

## Section 1 Iron, Steel & Alloy(Chip) 2)Non-Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	Al <sub>i</sub>	Ti <sub>i</sub>	
NCSHC 11101	Carbon Steel,10 #	0.127	0.219	0.481	0.017	0.024	0.0058	0.015	0.257						150
NCSHC 11102	60Mn	0.56	0.72	0.69	0.016	0.004	0.102	0.60	0.041						150
NCSHC 11102a	60Mn	0.61	0.24	0.82	0.023	0.014	0.015	0.028	0.016						150
NCSHC 11103	Carbon Steel	0.183	0.277	0.622	0.029	0.011	0.028	0.033	0.185						150
NCSHC 11110	Carbon Steel,25 #	0.239	0.187	0.552	0.014	0.018	0.026	0.039	0.202						150
NCSHC 11110a	Carbon Steel,25 #	0.242	0.260	0.506	0.014	0.023	0.078	0.048	0.119						150
NCSHC 11111	Easy Cutting Steel	0.188	0.114	0.64	0.015	0.119	0.016	0.037	0.031						150
NCSHC 11111a	Easy Cutting Steel	0.72	0.22	0.37	0.13	0.13									150
NCSHC 11111b	Easy Cutting Steel	0.09	0.27	0.96	0.094	0.12	0.090	0.049	0.091						150
NCSHC 11112	Carbon Steel,20 #	0.183	0.105	0.632	0.007	0.016	0.172	0.108	0.106						150
NCSHC 11115	Carbon Steel,15 #	0.136	0.054	0.317	0.007	0.011	0.026	0.017	0.028						150
NCSHC 11116	15Mn	0.156	0.277	0.879	0.015	0.0105	0.058	0.054	0.124						150
NCSHC 11118	Carbon Steel	0.23	0.25	0.55	0.026	0.0035									150
NCSHC 11119	65Mn	0.68	0.30	1.11	0.018	0.009	0.066	0.037	0.11						150
NCSHC 11120	Carbon Steel,35 #	0.338	0.262	0.555	0.016	0.014	0.155	0.072	0.140						150
NCSHC 11121	25MnSi	0.234	0.508	1.33	0.021	0.029	0.056	0.046	0.067						150
NCSHC 11122	20MnSi	0.201	0.748	1.32	0.026	0.027									150
NCSHC 11124	Carbon Steel	0.109	0.520	0.750	0.034	0.010	0.206	0.121	0.243	Als0.031	0.254	Tis0.015	0.036	0.016	150
NCSHC 11125	Carbon Steel	0.341	0.416	0.923	0.051	0.010	0.069	0.143	0.187	Als0.067	0.136	Tis0.054	0.072	0.055	150
NCSHC 11126	Carbon Steel	0.664	0.164	1.25	0.071	0.028	0.073	0.240	0.142	Als0.097	0.077	Tis0.093	0.099	0.093	150
NCSHC 11127	Carbon Steel	1.03	0.176	1.63	0.086	0.030	0.063	0.320	0.122	Als0.171	0.031	Tis0.154	0.174	0.156	150
NCSHC 11128	Carbon Steel	1.23	0.805	1.87	0.093	0.032	0.321	0.445	0.082	Als0.202	0.011	Tis0.263	0.206	0.266	150
NCSHC 11130	Carbon Steel	0.157	0.114	0.211	0.034	0.037	0.12	0.066	0.047	0.045	0.163	0.071			150
NCSHC 11132	Carbon Steel	0.464	0.814	0.376	0.062	0.043	0.20	0.36	0.295	0.131	0.156	0.157			150
NCSHC 11133	Carbon Steel	0.582	0.389	0.891	0.050	0.019	0.16	0.18	0.227	0.056	0.023	0.083			150
NCSHC 11134	Carbon Steel	0.741	0.821	1.39	0.012	0.056	0.016	0.016	0.0154	0.0025	0.157	0.006			150
Number	Name	Chemical Composition(Percent)										Unit Size (in g)			
		C	Si	Mn	P	S	Cr	Ni	Cu	As					
NCSHC 13101	Carbon Steel	0.725	0.24	1.28	0.016	0.030									150
NCSHC 13102	Carbon Steel	0.295	0.255	0.506	0.019	0.030	0.0062	0.0039	0.005						100
NCSHC 13103	Carbon Steel	0.409	0.261	0.629	0.0127	0.032	0.0076	0.0073	0.0087						100
NCSHC 13104	Carbon Steel	0.239	0.242	0.490	0.014	0.024	0.013	0.015	0.017						100
NCSHC 13105	Carbon Steel	0.153	0.222	0.457	0.0062	0.026	0.013	0.010	0.023						100
NCSHC 13106	Carbon Steel	0.480	0.271	0.653	0.016	0.028	0.0088	0.0055	0.0061						100
NCSHC 13107	Carbon Steel,30 #	0.30	0.26	0.51	0.019	0.030	0.0061	0.0038	0.0054						100
NCSHC 13108	Carbon Steel,40 #	0.41	0.26	0.63	0.013	0.032	0.0076	0.0074	0.0087						100
NCSHC 13109	Carbon Steel,25 #	0.24	0.24	0.49	0.014	0.024	0.013	0.015	0.017	0.0022					100
NCSHC 13110	Carbon Steel,15 #	0.15	0.22	0.46	0.0062	0.026	0.013	0.010	0.023	0.0034					100
NCSHC 13111	Carbon Steel,60 #	0.59	0.25	0.73	0.0098	0.025	0.014	0.008	0.015	0.0019					100
NCSHC 13112	Carbon Steel,50 #	0.48	0.27	0.65	0.016	0.028	0.009	0.006	0.006	0.0011					100
NCSHC 13114	Carbon Steel,45 #	0.47	0.26	0.70	0.019	0.030	0.008	0.004	0.006	0.005					100
NCSHC 13116	Carbon Steel	0.42	0.36	1.11	0.084	0.049									100
NCSHC 13118	Carbon Steel	0.72	0.66	0.56	0.063	0.010									100
NCSHC 13121	Carbon Steel	0.33	0.62	0.41	0.036	0.012									100

## Section 1 Iron, Steel & Alloy(Chip 2)Non-Alloy Steel

Number	Name	Chemical Composition(Percent)										Unit Size (in g)		
		C	Si	Mn	P	S	Ni	Cr	Cu	As	Als			
NCSHC 13122	Carbon Steel	0.29	1.43	1.16	0.017	0.012	0.008	0.015	0.006	0.0022	0.063	100		
NCSHC 13124	Carbon Steel	0.60	0.31	0.89	0.018	0.017	0.007	0.013	0.006	0.0022	0.056	100		
NCSHC 13125	Carbon Steel	0.68	0.36	0.61	0.017	0.014	0.004	0.012	0.005	0.0022	0.031	100		
NCSHC 13126	Carbon Steel	0.71	0.30	1.02	0.020	0.017	0.005	0.013	0.006	0.0023	0.040	100		
NCSHC 13127	Carbon Steel	0.71	0.33	1.29	0.019	0.010	0.007					100		
Number	Name	Chemical Composition(Percent)							Unit Size (in g)					
C	Si	Mn	P	S	Cr	Ni								
NCSHC 14102	Carbon Steel	0.542	0.140	0.520	0.0205	0.022	0.237	0.031	100					
NCSHC 14104	Carbon Steel	0.477	0.203	0.674	0.0244	0.031	0.0023	0.036	100					
NCSHC 14105	Carbon Steel	0.596	0.303	0.699	0.0193	0.0085	0.0052	0.026	100					
Numberw	Name	Chemical Composition(Percent)							Unit Size (in g)					
C	Si	Mn	P	S	Cr	Ni	Cu							
NCSHC 15101	Carbon Steel	0.118	0.252	0.483	0.0132	0.017	0.020	0.020	0.022	150				
NCSHC 15103	Carbon Steel	0.454	0.283	0.636	0.0223	0.010	0.016	0.0083	0.009	150				
NCSHC 15105	Carbon Steel	0.467	0.295	0.624	0.027	0.012				100				
Number	Name	Chemical Composition(Percent)					Unit Size (in g)							
C	Si	Mn	P	S										
NCSHC 16101	Carbon Steel	0.472	0.261	0.657	0.0136	0.012	150							
NCSHC 16102	Carbon Steel	0.206	0.238	0.551	0.0103	0.009	150							
NCSHC 16103	Carbon Steel	0.343	0.276	0.636	0.0144	0.010	150							
Number	Name	Chemical Composition(Percent)							Unit Size (in g)					
C	Si	Mn	P	S	Cr	Ni	Cu							
NCSHC 18101	Carbon Steel	0.168	0.318	0.605	0.028	0.019	0.315	0.275	0.308	150				
NCSHC 18102	Carbon Steel	0.585	0.564	0.748	0.052	0.042	0.100	0.097	0.116	150				
NCSHC 18103	Carbon Steel	0.474	0.269	0.658	0.023	0.024	0.246	0.181	0.175	150				
NCSHC 18104	Carbon Steel	0.324	0.252	0.573	0.033	0.016	0.124	0.036	0.203	150				
NCSHC 18105	20MnSi	0.219	0.545	1.54	0.046	0.035	0.031	0.029	0.094	100				
NCSHC 18106	Q235 Steel	0.203	0.254	0.418	0.011	0.022	0.033	0.022	0.078	100				
Number	Name	Chemical Composition(Percent)										Unit Size (in g)		
C	Si	Mn	P	S	Cr	Ni	Cu	Al	Ti	Co				
NCSHC 19101	Carbon Steel	0.458	0.347	0.655	0.0195	0.016						100		
NCSHC 19102	Carbon Structure Steel	0.73	0.243	1.22	0.014	0.030	0.015	0.029	0.078	0.012	0.0034	0.038	100	
Number	Name	Chemical Composition(Percent)							Unit Size (in g)					
C	Si	Mn	P	S	Cr	Ni	Cu							
NCSHC 20104	Carbon Steel	0.181	0.294	0.147	0.0084	0.060	0.290	0.107	0.083	100				
NCSHC 20106	Carbon Steel	0.341	0.194	0.585	0.012	0.028	0.220	0.055	0.209	100				
NCSHC 20108	Carbon Steel	0.303	0.323	0.649	0.022	0.012	0.059	0.033	0.114	100				
NCSHC 20112	Carbon Steel	0.484	0.297	0.611	0.022	0.0082	0.052	0.0451	0.088	100				
NCSHC 20113	20MnSi	0.199	0.595	1.46	0.024		0.143	0.079	0.157	100				
Number	Name	Chemical Composition(Percent)											Unit Size (in g)	
C	Si	Mn	P	S	Cr	Ni	Cu	Al	W	Mo	Sn			
NCSHC 21101	Carbon Steel	0.113	0.239	0.452	0.011	0.012	0.027	0.026	0.079				100	
NCSHC 21102	Carbon Steel	0.228	0.279	0.516	0.020	0.021	0.071	0.029	0.080				100	
NCSHC 21103	Carbon Steel	0.449	0.317	0.660	0.019	0.014	0.066	0.033	0.088	0.012	0.0055	0.0093	0.0114	100
NCSHC 21104	20MnSi	0.205	0.759	1.376	0.0225	0.0268	0.108	0.096	0.121		0.033	0.036	100	
Number	Name	Chemical Composition(Percent)										Unit Size (in g)		
C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti				
NCSHC 22101	Carbon Steel	0.091	0.266	0.569	0.0123	0.031	0.093	0.241	0.196	0.095	0.011	0.0098	100	
NCSHC 22102	Carbon Steel	0.188	0.150	0.461	0.0269	0.052	0.128	0.175	0.268	0.048	0.0048	0.028	100	
NCSHC 22103	Carbon Steel	0.338	0.475	0.856	0.038	0.012	0.270	0.042	0.053	0.0079	0.0026	0.0030	100	

