	
K403	K3	0.11~0.18	10.00~12.00	余	4.50~6.00	4.80~5.50	3.80~4.50	5.30~5.90	2.30~2.90	≤2.00	
K405	K5	0.10~0.18	9.50~11.00	余	9.50~10.50	4.50~5.20	3.50~4.20	5.00~5.80	2.00~2.90	≤0.50	
K406	K6	0.10~0.20	14.00~17.00	余	—	—	4.50~6.00	3.25~4.00	2.00~3.00	≤1.00	
K406C	K6C	0.03~0.08	18.00~19.00	余	—	—	4.50~6.00	3.25~4.00	2.00~3.00	≤1.00	
K407	K7	≤0.12	20.00~35.00	余	—	—	—	—	—	≤8.00	
新牌号	原牌号	B			Zr	Ce	Si	Mn	P	S	Cu
							不大于				
K211	K11	0.030~0.050			—	—	0.40	0.50	0.040	0.040	—
K213	K13	0.050~0.100			—	—	0.50	0.50	0.015	0.015	—
K214	K14	0.100~0.150			—	—	0.50	0.50	0.015	0.015	—
K401	K1	0.030~0.100			—	—	0.80	0.80	0.015	0.010	—
K402	K2	0.015			—	0.015	0.04	0.04	0.015	0.015	—
K403	K3	0.012~0.022			0.030~0.080	0.010	0.50	0.50	0.020	0.010	—
K405	K5	0.015~0.026			0.030~0.100	0.010	0.30	0.50	0.020	0.010	—
K406	K6	0.050~0.100			0.030~0.080	—	0.30	0.10	0.020	0.010	—
K406C	K6C	0.050~0.100			≤0.030	—	0.30	0.10	0.020	0.010	—
K407	K7	—			—	—	1.00	0.50	0.040	0.040	0.500~2.000

表 2 (续)

等轴晶铸造高温合金化学成分(质量分数)/%												
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb	Ta
K408	K8	0.10~0.20	14.90~17.00	余	—	—	4.50~6.00	2.50~3.50	1.80~2.50	8.00~12.50	—	—
K409	K9	0.08~0.13	7.50~8.50	余	9.50~10.50	≤0.10	5.75~6.25	5.75~6.25	0.80~1.20	≤0.35	≤0.10	4.00~4.50
K412	K12	0.11~0.16	14.00~18.00	余	—	4.50~6.50	3.00~4.50	1.60~2.20	1.60~2.30	≤8.00	—	—
K417	K17	0.13~0.22	8.50~9.50	余	14.00~16.00	—	2.50~3.50	4.80~5.70	4.50~5.00	≤1.00	—	—
K417G	K17G	0.13~0.22	8.50~9.50	余	9.00~11.00	—	2.50~3.50	4.80~5.70	4.10~4.70	≤1.00	—	—
K417L	K17L	0.05~0.22	11.00~15.00	余	3.00~5.00	—	2.50~3.50	4.00~5.70	3.00~5.00	—	—	—
K418	K18	0.08~0.16	11.50~13.50	余	—	—	3.80~4.80	5.50~6.40	0.50~1.00	≤1.00	1.80~2.50	—
K418B	K18B	0.03~0.07	11.00~13.00	余	≤1.00	—	3.80~5.20	5.50~6.50	0.40~1.00	≤0.50	1.50~2.50	—
K419	K19	0.09~0.14	5.50~6.50	余	11.00~13.00	9.50~10.50	1.70~2.30	5.20~5.70	1.00~1.50	≤0.50	2.50~3.30	—
K419H	K19H	0.09~0.14	5.50~6.50	余	11.00~13.00	9.50~10.70	1.70~2.30	5.20~5.70	1.00~1.50	≤0.50	2.25~2.75	—
新牌号	原牌号	Hf	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
								不大于				
K408	K8	—	—	—	0.060~0.080	—	0.010	0.60	0.60	0.015	0.020	—
K409	K9	—	—	—	0.010~0.020	0.050~0.100	—	0.25	0.20	0.015	0.015	—
K412	K12	—	—	≤0.300	0.005~0.010	—	—	0.60	0.60	0.015	0.009	—
K417	K17	—	—	0.600~0.900	0.012~0.022	0.050~0.090	—	0.50	0.50	0.015	0.010	—
K417G	K17G	—	—	0.600~0.900	0.012~0.024	0.050~0.090	—	0.20	0.20	0.015	0.010	—
K417L	K17L	—	—	—	0.003~0.012	—	—	—	—	0.010	0.006	—
K418	K18	—	—	—	0.008~0.020	0.060~0.150	—	0.50	0.50	0.015	0.010	—
K418B	K18B	—	—	—	0.005~0.015	0.050~0.150	—	0.50	0.25	0.015	0.015	0.500
K419	K19	—	≤0.003	≤0.100	0.050~0.100	0.030~0.080	—	0.20	0.50	—	0.015	0.400
K419H	K19H	1.200~1.600	—	≤0.100	0.050~0.100	0.030~0.080	—	0.20	0.20	—	0.015	0.100