## Section 1 Iron, Steel & Alloy(Chip 2)Non-Alloy Steel

Number	Name	Chemical Composition(Percent)												Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	Mo	Co	Sn	
NCSHC 28104	Carbon Steel	0.327	0.300	0.511	0.0214	0.023	0.024	0.036	0.212	0.051	0.0060	0.0011	0.049	100
NCSHC 28106	Carbon Steel	0.736	0.292	0.673	0.0320	0.019	0.0064	0.010	0.028	0.036	0.0031	0.0076	0.0013	100
NCSHC 28107	Carbon Steel	0.523	0.287	0.726	0.0101	0.017	0.026	0.022	0.030	0.021	0.0025	0.0077	0.00085	100
NCSHC 28108	Carbon Steel	0.090	0.153	0.600	0.0165	0.025	0.0125	0.0090	0.021					100
NCSHC 28110	Carbon Steel	0.204	0.253	0.441	0.028	0.025	0.012	0.0059	0.0215					100
NCSHC 28113	Carbon Steel	0.463	0.262	0.638	0.0195	0.020	0.070	0.039	0.115					100
NCSHC 28114a	Carbon Steel	0.736	0.297	0.67	0.032	0.019	0.0065	0.010	0.028					100
NCSHC 28115	15Mn	0.127	0.262	0.779	0.255	0.0315	0.0105	0.010	0.0145					100
NCSHC 28116	15Mn	0.157	0.351	0.854	0.018	0.024	0.019	0.0081	0.016					100
NCSHC 28117	20Mn	0.190	0.273	0.810	0.034	0.0300	0.014	0.010	0.018					100
NCSHC 28118	70Mn	0.722	0.564	1.10	0.041	0.0255	0.202	0.096	0.109					100
NCSHC 28119	Carbon Steel	0.620	0.408	0.749	0.031	0.0255	0.333	0.227	0.127					100
NCSHC 28121	45Mn	0.422	0.298	1.631	0.015	0.017	0.0115	0.021	0.014					100
NCSHC 28123	Carbon Steel	0.152	0.175	0.491	0.019	0.019	0.027	0.030	0.108					150
NCSHC 28125	Carbon Steel	0.327	0.304	0.515	0.0079	0.026								150
NCSHC 28127	Carbon Steel	0.170	0.475	1.00	0.027	0.018	0.018	0.019	0.029					150
NCSHC 28128	Ship Construction Steel	0.157	0.351	0.854	0.018	0.024	0.019	0.0081	0.016					100
NCSHC 28129	Ship Construction Steel	0.190	0.273	0.810	0.034	0.030	0.014	0.010	0.018					100
		As	Sb	Pb	Bi									
NCSHC 28104	Carbon Steel	0.010	0.012	0.00062	<0.00001									
NCSHC 28106	Carbon Steel	0.0094	0.0010	0.00062	<0.00001									
NCSHC 28107	Carbon Steel	0.0030	0.00061	0.000027	<0.00001									
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
NCSHC 31103	Carbon Steel	0.274	0.300	0.580	0.014	0.0064	0.08	0.056	0.082					100
NCSHC 31109	Carbon Steel	0.683	0.432	0.971	0.0452	0.0163	0.288	0.450	0.098					100
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
NCSHC 37101	Carbon Steel	0.518	0.344	0.616	0.025	0.0063	0.050	0.040						100
NCSHC 37102	Carbon Steel	0.139	0.152	0.601	0.024	0.030	0.042	0.042	0.151					100
NCSHC 37103	Carbon Steel	0.170	0.224	0.407	0.036	0.049	0.052	0.044	0.127					100
NCSHC 37104	Carbon Steel	0.349	0.343	0.603	0.015	0.022	0.016	0.029	0.050					100
NCSHC 37105	Carbon Steel	0.659	0.275	0.742	0.012	0.0074	0.017	0.056	0.113					100
NCSHC 37106	Carbon Steel	0.168	0.270	0.510	0.013	0.027								100
NCSHC 37107	Carbon Steel	0.236	0.274	0.595	0.019	0.022								100
NCSHC 37108	Carbon Steel	0.168	0.270	0.510	0.013	0.027	0.222	0.052	0.118					100
NCSHC 37109	Carbon Steel	0.308	0.232	0.517										100
Number	Name	Chemical Composition(Percent)											Unit Size (in g)	
NCSHC18113	Low Carbon low sulfur Steel	C	Si	Mn	P	S	Cu	Alt	Als	N(ppm)				100
NCSHC18114	Low Carbon low sulfur Steel	0.01	1.35	0.269	0.024	0.0046	0.017	0.283	0.28	27.9*				100
NCSHC18115	Low Carbon low sulfur Steel	0.0037	0.99	0.256	0.086	0.0054	0.015	0.248	0.244	27.2*				100
NCSHC18116	Low Carbon low sulfur Steel	0.002	0.88	0.297	0.085	0.0055	0.015	0.259	0.258	16.3*				100
NCSHC18117	Low Carbon low sulfur Steel	0.0124	0.008	0.202	0.013	0.0091	0.017	0.024	0.022					100
NCSHC18117	Low Carbon low sulfur Steel	0.0054	0.009	0.116	0.014	0.0095	0.023	0.043	0.04					100
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
NCSHC 18107	Carbon steel 10#	C	Si	Mn	P	S	Ni	Cr	Cu	Mo	Alt	Sn	As	100
NCSHC18109a	35# Carbon Steel	0.089	0.145	0.27	0.013	0.013	0.105	0.065	0.104	0.105				100
NCSHC 18111	Carbon steel 55#	0.357	0.296	0.639	0.02	0.013	0.028	0.085	0.035	0.012	0.051	0.003	0.009	100
NCSHC 18111	Carbon steel 55#	0.595	0.5	0.63	0.019	0.042	0.051	0.16	0.074	0.155				100
		N												
NCSHC18109a	35# Carbon Steel	0.0063												

## Section 1 Iron, Steel & Alloy(Chip)

### 2)Non-Alloy Steel

Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	W	Mo	Co		
NCSHC41102	Carbon Steel	0.652	0.160	0.416	0.038	0.050	0.054	0.028	0.140	0.040	0.003		0.007		150	
NCSHC41109	Carbon Steel	0.064	0.601	0.246	0.0082	0.044	0.012	0.035	0.072	0.173	0.0012		0.0061	0.009	150	
NCSHC41111b	Carbon Steel	0.233	0.254	0.404	0.011	0.016	0.121	0.031	0.132						100	
NCSHC41113	Carbon Steel	0.166	0.198	0.533	0.032	0.024	0.005	0.009	0.007		0.0007	0.0042	0.0047		150	
NCSHC41116c	Carbon Steel	0.364	0.250	0.572	0.010	0.0089	0.038	0.048	0.110						100	
NCSHC41117	Carbon Steel	0.433	0.226	0.631	0.016	0.0135	0.027	0.021	0.108	0.044	0.001				150	
NCSHC41119	Carbon Steel	0.528	0.287	0.665	0.020	0.010	0.029	0.023	0.081		0.002				100	
NCSHC41120	Carbon Steel	0.202	0.293	0.452	0.012	0.0125	0.056	0.031	0.074		0.002				150	
NCSHC41121	Carbon Steel	0.092	0.125	0.315	0.015	0.041									150	
NCSHC41122	Carbon Steel	0.158	0.221	0.459	0.011	0.012									150	
NCSHC41123	Carbon Steel	0.083	0.107	0.275	0.0097	0.038	0.056	0.032	0.089		(0.001)				150	
NCSHC41124	Carbon Steel	0.178	0.311	0.420	0.018	0.0135	0.047	0.029	0.074		(0.003)				150	
NCSHC41125	Carbon Steel	0.811	0.582	1.11	0.066	0.011	0.060	0.260	0.292		(0.005)				150	
NCSHC41126	Carbon Steel	0.420	0.249	0.610	0.048	0.074	0.186	0.186	0.205		(0.003)				150	
NCSHC41128	Carbon Steel	0.642	0.287	0.673	0.029	0.0042					(0.003)				150	
NCSHC41129	Carbon Steel	0.587	0.265	0.641	0.018	0.011	0.022	0.021	0.087		0.001				150	
NCSHC41130	Carbon Steel	0.706	0.297	0.508	0.0195	0.010	0.063	0.053	0.078		0.001				150	
NCSHC41132	20Mn Si	0.207	0.536	1.45	0.029	0.012	0.034	0.035	0.082						150	
NCSHC41133	35Si Mn	0.335	0.612	1.33	0.020	0.0085	0.032	0.030	0.068		0.0020				150	
NCSHC41134	Carbon Steel	0.112	0.367	0.644	0.033	0.017	0.426	0.033	0.030						100	
NCSHC41135	Carbon Steel	0.437	0.612	0.533	0.031	0.033	0.189	0.229	0.185						100	
			Sn	As	Sb	Pb	Ns	Al	Nt							
NCSHC41102	Carbon Steel			0.015	(<0.001)			0.007								
NCSHC41109	Carbon Steel	0.0074	0.010					0.002								
NCSHC41117	Carbon Steel							0.005								

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo		
NCSHC 11201	MoB	0.24	0.63	0.17	0.010	0.005	0.073	0.034	0.052	0.65					150	
NCSHC 11202	5CrNiMo	0.58	0.34	0.80	0.031	0.004	0.54	1.71					0.29	150		
NCSHC 11203	4Cr <sub>3</sub> SiMnWV	0.45	1.07	1.54	0.036	0.004	2.78	0.10	0.20		0.29		0.95	150		
NCSHC 11204	Cr <sub>2</sub> SiMoTi	0.14	1.33	0.48	0.021	0.006	2.17	0.24	0.18		0.19		0.52	150		
NCSHC 11205	38CrWVAI	0.32	0.41	0.26	0.031	0.011	1.64	0.13	0.061	0.17	0.20			150		
NCSHC 11206	38CrMoAl	0.42	0.48	0.68	0.069	0.005	1.67	0.28	0.055	0.77			0.26	150		
NCSHC 11207	30CrSiMoV	0.34	0.90	0.70	0.016	0.004	1.16	0.34	0.21		0.36		0.45	150		
NCSHC 11208	20Cr <sub>3</sub> MoWV	0.17	0.14	0.36	0.013	0.008	2.59	0.18	0.17		0.79		0.38	150		
NCSHC 11209	W <sub>3</sub> CrV	1.60	0.41	0.59	0.044		0.38				0.26		2.70	100		
NCSHC 11209a	W <sub>3</sub> MoV	1.56	0.41	0.76	0.029	0.006	0.47				0.36		3.14	150		
NCSHC 11210	3CrAl	0.43	0.75	0.24	0.013		1.35	0.020	0.020	0.62				150		
NCSHC 11211	9V	1.05	0.33	0.41	0.011	0.009	0.63	0.021	0.022		0.23			150		
NCSHC 11212	30CrMoWV	0.30	0.22	0.55	0.017	0.006	2.65		0.12		0.75		0.65	150		
NCSHC 11213	35CrMnSiNi <sub>2</sub> Mo	0.35	0.96	1.15	0.018	0.004	0.84	1.96	0.059		0.058		0.33	150		
NCSHC 11214	GCr15	0.997	0.281	0.287	0.013	0.007	1.53	0.019	0.028					150		
NCSHC 11222	40SiMn <sub>2</sub>	0.38	0.89	1.65	0.011	0.005	0.11		0.045					150		
NCSHC 11222a	40SiMn <sub>2</sub>	0.39	0.98	1.69	0.041	0.012	0.17	0.35	0.055					150		
NCSHC 11223	20MnTiB	0.18	0.24	1.42	0.026	0.007	0.020		0.026		0.054			150		
NCSHC 11224	45B	0.43	0.36	1.15	0.020	0.010	0.062	0.20	0.046	0.075				150		
NCSHC 11225	18CrMnTi	0.16	0.33	1.01	0.020	0.007	1.08	0.14			0.049			150		
NCSHC 11226	40Cr	0.40	0.26	0.79	0.014	0.017	1.01	0.076	0.036					150		
NCSHC 11227	60Si <sub>2</sub> Mn	0.60	2.05	0.84	0.051	0.008	0.016	0.039	0.046					150		
NCSHC 11228	15MnVN	0.18	0.23	1.38	0.015	0.011		0.30	0.18		0.091			150		
NCSHC 11229	40Si <sub>2</sub> V	0.44	1.66	0.74	0.018	0.006		0.20	0.13		0.14			150		
NCSHC 11230	08MnPR <sub>E</sub>	0.092	0.36	1.07	0.058	0.011								150		
NCSHC 11231	14MnVTiR <sub>E</sub>	0.22	0.36	1.60	0.067	0.009					0.067	0.10		150		
NCSHC 11232	20CrMo	0.212	0.270	0.460	0.0174	0.0117	0.972		0.031				0.191	100		
NCSHC 11233	60Si <sub>2</sub> Mn	0.661	1.82	0.805	0.027	0.017	0.021	0.020	0.136					150		
NCSHC 11234	GCr15Si Mn	0.993	0.582	0.996	0.017	0.0060	1.47	0.053	0.152				0.029	100		
NCSHC 11236	Low alloy	0.211	0.174	1.36	0.046	0.021	0.124	0.487	0.233	0.866	0.619	0.812	1.60	0.472	150	
NCSHC 11240	Alloy steel	0.747	0.46	0.801	0.014	0.012	0.212	0.036	0.05		0.1		0.121	0.088	150	
		Co	B	Sn	As	Ca	N	Bi	Als	Alt						
NCSHC 11201	MoB	0.008	1.21													
NCSHC 11223	20MnTiB		0.0022													
NCSHC 11224	45B		0.0052													
NCSHC 11228	15MnVN						0.009									
NCSHC 11230	08MnPR <sub>E</sub>							0.028								
NCSHC 11231	14MnVTiR <sub>E</sub>							0.069								
NCSHC 11233	60Si <sub>2</sub> Mn	0.011			0.016											
NCSHC 11240	Alloy steel	0.026		0.0046	0.0066	(0.0004)			0.012	0.016						
Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	Mo	B		
NCSHC 13201	90Mn <sub>2</sub>	0.91	0.056	2.09	0.054	0.030	0.105	0.076	0.20	0.015				150		
NCSHC 13204	09MnCr	0.097	0.29	0.87	0.011	0.096	0.76	0.29	0.034	0.073				150		
NCSHC 13207	30Mn <sub>2</sub> MoVTiAlB	0.294	0.070	1.48	0.036	0.009	0.037	0.019	0.035	0.029	0.025	0.023	0.038	0.011	150	
NCSHC 13208	9Si <sub>2</sub> MoVTiAlB	1.085	1.42	0.308	0.013	0.004	0.045	0.021	0.036	0.115	0.50	0.30	0.89	0.016	150	

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)			
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	Mo	B				
NCS HC 13210	8SiMnMoVTiAlB	0.78	0.88	0.675	0.013	0.122	0.019	0.021	0.036	0.10	0.33	0.39	0.65	0.0058	100			
Number	Name	Chemical Composition(Percent)													Unit Size (in g)			
C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	Mo	B						
NCS HC 13212	09SiMoVTiAlB	0.045	0.46	0.396	0.054	0.069	(0.0095)	0.016	0.030	0.028	0.051	0.041	0.11	0.028	100			
NCS HC 13214	Low Alloy Steel	0.395	0.792	1.84	0.146	0.018									100			
NCS HC 13215	Low Alloy Steel	0.361	1.69	0.989	0.096	0.019									100			
NCS HC 13216	Low Alloy Steel	0.214	0.389	1.37	0.056	0.020									100			
NCS HC 13217	Low Alloy Steel	0.284	1.11	0.749	0.037	0.018									100			
NCS HC 13219	Low Alloy Steel	0.520	1.03	1.04	0.0654	0.0247									100			
NCS HC 13221	Low Alloy Steel	0.065	0.38	0.96	0.174		0.016				0.061	0.10			150			
Number	Name	Nb				R <sub>E</sub>				Alt				Als				Unit Size (in g)
C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	Mo	B						
NCS HC 13221	Low Alloy Steel	0.165	0.014	0.085	0.081													
Number	Name	Chemical Composition(Percent)													Unit Size (in g)			
C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	W	Mo	Co						
NCS HC 14201	Low Alloy Steel	0.39	0.293	0.558	0.019	0.0105	0.84	0.035	0.215	0.047	0.007		0.193	0.023	150			
NCS HC 14201a	Low Alloy Steel	0.358	0.272	0.573	0.014	0.0086	1.03	0.020	0.150				0.137		100			
NCS HC 14202	Low Alloy Steel	0.118	0.405	0.433	0.017	0.012			0.421	0.389		0.519			100			
NCS HC 14203	Low Alloy Steel	0.082	0.177	0.222	0.012	0.024			0.274	0.190		0.249			100			
NCS HC 14204	Low Alloy Steel	0.080	0.583	0.636	0.024	0.012			0.363	0.317		0.149			100			
NCS HC 14205	Low Alloy Steel	0.076	0.037	0.303	0.033	0.061			0.220	0.334		0.144			100			
NCS HC 14206	Low Alloy Steel	0.089	0.389	0.540	0.013	0.022			0.314	0.465		0.089			100			
NCS HC 14207	Low Alloy Steel	0.135	0.435	1.25	0.041	0.020			0.165		0.090				150			
NCS HC 14208	Low Alloy Steel	0.39	1.82	0.97	0.014	0.009			0.43		0.153				150			
NCS HC 14209	Low Alloy Steel	0.562	1.72	0.714	0.020	0.0054	0.173	0.201							150			
NCS HC 14210	40Cr	0.445	0.308	0.659	0.027	0.0068	1.00	0.017	0.049						150			
NCS HC 14211	Low Alloy Steel	0.192	0.276	1.72	0.0071	0.0022	0.283	0.194	0.311		0.093				100			
NCS HC 14213	Silicon Steel	0.076	3.18	0.081	0.0090	0.023			0.066						100			
NCS HC 14214	Silicon Steel	0.044	3.15	0.060	0.0081	0.025			0.162						100			
NCS HC 14215	Silicon Steel	0.0032	0.477	0.256	0.080	0.0076			0.033						100			
NCS HC11241	Alloy Steel	0.185	0.377	1.32	0.016	0.0057	0.038	0.024	0.042		0.12	0.017	0.011	0.018	100			
NCS HC11242	Alloy Structure Steel	0.081	0.271	0.537	0.014	0.0073	4.37	0.037	0.046		0.032	0.037	0.446	0.011	100			
NCS HC11243	Alloy Structure Steel	0.398	0.725	1.44	0.017	0.024	0.081	0.025	0.045		0.127	0.047	0.03	0.015	100			
Number	Name	Chemical Composition(Percent)													Unit Size (in g)			
C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Als	Alt	Co						
NCS HC11241	Alloy Steel	0.185	0.377	1.32	0.016	0.0057	0.038	0.024	0.042	0.011	0.12	0.038	0.04	0.018	100			
NCS HC11242	Alloy Structure Steel	0.081	0.271	0.537	0.014	0.0073	4.37	0.037	0.046	0.446	0.032	0.022	0.026	0.011	100			
NCS HC11243	Alloy Structure Steel	0.398	0.725	1.44	0.017	0.024	0.081	0.025	0.045	0.03	0.127	0.0023	(0.004)	0.015	100			
Number	Name	Chemical Composition(Percent)													Unit Size (in g)			
C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Als	Alt	Co						
NCS HC11241	Alloy Steel	0.17	0.009	0.0045	0.001	0.0022	0.0025											
NCS HC11242	Alloy Structure Steel	0.037	0.0067	0.0023	(0.0004)													
NCS HC11243	Alloy Structure Steel	0.047	0.0086	0.0047	(0.0003)													