表 2 (续)

等轴晶铸造高温合金化学成分(质量分数)/%												
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb	Ta
K423	K23	0.12~0.18	14.50~16.50	余	9.00~10.50	≤0.20	7.60~9.00	3.90~4.40	3.40~3.80	≤0.50	≤0.25	—
K423A	K23A	0.12~0.18	14.00~15.50	余	8.20~9.50	≤0.20	6.80~8.30	3.90~4.40	3.40~3.80	≤0.50	≤0.25	—
K424	K24	0.14~0.20	8.50~10.50	余	12.00~15.00	1.00~1.80	2.70~3.40	5.00~5.70	4.20~4.70	≤2.00	0.50~1.00	—
K430	K430	≤0.12	19.00~22.00	≥75.00	—	—	—	≤0.15	—	≤1.50	—	—
K438	K38	0.10~0.20	15.70~16.30	余	8.00~9.00	2.40~2.80	1.50~2.00	3.20~3.70	3.00~3.50	≤0.50	0.60~1.10	1.50~2.00
K438G	K38G	0.13~0.20	15.30~16.30	余	8.00~9.00	2.30~2.90	1.40~2.00	3.50~4.50	3.20~4.00	≤0.20	0.40~1.00	1.40~2.00
K441	K41	0.02~0.10	15.00~17.00	余	—	12.00~15.00	1.50~3.00	3.10~4.00	—	—	—	—
K461	K461	0.12~0.17	15.00~17.00	余	≤0.50	2.10~2.50	3.60~5.00	2.10~2.80	2.10~3.00	6.00~7.50	—	—
K477	K77	0.05~0.09	14.00~15.25	余	14.00~16.00	—	3.90~4.50	4.00~4.60	3.00~3.70	≤1.00	—	—
K480*	K80	0.15~0.19	13.70~14.30	余	9.00~10.00	3.70~4.30	3.70~4.30	2.80~3.20	4.80~5.20	≤0.35	≤0.10	≤0.10
K491	K91	≤0.02	9.50~10.50	余	9.50~10.50	—	2.75~3.25	5.25~5.75	5.00~5.50	≤0.50	—	—
新牌号	原牌号	Hf	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
									不大于			
K423	K23	≤0.250	—	—	0.004~0.008	—	—	≤0.20	0.20	0.010	0.010	—
K423A	K23A	—	—	—	0.005~0.015	—	—	≤0.20	0.20	—	0.010	—
K424	K24	—	—	0.500~1.000	0.015	0.020	0.020	≤0.40	0.40	0.015	0.015	—
K430	K430	—	—	—	—	—	—	≤1.20	1.20	0.030	0.020	0.200
K438	K38	—	—	—	0.005~0.015	0.050~0.150	—	≤0.30	0.20	0.015	0.015	—
K438G	K38G	—	—	—	0.005~0.015	—	—	≤0.01	0.20	0.000 5	0.010	0.100
K441	K41	—	—	—	0.001~0.010	≤0.050	—	—	—	0.015	0.010	—
K461	K461	—	—	—	0.100~0.130	—	—	1.20~2.00	0.30	0.020	0.020	—
K477	K77	—	—	—	0.012~0.020	≤0.040	≤0.100	≤0.50	0.20	0.015	0.010	—
K480	K80	≤0.100	≤0.010	≤0.100	0.010~0.020	0.020~0.100	—	≤0.10	0.50	0.015	0.010	0.100
K491	K91	—	≤0.005	—	0.080~0.120	≤0.040	—	≤0.10	0.10	0.010	0.010	—

表 2 (续)