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)												Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Mo	Bi	
NCSHC 15216	ML15MnVB	0.166	0.162	1.33	0.014	0.022	0.027	0.040	0.017	0.029	0.110	0.003		100
NCSHC 15217	Bearing Steel	1.005	0.584	0.905	0.009	0.005	0.032	0.033			0.245	0.301	0.0011	100
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
		C	Si	Mn	P	S	Alt	Als	Bt	Bs	Al	N		
NCSHC 15220	Silicon Steel	0.094	0.83	0.51	0.163	0.0059					0.046			100
NCSHC 15221	Silicon Steel	0.083	1.26	0.45	0.194	0.005					0.066			100
NCSHC 15222	Silicon Steel	0.073	1.55	0.39	0.259	0.0053					0.156			100
NCSHC 15223	Silicon Steel	0.081	1.79	0.36	0.251	0.0042					0.101			100
NCSHC 15224	Silicon Steel	0.089	2.26	0.28	0.212	0.0048					0.130	0.0083		100
NCSHC 15227	Silicon Steel	0.074	2.86	0.24	0.0156	0.0045					0.021			100
NCSHC 15228	Silicon Steel	0.060	3.21	0.20	0.0146	0.0049					0.236			100
NCSHC 15229	Silicon Steel	0.063	2.96	0.192	0.0124	0.0035					0.045	0.0118		100
NCSHC 15231	Silicon Steel	0.038	3.66	0.154	0.0135	0.0027					0.158			100
NCSHC 15233	Silicon Steel	0.041	4.18	0.084	0.0110	0.0033					0.124			100
NCSHC 15234	Silicon Steel	0.0385	5.21	0.072	0.0090	0.0047					0.057			100
NCSHC 15235	Silicon Steel	0.059	4.72	0.087	0.0085	0.0053					0.055			100
NCSHC 15236	Silicon Steel	0.038	5.22	0.070	0.0092	0.0050					0.056			100
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	V	Ti	W	Mo	
NCSHC 16201	25SiMnMoV	0.25	0.195	2.20	0.0192	0.019	0.236	0.25	0.097	0.105			0.37	150
NCSHC 16202	35SiMn <sub>2</sub> MoV	0.332	1.626	1.691	0.0182	0.0127	0.24	0.242	0.388	0.174			0.381	150
NCSHC 16204	37SiMn <sub>2</sub> WV	0.374	0.717	1.651	0.0233	0.056	0.24	0.257	0.192	0.085		0.925	0.447	150
NCSHC 16205	30MnMoTiB	0.30	0.443	1.442	0.0207	0.015	0.305	0.316			0.0625		0.0014	150
NCSHC 16206	40MnWB	0.411	0.277	1.154	0.0213	0.013	0.137	0.171				0.611	0.0044	150
Number	Name	Chemical Composition(Percent)												Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	V	Ti	W	Mo	
NCSHC 16207	15SiMn <sub>3</sub> Mo	0.121	1.160	3.320	0.0242	0.0490	0.215	0.201	0.210				0.560	150
NCSHC 16208	30Mn <sub>2</sub> MoV	0.310	0.300	1.970	0.0174	0.024	0.283	0.300	0.239			0.740	0.460	150
NCSHC 16209	12CrMoV	0.106	0.320	0.701	0.0268	0.034	0.542	0.045	0.029	0.269			0.322	150
NCSHC 16210	20SiMnV	0.192	0.636	1.52	0.0207	0.021	0.255	0.202		0.110				150
NCSHC 16211	25Cr <sub>2</sub> Mo2V	0.254	0.303	0.753	0.0209	0.012	2.34	0.035	0.029	0.422			1.02	150
NCSHC 16212	30Mn <sub>2</sub> MoTi	0.301	0.309	1.56	0.0182	0.013	0.188	0.175			0.052		0.361	150
NCSHC 16213	40MnVB	0.425	0.364	1.22	0.0158	0.0020	0.072	0.035	0.034	0.106			(0.0002)	150

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo	
NCSHC 17201	SiMnB	0.0332	1.50	0.230	0.0128	0.022	0.473	0.078	0.320	0.066	0.050	0.247			100
NCSHC 17204	SiMnB	0.392	0.626	1.08	0.0285	0.019	0.174	0.241	0.030		0.023	0.116			100
NCSHC 17208	Low Alloy Steel	0.082	0.694	0.952	0.0155	0.057	0.371	1.80	0.034					0.569	100
NCSHC 17211	Low Alloy Steel	0.510	0.148	0.151	0.0283	0.007	1.70	0.522	0.27					0.445	100
NCSHC 17212	Low Alloy Steel	0.290	0.579	0.770	0.0143	0.012	1.28	0.858	1.06					0.298	100
NCSHC 17213	Low Alloy Steel	0.75	0.232	1.428	0.0128	0.0068	0.88	0.984			0.238	0.432			100
NCSHC 17214	Low Alloy Steel	0.619	0.303	0.884	0.0134	0.0148	0.935	1.492			0.430	0.643			100
NCSHC 17215	Low Alloy Steel	0.553	0.420	0.646	0.0137	0.0059	0.978	2.482			0.699	0.927			100
NCSHC 17216	Low Alloy Steel	0.156	0.557	0.481	0.0238	0.0092	1.652	3.47			0.114	1.455			100
NCSHC 17218	Low Alloy Steel	0.296	0.213	1.193	0.0117	0.002	0.702	0.431	0.42					1.05	100
NCSHC 17219	Low Alloy Steel	0.672	0.216	0.382	0.0172	0.0261	0.074	0.053	0.063					0.081	100
NCSHC 17224	18CrMnTi	0.184	0.351	0.981	0.0074	0.035	1.14	0.085	0.190						150
NCSHC 17225	45CrNi	0.476	0.273	0.675	0.0204	0.016	0.62	1.24	0.203						150
NCSHC 17226	5CrMnMo	0.558	0.507	1.47	0.0235	0.032	0.74	0.246	0.161					0.245	150
NCSHC 17227	12CrMoV	0.103	0.256	0.502	0.0204	0.024	0.51	0.176	0.184		0.25			0.298	150
NCSHC 17229	37SiMn <sub>2</sub> WV	0.399	0.684	1.79	0.0251	0.0258	0.283	0.27	0.182					0.476	150
NCSHC 17232	5CrWSi	0.503	0.592	0.376	0.0212	0.015	1.14	0.140	0.028						150
NCSHC 17234	Low Alloy Steel	0.15	1.065	0.91	0.0044	0.045	1.035	0.906	0.277	0.035		0.40			150
			Nb	Zr	B	RE	Al <sub>t</sub>	Bt							
NCSHC 17201	SiMnB				0.0016		0.069	0.0067							
NCSHC 17204	SiMnB				0.0037		0.086	0.0042							
NCSHC 17214	Low Alloy Steel	0.262	0.049		0.0222										
NCSHC 17215	Low Alloy Steel	0.469	0.088		0.037										
NCSHC 17216	Low Alloy Steel	0.735	0.132		0.0376										
NCSHC 17224	Low Alloy Steel				0.0069										



## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)										Unit Size (in g)				
		C	Si	Mn	P	S	Cr	Ni	Cu	Mo	Nb					
NCSHC18208	42CrMo	0.413	0.260	0.542	0.025	0.025	0.933	0.319	0.199		0.233			150		
NCSHC18209	ZG35CrMo	0.321	0.406	0.514	0.035	0.0029	0.933	0.376	0.180		0.324			150		
NCSHC18210	40Cr	0.41	0.26	0.54	0.025	0.025	0.93	0.32	0.20					100		
NCSHC18211	60Si <sub>2</sub> Mn	0.592	1.84	0.735	0.016	0.022			0.037					100		
NCSHC18212	20CrMnTi	0.219	0.417	1.02	0.016	0.015	1.14			0.060				100		
NCSHC18213	20CrMo	0.220	0.217	0.473	0.016	0.020	1.00				0.231			100		
NCSHC18214	Low Alloy Steel	0.355	0.273	0.57	0.01	0.033	0.93	0.057	0.075	0.154				100		
NCSHC18215	Low Alloy Steel	0.152	0.305	1.26	0.012	0.023	0.121	0.034	0.077					100		
		As	Pb	Al <sub>1</sub>	Al <sub>2</sub>											
NCSHC18214	Low Alloy Steel	0.011	0.57	0.035	0.029											
NCSHC18215	Low Alloy Steel	0.018														
Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	Mo	Co	B			
NCSHC19201	20Cr	0.175	0.285	0.610	0.0203	0.020	0.81							100		
NCSHC19202	40Cr	0.435	0.274	0.698	0.0139	0.010	0.97							100		
NCSHC19204	Axle Steel	0.444	0.280	0.680	0.010	0.030	0.013	0.025	0.037	0.011		0.036		100		
NCSHC19205	09V	0.093	0.486	0.87	0.010	0.036	0.016	0.039	0.110	0.085				100		
NCSHC19206	38CrMoAl	0.402	0.364	0.430	0.0154	0.009	1.51				0.198			100		
NCSHC19207	27MnMoVB	0.306	0.232	1.33	0.0195	0.014				0.125	0.388		(0.0014)	100		
NCSHC19208	18CrMnTi	0.192	0.299	0.975	0.0104	0.010	1.22							100		
Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo		
NCSHC20201	20Cr	0.209	0.298	0.609	0.015	0.014	0.808	0.093	0.089		0.0032			0.0088	100	
NCSHC20202	40Cr	0.409	0.376	0.742	0.015	0.011	1.053	0.063	0.086		0.0023			0.0088	100	
NCSHC20203	20Cr	0.21	0.30	0.61	0.015	0.014	0.81	0.094	0.090						100	
NCSHC20204	20Mn <sub>2</sub>	0.201	0.313	1.63	0.022	0.018	0.300	0.265	0.169	0.021	0.0025	0.0033	0.0081	0.043	100	
NCSHC20210	Silicon Steel	0.057	3.36	0.225	0.0072	0.019	0.259	0.316	0.314					0.0036	100	
NCSHC20214	15MnCrNiCu	0.123	0.314	0.674	0.022	0.024	0.782	0.387	0.254	0.011	0.0032	0.0026	0.0052	0.027	100	
NCSHC20215	40CrNiMoA	0.385	0.271	0.667	0.013	0.020	0.781	1.54	0.150	0.011	0.0062	0.0038	0.0066	0.215	100	
		Co														
NCSHC20204	20Mn <sub>2</sub>	0.019														
NCSHC20214	15MnCrNiCu	0.011														
NCSHC20215	40CrNiMoA	0.011														