等轴晶铸造高温合金化学成分(质量分数)/%												
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Nb	Ta
K4002	K002	0.13~0.17	8.00~10.00	余	9.00~11.00	9.00~11.00	≤0.50	5.25~5.75	1.25~1.75	≤0.50	—	2.25~2.75
K4130	K130	<0.01	20.00~23.00	余	≤1.00	≤0.20	9.00~10.50	0.70~0.90	2.40~2.80	≤0.50	≤0.25	—
K4163	K163	0.04~0.08	19.50~21.00	余	18.50~21.00	≤0.20	5.60~6.10	0.40~0.60	2.00~2.40	0.70	0.25	—
K4169	K4169	0.02~0.08	17.00~21.00	50.00~55.00	≤1.00	—	2.80~3.30	0.30~0.70	0.65~1.15	余	4.40~5.40	≤0.10
K4202	K202	≤0.08	17.00~20.00	余	—	4.00~5.00	4.00~5.00	1.00~1.50	2.20~2.80	≤4.00	—	—
K4242	K242	0.27~0.35	20.00~23.00	余	9.55~11.00	≤0.20	10.00~11.00	≤0.20	≤0.30	≤0.75	≤0.25	—
K4536	K536	≤0.10	20.50~23.00	余	0.50~2.50	0.20~1.00	8.00~10.00	—	—	17.00~20.00	—	—
K4537 ^b	K537	0.07~0.12	15.00~16.00	余	9.00~10.00	4.70~5.20	1.20~1.70	2.70~3.20	3.20~3.70	≤0.50	1.70~2.20	—
K4648	K648	0.03~0.10	32.00~35.00	余	—	4.30~5.50	2.30~3.50	0.70~1.30	0.70~1.30	≤0.50	0.70~1.30	—
K4708	K708	0.05~0.10	17.50~20.50	余	—	5.50~7.50	4.00~6.00	1.90~2.30	1.00~1.40	≤4.00	—	—
新牌号	原牌号	Hf	Mg	V	B	Zr	Ce	Si	Mn	P	S	Cu
										不大于		
K4002	K002	1.300~1.700	≤0.003	≤0.100	0.010~0.020	0.030~0.080	—	≤0.20	≤0.20	0.010	0.010	0.100
K4130	K130	—	—	—	—	—	—	≤0.60	≤0.60	—	—	—
K4163	K163	—	—	—	≤0.005	—	—	≤0.40	≤0.60	—	0.007	0.200
K4169	K4169	—	—	—	≤0.006	≤0.050	—	≤0.35	≤0.35	0.015	0.015	0.300
K4202	K202	—	—	—	≤0.015	—	≤0.010	≤0.60	≤0.50	0.015	0.010	—
K4242	K242	—	—	—	—	—	—	0.20~0.45	0.20~0.50	—	—	—
K4536	K536	—	—	—	≤0.010	—	—	≤1.00	≤1.00	0.040	0.030	—
K4537	K537	—	—	—	0.010~0.020	0.030~0.070	—	—	—	0.015	0.015	—
K4648	K648	—	—	—	≤0.008	—	≤0.030	≤0.30	—	—	0.010	—
K4708	K708	—	—	—	≤0.008	—	≤0.030	≤0.60	≤0.50	0.015	0.015	—

表 2 (续)

等轴晶铸造高温合金化学成分 (质量分数)/%											
新牌号	原牌号	C	Cr	Ni	Co	W	Mo	Al	Ti	Fe	Ta
K605	K605	≤0.40	19.00~21.00	9.00~11.00	余	14.00~16.00	—	—	—	≤3.00	—
K610	K10	0.15~0.25	25.00~28.00	3.00~3.70	余	≤0.50	4.50~5.50	—	—	≤1.50	—
K612	K612	1.70~1.95	27.00~31.00	≤1.50	余	8.00~10.00	≤2.50	1.00	—	≤2.50	—
K640	K40	0.45~0.55	24.50~26.50	9.50~11.50	余	7.00~8.00	—	—	—	≤2.00	—
K640M	K40M	0.45~0.55	24.50~26.50	9.50~11.50	余	7.00~8.00	0.10~0.50	0.70~1.20	0.05~0.30	≤2.00	0.10~0.50
K6188 ^c	K188	0.15	20.00~24.00	20.00~24.00	余	13.00~16.00	—	—	—	3.00	—
K825 ^d	K25	0.02~0.08	余	39.50~42.50	—	1.40~1.80	—	—	0.20~0.40	—	—
新牌号	原牌号	V			B	Zr	Ce	Si	Mn	P	S
										不大于	
K605	K605	—			≤0.030	—	—	≤0.40	1.00~2.00	0.040	0.030
K610	K10	—			—	—	—	≤0.50	≤0.60	0.025	0.025
K612	K612	—			—	—	—	≤1.50	≤1.50	—	—
K640	K40	—			—	—	—	≤1.00	≤1.00	0.040	0.040
K640M	K40M	—			0.008~0.040	0.100~0.300	—	≤1.00	≤1.00	0.040	0.040
K6188	K188	—			≤0.015	—	—	0.20~0.50	≤1.50	0.020	0.015
K825	K25	0.200~0.400			—	—	—	≤0.50	≤0.50	0.015	0.010