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo	
NCSHC 21201	GCr15	1.090	0.431	0.433	0.0112	(0.0005)	1.442	0.134	0.158	0.0363		0.0074		0.060	100
NCSHC 21201b	Bearing Steel	0.990	0.239	0.315	0.0065	0.0054	1.47	0.042	0.086					0.032	100
NCSHC 21202	GCr <sub>15</sub> SiMn	1.006	0.550	1.063		0.0065	1.506	0.046	0.126	0.042		0.0072		0.011	100
NCSHC 21203	GCr15	1.01	0.305	0.37	0.012	(0.0004)	1.55	0.046	0.081						100
NCSHC 21204	GCr15	1.019	0.151	0.338	0.020	(0.019)	1.539		0.086						100
NCSHC 21205	GCr15	0.953	0.193	0.282	0.0276	0.012	1.634		0.233						100
NCSHC 21206	GCr <sub>15</sub> SiMn	0.98	0.404	0.99	0.023	0.005	1.38								100
NCSHC 21207	60Si <sub>2</sub> Mn	0.501	2.15	0.600	0.0149	0.0174	0.362	0.276	0.195	0.065	0.043		0.77	0.160	100
NCSHC 21208	60Si <sub>2</sub> Mn	0.400	2.91	0.437	0.0064	0.0029	0.159	0.064	0.064	0.113			1.18	0.012	100
NCSHC 21209	60Si <sub>2</sub> Mn	0.599	1.69	1.14	0.0209	0.0291	1.13	0.124	0.095	0.018	0.084		0.025	0.091	100
NCSHC 21210	60Si <sub>2</sub> Mn	0.706	1.10	0.857	0.0256	0.0374	0.760	0.393	0.303	0.158	0.168		0.176	0.273	100
NCSHC 21211	60Si <sub>2</sub> Mn	0.666	1.74	0.752	0.0144	0.0190	0.071	0.018	0.147	0.132	0.129		0.40	0.051	100
NCSHC 21212	H08Mo <sub>2</sub> SiA	0.087	0.827	1.90	0.0107	0.0156	0.035	0.061	0.091						100
NCSHC 21215	35MoVAITiRE	0.37	0.42	1.15	0.013	<0.001	0.030	0.061	0.13	0.52				1.05	100
NCSHC 21218	CrMnV+Mo	0.09	0.775	9.88	0.0464	0.012	18.80	4.97	0.0396		0.024			3.10	100
NCSHC 21220	CrMnV	0.09	0.82	13.56	0.100	0.026	15.89	7.114	0.080		0.027				100
NCSHC 21221	20MnSi	0.218		1.28	0.020	0.025	0.239	0.094	0.136		0.094	0.028		0.061	100
			B	Sn	As	Sb	N								
NCSHC 21201	GCr15		0.0273	0.023	0.025										
NCSHC 21201b	Bearin Steel		0.020	0.0092											
NCSHC 21202	GCr <sub>15</sub> SiMn	0.0031	0.0107	0.0110	0.022										
NCSHC 21204	GCr15		0.049												
NCSHC 21205	GCr15		0.038	0.0334											
NCSHC 21206	GCr <sub>15</sub> SiMn			0.022											
NCSHC 21210	60Si <sub>2</sub> Mn	0.0012													
NCSHC 21211	60Si <sub>2</sub> Mn	0.0013													
NCSHC 21218	CrMnV+Mo					0.097									
NCSHC 21220	CrMnN					0.29									

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Mn	P	S	Si	Ni	Cr	Cu	Mo	W	Als	Alt	Sn	
NCSHC21222	65Mn	0.649	1.02	0.012	0.0062	0.279	0.040	0.048	0.147	0.0069	0.0019	0.0051	0.0061	0.014	100
Number	Name	Chemical Composition(Percent)												Unit Size (in g)	
		C	S	P	Si	Mn	Cr	Ni	Cu	Nb	Re	Al(s)	N		
NCSHC22201	Alloy structure steel	0.073	0.0053	0.0253	0.438	0.675	0.090	0.096	0.089	0.044	0.048	0.093	0.013	100	
NCSHC22203	Alloy structure steel	0.124	0.0045	0.0125	0.674	0.821	0.127	0.055	0.094	0.122	0.098	0.177		100	
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	W	Mo	Zr	
NCSHC23208	45CrV	0.41	0.364	0.67	0.0184	0.0165	0.96	0.139	0.095						150
NCSHC23209	38CrMoAl	0.360	0.310	0.490	0.0310	0.0140	1.540	0.410	0.185	1.13			0.270	150	
NCSHC23210	38CrMoAl	0.39	0.335	0.425	0.0246	0.011	1.44	0.238	0.275	0.93			0.17	150	
NCSHC23211	PCrNi <sub>4</sub> Mo	0.367	0.375	0.56	0.018	0.027	0.957	3.95					0.43	150	
NCSHC23214	30CrMnMoTi	0.328	0.326	0.770	0.0205	0.021	1.160	0.058	0.060				0.270	150	
NCSHC23215	6 <sup>5</sup> Si <sub>2</sub> M <sup>9</sup> W	0.691	1.836	0.813	0.019	0.0223	0.227	0.273	0.038			1.03		150	
NCSHC23217	45CrNiMoY	0.43	0.337	0.635	0.027	0.016	0.994	1.64	0.206		0.15		0.28	150	
NCSHC23218	35MnWMoVB	0.33	0.40	1.02	0.032	0.024	0.18	0.26	0.17		0.25	0.50	0.137	0.0034	150
NCSHC23220	12CrNiA	0.144	0.24	0.49	0.0247	0.011	0.82	2.41	0.11					150	
NCSHC23221	38CrA	0.375	0.345	0.69	0.026	0.0315	1.00	0.26	0.16	0.17				150	
NCSHC23222	45CrNiWV	0.467	0.47	0.687	0.022	0.0248	1.03	1.515			0.146	0.693		150	
NCSHC23223	30CrMnSiNi <sub>2</sub>	0.30	1.07	0.885	0.0197	0.0186	1.03	1.56	0.161	0.080		0.195	0.126	100	
Number	Name	Chemical Composition(Percent)								Unit Size (in g)					
		C	Si	Mn	P	S	Cr	Ni	Cu						
NCSHC24202	70Si <sub>2</sub> CrA	0.673	1.58	0.504	0.018	0.012	0.29	0.040	0.073					100	
Number	Name	Chemical Composition(Percent)								Unit Size (in g)					
		C	Si	Mn	P	S	Cr	Ni	Cu		Mo				
NCSHC28201	20Cr	0.197	0.252	0.738	0.0195	0.015	0.785	0.026	0.029					150	
NCSHC28202	40Cr	0.44	0.335	0.665	0.014	0.0055	0.998	0.053	0.741					150	
NCSHC28204	35CrMo	0.390	0.304	0.558	0.029	0.0054	0.948	0.070	0.096	0.137				100	
NCSHC28205	45Mn <sub>2</sub>	0.422	0.298	1.63	0.015	0.017	0.012	0.021	0.014					100	

# Section 1 Iron, Steel & Alloy(Chip)

## 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Ti	W	Mo	Sn	Als	
NCS HC 28206	Bearing Steel	0.993	0.205	0.284	0.011	0.0073	1.53	0.056	0.168	0.0026	0.0015	0.011	0.010	0.012	100
NCS HC 28207	Bearing Steel	1.08	0.232	0.284	0.019	0.0097	1.36	0.051	0.180	0.0030	0.0003	0.0007	0.0093	0.0029	100
NCS HC 28208	Alloy structure Steel	0.203	0.221	0.502	0.020	0.018	0.907	0.050	0.181	0.0010	0.0024	0.194		0.012	100
NCS HC 28209	Alloy structure Steel	0.202	0.225	1.02	0.017	0.011	1.21	0.047	0.141	0.0014	0.0053	0.236		0.020	100
NCS HC 28210	Alloy structure Steel	0.224	0.288	0.764	0.026	0.0083	6.21	0.452	0.175	0.0020	0.0018	0.254		0.0051	100
NCS HC 28211	Alloy structure Steel	0.265	0.312	0.934	0.013	0.014	1.13	0.082	0.148	0.070		0.011		0.018	100
NCS HC 28212	Alloy structure Steel	0.506	0.304	0.664	0.014	0.022	1.04	0.109	0.208	0.0021		0.016		0.002	100
NCS HC 28213	Anchor Chain Steel	0.202	0.271	1.19	0.015	0.014	0.082	0.128	0.223	0.024	0.0016	0.017		0.040	100
NCS HC 28214	Anchor Chain Steel	0.312	0.292	1.35	0.023	0.017	0.069	0.117	0.243	0.023	0.0022	0.010		0.040	100
NCS HC 28215	Structural Steel	0.104	0.308	0.476	0.093	0.024	0.016	0.011	0.295	(0.004)				0.0015	100
NCS HC 28216	Carbon Steel	0.162	0.21	0.373	0.019	0.015	0.129	0.137	0.091	0.0005	0.0047	0.024	0.0046	0.0018	100
NCS HC 28217	Alloy Steel	0.345	0.318	0.424	0.022	0.011	1.58	0.099	0.116	0.0036	0.0053	0.171	0.0047	0.807	100
NCS HC 28218	Alloy Steel	0.21	0.385	1.295	0.013	0.0208	0.169	0.099	0.101	0.0009	0.161	0.015	0.0054	0.054	100
NCS HC 28219	Alloy Steel	0.118	0.237	0.257	0.023	0.023	0.147	0.154	0.354	0.109	0.013	0.02	0.0048	0.101	100
NCS HC 28220	Alloy Steel	0.397	1	0.701	0.013	0.012	1.91	1.29	0.091	0.081	1.2	0.446	0.0057	0.01	100
NCS HC 28223	Line Steel	0.055	0.29	1.81	0.011	0.0024	0.283	0.201	0.205	0.022		0.116		0.026	100
NCS HC 28224	Line Steel	0.058	0.202	1.41	0.0072	0.0063	0.049	0.012	0.013	0.016		0.0014		0.026	100
NCS HC 28225	Line Steel	0.083	0.194	0.559	0.01	0.007	0.024	0.009	0.02	0.003		0.002		0.021	100
NCS HC 28226	Line Steel	0.086	0.246	1.2	0.011	0.006	0.022	0.008	0.015	0.01		0.0012		0.015	100
NCS HC 28227	Line Steel	0.105	0.325	1.31	0.0087	0.0041	0.023	0.0089	0.016	0.02		0.0013		0.022	100
NCS HC 28228	Line Steel	0.108	0.279	1.23	0.013	0.006	0.026	0.0061	0.01	0.01		0.001		0.022	100
		Al	Co	As	V	Nb	Re	Sb	Alt	B	Zn	Ca	N		
NCS HC 28206	Bearing Steel	0.0013	0.013	0.0099											
NCS HC 28207	Bearin Steel	0.0021	0.013	0.0097											
NCS HC 28208	Alloy Stucture Steel	0.0022	0.013		0.0025										
NCS HC 28209	Alloy Stucture Steel	0.0020	0.013		0.0035										
NCS HC 28210	Alloy Stucture Steel	0.0036	0.013		0.0033										
NCS HC 28211	Alloy Stucture Steel	0.0019	0.012		0.0038										
NCS HC 28212	Alloy Stucture Steel	0.0029	0.014		0.154										
NCS HC 28213	Anchor Chain Steel	0.0019	0.011		0.0013										
NCS HC 28214	Anchor Chain Steel	0.0021	0.013		0.0013										
NCS HC 28215	Structural Steel		0.0057		0.0034	<0.001	0.0022								
NCS HC 28216	Carbon Steel		0.0071	0.0068	0.0011			0.0019	0.0029	0.0002	0.0004				
NCS HC 28217	Carbon Steel		0.0092	0.0061	0.0034			0.002	0.824	0.0003	0.02				
NCS HC 28218	Carbon Steel		0.0064	0.0056	0.011			0.0019	0.061	0.0003	0.0006				
NCS HC 28219	Carbon Steel		0.0093	0.0067	0.0023			0.0023	0.106	0.0003	0.0023				
NCS HC 28220	Carbon Steel		0.021	0.0064	0.377			0.002	0.012	0.0013	0.0014				
NCS HC 28223	Line Steel			0.004	0.0043	0.103			0.027			0.0009	0.0053		
NCS HC 28224	Line Steel			0.0032	0.042	0.05			0.028			0.0012	0.004		
NCS HC 28225	Line Steel			0.0034	0.0009	0.011			0.023			0.0017	0.0053		
NCS HC 28226	Line Steel			0.0043	0.0014	0.022			0.016			0.0035	0.0059		
NCS HC 28227	Line Steel			0.0033	0.038	0.035			0.023			0.002	0.0067		
NCS HC 28228	Line Steel			0.0044	0.0012	0.023			0.023			0.0013	0.0074		
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	Ti	W	Mo	Sn	
NCS HC 29215	Bearing Steel	0.992	0.396	0.291	0.031	0.030	0.362	0.067	0.019	0.009	0.0086	0.090	0.010	0.018	150
NCS HC 29216	Bearing Steel	0.909	0.168	1.01	0.0202	0.0051	1.00	0.066	0.046	0.188	0.011	0.013	0.013	0.0057	150
		As	Sb	Pb											
NCS HC 29215	Bearing Steel	0.0078	0.0013	0.0005											
NCS HC 29216	Bearing Steel	0.013	0.0020	0.0011											

## Section 1 Iron, Steel & Alloy(Chip)

### 3)Low Alloy Steel

Number	Name	Chemical Composition(Percent)										Unit Size (in g)				
		C	Si	Mn	P	S	Cr	Ni	Cu	W						
NCSHC30201	40Cr	0.42	0.325	0.614	0.0206	0.0123	0.96		0.222						150	
NCSHC30202	60Si <sub>2</sub> Ni <sub>2</sub>	0.613	1.71	0.628	0.0213	0.009	0.239	1.54	0.218						150	
NCSHC30204	60Si <sub>2</sub> MnW	0.638	1.502	0.834	0.0124	0.0258	0.132	0.0525	0.16	0.928					150	
Number	Name	Chemical Composition(Percent)							Unit Size (in g)							
		C	Si	Mn	P	S	Cr									
NCSHC31202	30CrMoSiA	0.313	1.245	0.952	0.0147	0.010	1.05								100	
Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo		
NCSHC41202	GCr <sub>15</sub>	0.982	0.301	0.282	0.014	0.0061	1.52	0.42	0.064	Al0.040	0.002	0.0073	0.0049	0.010	150	
NCSHC41203	GCr <sub>15</sub> SiMn	1.01	0.529	1.11	0.0135	0.005	1.50				0.005				150	
NCSHC41204	Silicon Steel	0.054	2.33	0.183	0.017	0.0325				0.008	Al0.005				150	
NCSHC41205	Silicon Steel	0.049	3.27	0.245	0.012	0.005				0.024	Al0.006				150	
NCSHC41206	Silicon Steel	0.050	4.38	0.091	0.0095	0.002				0.028	Al0.002				150	
NCSHC41207	20Cr	0.244	0.304	0.668	0.0155	0.010	0.881				0.002				100	
NCSHC41208	40Cr	0.443	0.282	0.795	0.0265	0.0105	1.004				0.003				100	
NCSHC41209	45CrV	0.425	0.277	0.667	0.024	0.0090	0.973	0.083	0.146		0.175				150	
NCSHC41210	45CrNiMoV	0.446	0.239	0.680	0.018	0.014	1.00	1.56	0.057		0.150		0.013	0.286	150	
NCSHC41211	40CrMo	0.398	0.303	0.612	0.0225	0.012	1.11	0.139	0.162		0.006		0.016	0.229	150	
NCSHC41212	38SiMnMo	0.411	1.33	1.31	0.0205	0.010								0.254	150	
NCSHC41213	W4Cr <sub>2</sub> MoVSiAl	0.473	0.970	0.167	0.018	0.0051	1.47				1.05		3.85	1.29	150	
NCSHC41214	18Cr <sub>2</sub> ni <sub>4</sub> W	1.45	0.311	0.402	0.100	0.0060	1.45	4.32			0.0028		0.85		150	
NCSHC41215	20MnMo	0.205	0.317	1.37	0.021	0.0079	0.137		0.129	0.028	0.002	Al0.0017	0.016	0.295	150	
NCSHC41216	25CrMoV	0.235	0.246	0.703	0.0072	0.0016	1.07		0.027	0.0011	0.294	Al0.0029	0.0074	1.03	150	
NCSHC41217	26Cr <sub>2</sub> Ni <sub>4</sub> MoV	0.237	0.011	0.240	0.0062	0.0062	1.62	3.87	0.038	0.0005	0.092	Al0.0003	0.002	0.367	150	
NCSHC41218	5CrW <sub>2</sub> Si	0.489	0.633	0.263	0.017	0.0032	1.09	0.058	0.082		0.001		2.21	0.051	150	
NCSHC41219b	35CrMo	0.368	0.288	0.534	0.014	0.0085	0.934	0.051	0.164					0.156	100	
NCSHC41220	20CrMoA	0.188	0.272	0.538	0.0165	0.0063	0.931	0.130	0.086	0.011	0.002	Al0.0049		0.202	150	
NCSHC41221	25CrMoNiSiA	0.309	1.08	1.14	0.0145	0.0060	1.13	1.62	0.087		0.004				150	
NCSHC41222	40CrNiMoA	0.447	0.329	0.693	0.0155	0.0145	0.741	1.31	0.197	0.008	0.003	Al0.005		0.179	150	
NCSHC41223	20MnV	0.184	0.306	1.44	0.025	0.0154	0.035	0.026	0.079		0.108				150	
NCSHC41224	60Si <sub>2</sub> Mn	0.603	1.76	0.710	0.019	0.011					(0.003)				150	
NCSHC41226	5CrMnMo	0.559	0.420	1.44	0.014	0.0080	0.743	0.035	0.090	0.005	0.0055	0.0033		0.237	150	
NCSHC41227	9CrSi	0.858	1.31	0.427	0.012	0.0071	0.976	0.032	0.067	0.014	0.003	0.0070		0.0077	150	
NCSHC41228	CrWMn	1.00	0.238	0.925	0.0190	0.0036	1.08	0.049	0.074		0.003		1.40		150	
NCSHC41229	35CrMoV	0.347	0.263	0.520	0.205	0.0062	1.14	0.059	0.070	Al0.009	0.145	0.0017	0.033	0.259	100	
		Co	Sn	As	Sb	Pb	N									
NCSHC 41202	GCr <sub>15</sub>	0.11	0.011	0.006	0.0013											
NCSHC 41215	20MnMo	0.0090	0.018	0.0090	0.0030	0.00056	0.0092									
NCSHC 41216	25CrMoV	0.0053	0.0029	0.0041	0.00097	0.00006	0.0065									
NCSHC 41217	26Cr <sub>2</sub> Ni <sub>4</sub> Mov	0.006	0.0066	0.0038	0.0019	0.00003	0.0048									
NCSHC 41220	20CrMoA			0.0077												
NCSHC 41222	40CrNiMoA			0.010												
NCSHC 41226	5CrMnMo	0.0083	0.0081	0.010	0.0022		0.0067									
NCSHC 41227	9CrSi	0.0070	0.011	0.0085	0.0020		0.0062									
NCSHC 41228	CrWMn	0.010	0.010	0.010												
NCSHC 41229	35CrMoV	0.012	0.0030	0.013	0.0012		0.012									
Number	Name	Chemical Composition(Percent)								Unit Size (in g)						
		C	Si	Mn	P	S	Cr	Ni	Cu							
NCSHC 37201	40Cr	0.414	0.220	0.638	0.026	0.026	0.969	0.038	0.135						100	
NCSHC 37202	20Cr	0.233	0.356	0.683	0.023	0.017	0.907	0.084	0.124						100	
NCSHC 37203	50Cr	0.527	0.312	0.599	0.018	0.027	0.833	0.046	0.126						100	

## Section 1 Iron, Steel & Alloy(Chip)

### 4)Alloy Steel

Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo		
NCSHC 11302	4Cr <sub>3</sub> Si <sub>4</sub>	0.46	4.01	0.52	0.035	0.010	3.08	0.40							100	
NCSHC 11303	Cr <sub>20</sub> Al <sub>5</sub> Co <sub>2</sub>	0.08	0.70	0.48	0.019		20.09	0.51		5.35					100	
NCSHC 11304	Cr <sub>24</sub> AlSi	0.11	1.34	1.08	0.020		23.27	0.13		2.08					100	
NCSHC 11307	Cr <sub>13</sub> Ni <sub>5</sub> Mn <sub>9</sub>	0.19	0.69	9.94	0.099	0.009	12.49	4.86	0.031						100	
NCSHC 11307a	Cr <sub>13</sub> Ni <sub>5</sub> Mn <sub>9</sub>	0.17	0.47	8.14	0.043	0.021	12.07	5.02	0.031		0.022				100	
NCSHC 11308	Cr <sub>13</sub> Al <sub>4</sub>	0.11	1.43	0.61	0.018		13.54	0.10	0.019	4.05					100	
NCSHC 11309	Cr <sub>17</sub> Al <sub>4</sub> Si	0.09	1.95	0.55	0.019		17.32	0.13	0.019	3.34					100	
NCSHC 11310	Cr <sub>25</sub> Al <sub>5</sub>	0.094	1.86	0.51	0.020		26.96	0.20	0.019	3.54					100	
NCSHC 11311	Cr <sub>20</sub> Ni <sub>11</sub> Mn <sub>6</sub>	0.19	0.71	6.52	0.022		19.32	11.18	0.044						100	
NCSHC 11312	Cr <sub>18</sub> Ni <sub>14</sub> Mo <sub>3</sub> Ti	0.28	0.56	1.73	0.018	0.004	17.13	14.21			0.369		3.38		100	
NCSHC 11313	Cr <sub>12</sub>	2.03	0.306	0.268	0.021	0.012	12.34	0.102	0.100						100	
NCSHC 11315b	High Manganese Steel	1.14	0.666	12.34	0.059	0.0031	0.176	0.093	0.164		0.074			0.022	100	
NCSHC 11317	Cr <sub>18</sub> Ni <sub>11</sub> Nb	0.10	1.06	1.61	0.024	0.042	17.31	11.25	0.22						100	
NCSHC 11318	3Cr <sub>13</sub>	0.31	0.57	0.35	0.057	0.008	13.27	0.11							100	
NCSHC 11319	4Cr <sub>3</sub> Si <sub>2</sub>	0.327	2.36	0.896	0.018	0.0084	9.11	0.129	0.068						100	
NCSHC 11320	Cr <sub>24</sub> Ni <sub>7</sub> SiN	0.26	1.29	1.21	0.018	0.0085	24.45							0.007	100	
NCSHC 11321	Cr <sub>7</sub> Al <sub>7</sub>	0.12	1.02	0.47	0.011		7.68			7.99					100	
NCSHC 11321a	Cr <sub>7</sub> Al <sub>7</sub>	0.15	0.66	0.73	0.037	0.037	7.09	0.52		7.06					100	
NCSHC 11325	Stainless Steel	0.315	2.00	2.42	0.004	0.006	28.30	23.99	0.651	0.006	0.510	0.050	0.003	0.495	100	
NCSHC 11330	Stainless Steel	0.205	1.39	1.95	0.010	0.050	11.61	20.10	3.12	0.045	0.215	0.580	0.093	3.25	100	
			Co	Nb	N	Sn	As	Pb	Alt							
NCSHC 11303	Cr <sub>20</sub> Al <sub>5</sub> Co <sub>2</sub>		2.02													
NCSHC 11307a	Cr <sub>13</sub> Ni <sub>5</sub> Mn <sub>9</sub>		0.027													
NCSHC 11315b	High Manganese Steel		0.021					0.038								
NCSHC 11317	Cr <sub>18</sub> Ni <sub>11</sub> Nb		0.019	0.84												
NCSHC 11320	Cr <sub>24</sub> Ni <sub>7</sub> SiN				0.261											
NCSHC 11325	Stainless Steel		0.006	0.053	0.19	0.001	0.001	0.001								
NCSHC 11330	Stainless Steel		0.070	1.33	0.013	0.01	0.004	0.001								

# Section 1 Iron, Steel & Alloy(Chip)

## 4)Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S									
NCSHC 13302	High Manganese Steel	1.28	0.48	12.68	0.063	0.017									150
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	Ti	Mo	N	Co	
NCSHC 15302	0Cr <sub>13</sub>	0.057	0.344	0.362	0.048	0.008	15.66	0.293	0.028	0.238	0.0065	0.085			100
NCSHC 15307	2Cr <sub>13</sub>	0.181	0.424	0.482	0.0194	0.012	12.45	0.142	0.020	0.103	0.0068				100
NCSHC 15308	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.053	0.630	0.971	0.0214	0.006	17.35	10.13		0.15	0.69				100
NCSHC 15309	Cr <sub>23</sub> Ni <sub>13</sub>	0.100	0.667	1.24	0.0151	0.007	22.11	14.60							100
NCSHC 15310	Stainless Steel	0.023	0.659	1.16	0.030	0.0019	17.35	11.13	0.314			2.12	0.046	0.104	100
NCSHC 15311	alloy steel	0.838	1.05	8.00	0.038	0.020	20.50	0.821	0.145		0.275	1.98	0.026		100
NCSHC 15312	alloy steel	0.170	0.684	16.13	0.020	0.0047	8.74	3.47	1.17		0.405	3.15	0.020		100
NCSHC 15313	alloy steel	0.443	0.481	1.77	0.020	0.019	29.22	1.23	0.065		0.545	0.185	0.023		100
NCSHC 15314	alloy steel	0.028	0.034	0.100	0.0066	0.0065	11.53	15.01	2.03		0.0024	0.511	0.025		100
NCSHC 15315	alloy steel	0.116	0.675	1.14	0.030	0.095	22.93	7.03	0.209		0.117	0.151	0.065		100
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		Nb	Ca	B	Sn	As	Pb	Alt	Als	Bi					
NCSHC 15310	Stainless Steel								0.0039	0.0034					
NCSHC 15311	alloy steel	0.205	0.00054	0.0019	0.0011	0.0116	0.0019	0.190	0.187	0.0029					
NCSHC 15312	alloy steel	0.613	0.0010	0.011	0.023	0.0043	0.0020	0.040	0.038	0.0014					
NCSHC 15313	alloy steel	0.024	0.0003	0.0015	0.0058	0.0050	0.0003	0.403	0.401	0.0013					
NCSHC 15314	alloy steel	0.037	0.0002	0.0004	0.058	0.0015	0.0058	0.0066	0.0051	0.0004					
NCSHC 15315	alloy steel	0.062	0.0004	0.0008	0.0070	0.0035	0.0020	0.021	0.019	0.0016					
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Ni	Cr	Cu	Mo	V	N	Co	As	
NCSHC18301	M <sub>2</sub> Al(W <sub>6</sub> Mo <sub>5</sub> Cr <sub>4</sub> V <sub>2</sub> Al)	1.05	0.44	0.3	0.023	0.0014	0.18	4.31	0.17	5.1	1.87		0.28		100
NCSHC18302	4Cr <sub>4</sub> Mn <sub>18</sub>	0.42	0.48	17.1	0.016	0.042	0.06	4.03	0.1					0.014	100
NCSHC18303	2Cr <sub>13</sub>	0.189	0.452	0.348	0.021	0.0034	0.132	12.58	0.079					0.014	100
NCSHC18304	214N	0.533	0.222	9.34	0.025	0.0059	3.92	21.14	0.159	0.057	0.066	0.42	0.08		100
NCSHC18305	318	0.254	1.31	0.547	0.023	0.0027	6.6	16.95	0.095	2.13	0.077	0.144	0.044		100
NCSHC18306	0Cr <sub>17</sub>	0.027	0.617	0.408	0.031	0.0056	0.415	16.51	0.072					0.008	100
NCSHC18307	4Cr <sub>9</sub> Si <sub>2</sub>	0.466	2.08	0.612	0.036	0.026	0.543	8.64	0.112	0.055	0.033			0.017	100
NCSHC18308	4Cr <sub>10</sub> Si <sub>2</sub> Mo	0.355	2.56	0.425	0.035	0.023	0.346	10.53	0.128	0.798	0.051			0.017	100
NCSHC18309	3Cr <sub>2</sub> W <sub>8</sub> V	0.4	0.25	0.25	0.017	0.016	0.46	2.72	0.05						100
NCSHC18310	H13(4Cr <sub>5</sub> MoSiV <sub>1</sub> )	0.34	1.17	0.4	0.017	0.01	0.15	5.3	0.08	1.18	1.04			0.029	100
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		W	Al												
NCSHC18301	M <sub>2</sub> Al(W <sub>6</sub> Mo <sub>5</sub> Cr <sub>4</sub> V <sub>2</sub> Al)	6.18	0.96												
NCSHC18309	3Cr <sub>2</sub> W <sub>8</sub> V	8.14													
NCSHC18310	H13(4Cr <sub>5</sub> MoSiV <sub>1</sub> )		0.06												
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Mn	Si	P	S	Ni	Cr	Cu	Mo	Ti	Co	Al	V	
NCSHC 41313	Stainless steel	0.085	1.63	1.29	0.025	0.016	9.95	16.98	0.940	2.74	0.418	0.300	0.585	0.036	100
NCSHC 41314	Stainless steel	0.037	0.615	1.10	0.017	0.0040	4.04	15.67	2.97	0.983	0.147	0.105	0.111	0.021	100
NCSHC 41315	Stainless steel	0.122	0.927	1.85	0.031	0.022	19.27	24.56	0.293	0.396	0.077	0.194	0.514	0.057	100
NCSHC 41317	Stainless steel	0.053	1.03	0.571	0.032	0.00071	9.19	17.17	0.383	0.154	0.309	0.132		0.059	100
NCSHC 41318	Stainless steel	0.023	1.25	0.421	0.030	0.0013	4.85	22.26	0.136	3.11	0.0014	0.047		0.038	100
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		N	Nb	Sn	W	As									
NCSHC 41313	Stainless steel	0.029		(0.0034)	(0.017)	(0.0042)									
NCSHC 41314	Stainless steel	0.042	0.437	(0.0018)	(0.0014)	(0.0032)									
NCSHC 41315	Stainless steel	0.072		(0.0057)	(0.010)	(0.0035)									
NCSHC 41317	Stainless steel		0.0095	0.013	0.018	0.0047									
NCSHC 41318	Stainless steel	0.175	0.014	0.0032	0.011	0.0085									

## Section 1 Iron, Steel & Alloy(Chip)

### 4)Alloy Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo	
NCSHC 20301	1Cr <sub>21</sub>	0.090	0.375	0.573	0.021	0.0077	12.94	0.102	0.051	0.0037	0.022	0.0015	0.0019	0.0088	100
NCSHC 20302	H00Cr <sub>21</sub> Ni <sub>10</sub>	0.029	0.520	1.71	0.031	0.014	20.49	9.72	0.134	0.0035	0.034	0.0036	0.011	0.158	100
NCSHC 20311	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.079	0.878	1.42	0.028	0.0095	17.92	8.83	0.113	0.125	0.062	0.561	0.014	0.172	100
NCSHC 20312	YoCr <sub>18</sub> Ni <sub>9</sub> MoS <sub>1</sub>	0.071	0.619	1.60	0.031	0.061	17.66	8.48	0.222	0.0043	0.033		0.022	0.502	100
NCSHC 20313	Ni <sub>25</sub> Cr <sub>18</sub> Mo <sub>2</sub> Cu <sub>2</sub>	0.082	0.465	0.526	0.027	0.0050	17.37	26.44	1.71	0.0099	0.023		0.031	2.63	100
			Co	Sn	As										
NCSHC 20301	1Cr <sub>13</sub>	0.021	0.0056	0.0091											
NCSHC 20302	H00Cr <sub>21</sub> Ni <sub>10</sub>	0.369	0.0060	0.0088											
NCSHC 20311	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.086	0.010	0.0071											
NCSHC 20312	YoCr <sub>18</sub> Ni <sub>9</sub> MoS <sub>1</sub>	0.176	0.012	0.0073											
NCSHC 20313	Ni <sub>25</sub> Cr <sub>18</sub> Mo <sub>2</sub> Cu <sub>2</sub>	0.097	0.0070	0.0052											
Number	Name	Chemical Composition(Percent)												Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo	Ca		
NCSHC 21301	1Cr <sub>17</sub> Ni <sub>2</sub> Ti	0.126	0.560	0.563	0.0126	0.017	16.66	1.95	0.107						100
NCSHC 21302	R00Cr <sub>18</sub> Mo <sub>2</sub> Ca	0.019	0.845	0.286	0.0284	0.0141	17.45	0.235	0.082	0.027		2.11	0.0048		100
NCSHC 21305	Cr <sub>12</sub>	2.223	0.171	0.146	0.0226	0.0094	12.18	0.095	0.041	0.030	0.028	0.0067			100
NCSHC 21306	2Cr <sub>13</sub>	0.200	0.177	0.501	0.0238	0.0160	12.49	0.256	0.009	0.0167	0.016	0.0219			100
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Mn	P	S	Si	Ni	Cr	Cu	Mo	W	Als	Co	Ti	
NCSHC 21309	Shape Memory Alloy	0.026	15.95	0.027	0.0008	5.21	6.69	12.04	0.086	0.257	0.099	0.047	0.031	0.015	100
			V	Sn	Nb										
NCSHC 21309	Shape Memory Alloy	0.035	0.0064	0.108											
Number	Name	Chemical Composition(Percent)							Unit Size (in g)						
		C	Si	Mn	P	S	Cr	Ni		W					
NCSHC 23301	18Cr <sub>2</sub> Ni <sub>4</sub> W	0.171	0.273	0.486	0.0215	0.0188	1.726	4.22	0.994					150	
Number	Name	Chemical Composition(Percent)									Unit Size (in g)				
		C	Si	Mn	P	S	Cr	V	Mo	R <sub>E</sub>					
NCSHC 24312	Cr <sub>14</sub> Mo <sub>8</sub> VRE	1.067	0.254	0.098	0.014	0.0036	14.83	1.35	4.06	0.041				100	



# Section 1 Iron, Steel & Alloy(Chip)

## 4)Alloy Steel

Number	Name	Chemical Composition(Percent)														Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	W	Mo	Sn	Als	V		
NCSHC 28302	Stainless steel	0.049	0.583	0.876	0.024	0.0057	17.23	9.47	0.063	0.0034	0.042	0.0036	0.033	0.042	100	
NCSHC 28303	Stainless steel	0.196	0.776	0.324	0.017	0.0043	12.24	0.086	0.012	0.022	0.0034			0.024	100	
NCSHC 28304	Die Steel	0.407	1.06	0.315	0.015	0.013	5.08	0.037	0.017	(0.0038)	1.20		0.0056	0.946	100	
NCSHC 28305	Stainless steel	0.322	0.613	0.83	0.018	0.017	8.63	0.148	0.47	0.004	0.016	0.0037	0.023	0.014	100	
NCSHC 28306	Stainless steel	0.329	0.397	0.433	0.018	0.027	11.95	2.66	0.08	0.0031	0.026	0.0049	0.0019	0.016	100	
NCSHC 28307	Stainless Steel	0.193	0.905	0.49	0.022	0.01	19.4	6.48	0.079	0.0052	0.021	0.0028	0.034	0.029	100	
NCSHC 28308	Heat resisting alloy	0.392	2.41	0.508	0.019	0.022	10.09	0.247	0.093	0.0065	1.09	0.0047	0.0031	0.015	100	
NCSHC 28309	Heat resisting alloy	0.54	0.433	0.321	0.016	0.014	14.75	13.68	0.079	1.88	0.466	0.0052	0.035	0.024	100	
NCSHC 28310	Heat resisting alloy	0.157	0.827	0.8	0.021	0.023	13.31	13.9	0.03	2.75	0.24	0.004	0.067	0.02	100	
NCSHC 28311	Heat resisting alloy	0.182	0.865	0.37	0.019	0.025	17.3	1.33	0.074	0.0032	0.023	0.004	0.0025	0.021	100	
NCSHC 28312	Heat resisting alloy	0.178	0.542	2.37	0.023	0.0084	22.71	16.2	0.058	0.0034	0.0071	0.0023	0.045	0.031	100	
		Co	As	Ti	Alis	Alt	B	Zn	Sb							
NCSHC 28302	Stainless steel	0.041	0.0041	0.233												
NCSHC 28303	Stainless steel	0.018	0.0022	0.0011												
NCSHC 28304	Die Steel	0.011	(0.0021)	0.0049	0.0040	0.0096										
NCSHC 28305	Stainless steel	0.019	0.0054	0.076		0.027	0.0002	0.0034	0.0018							
NCSHC 28306	Stainless steel	0.057	0.0049	0.029		0.0073		0.0018	0.0016							
NCSHC 28307	Stainless Steel	0.095	0.0046	0.206		0.037		0.0016	0.0015							
NCSHC 28308	Heat resisting alloy	0.019	0.0054	0.0032		0.0057		0.0009	0.0021							
NCSHC 28309	Heat resisting alloy	0.035	0.009	0.0011		0.038	0.0003	0.0018	0.0016							
NCSHC 28310	Heat resisting alloy	0.147	0.0041	0.0011		0.074	0.0004	0.005	0.0004							
NCSHC 28311	Heat resisting alloy	0.051	0.0051	0.0011		0.0061		0.002	0.0016							
NCSHC 28312	Heat resisting alloy	0.186	0.0038	0.051		0.053		0.0036	0.0006							
Number	Name	Chemical Composition(Percent)														Unit Size (in g)
C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Al(t)	Co				
NCSHC 28313	Stainless Steel	0.039	0.425	1.07	0.037	0.016	18.31	8.19	0.399	0.027	0.106	0.002*		0.208	50	
NCSHC 28314	Stainless Steel	0.021	0.414	0.94	0.034	0.0028	18.21	8.11	0.043	0.025	0.089	0.006		0.216	50	
NCSHC 28315	Stainless Steel	0.11	0.78	0.841	0.024	0.0082	23.71	18.02	0.089	0.115	0.077	0.003*	0.0056	0.102	50	
NCSHC 28316	Stainless Steel	0.067	0.435	1.1	0.028	0.021	16.8	10.39	0.166	2.01	0.048	0.006*	0.012	0.063	50	
NCSHC 28317	Stainless Steel	0.018	0.317	1.17	0.042	0.0057	16.61	10.34	0.334	2.05	0.07	0.002*		0.185	50	
NCSHC 28318	Stainless Steel	0.134	0.505	0.456	0.027	0.0067	16.26	1.78	0.127	0.152	0.074	0.002		0.051	50	
NCSHC 28319	Stainless Steel	0.046	0.643	0.742	0.027	0.013	15.88	3.85	3.24	0.259	0.075	0.002		0.115	50	
NCSHC 28320	Stainless Steel	0.013	0.464	1.17	0.033	0.0021	19.67	24.23	1.49	4.47	0.086	0.002*	0.024	0.096	50	
		Nb	Sn	Pb	As											
NCSHC 28313	Stainless Steel		0.0051	0.0001*	0.0035											
NCSHC 28314	Stainless Steel		0.0001*	0.0001*	0.0025											
NCSHC 28315	Stainless Steel	0.016	0.0025	0.0004	0.0042											
NCSHC 28316	Stainless Steel	0.027	0.0034	0.0005	0.0037											
NCSHC 28317	Stainless Steel		0.0073	0.0001*	0.0055											
NCSHC 28318	Stainless Steel		0.0058	0.0001*	0.0064											
NCSHC 28319	Stainless Steel	0.232	0.0064	0.0002*	0.0048											
NCSHC 28320	Stainless Steel	0.042	0.0043	0.0001*	0.0053											

## Section 1 Iron, Steel & Alloy(Chip)

### 4)Alloy Steel

Number	Name	Chemical Composition(Percent)								Unit Size (in g)					
		C	Si	Mn	P	S	Cr	Ni	Al						
NCSHC 29322	Cr <sub>14</sub>	0.077	1.487	13.49	0.074	0.0166	14.00	1.63		150					
NCSHC 29323	Cr <sub>13</sub> SiAl	0.153	1.086	0.646	0.029	0.029	12.46	0.510	0.702	150					
Number	Name	Chemical Composition(Percent)								Unit Size (in g)					
		C	Si	Mn	P	S	Cr	Ni	Mo						
NCSHC 37301	High Manganese Steel	1.25	0.464	11.59	0.073	0.0056				20					
NCSHC 37302b	High Manganese Steel	1.26	0.595	12.00	0.079	0.013				20					
NCSHC 37303	Stainless Steel	0.032	0.78	1.45	0.026	0.019	16.14	10.30	2.28	100					
NCSHC 37304	0Cr <sub>18</sub> Ni <sub>9</sub>	0.075	0.77	1.44	0.033	0.025	8.56			100					
NCSHC 37305	0Cr <sub>18</sub> Ni <sub>10</sub> Ti	0.086	0.84	1.45	0.032	0.014	17.45			100					
NCSHC 37306	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.134	0.021	1.06	0.033	0.021	17.01			100					
NCSHC 37307	1Cr <sub>13</sub>	0.144	0.56	0.71	0.038	0.028	12.07			100					
NCSHC 37308	2Cr <sub>13</sub>	0.232	0.82	0.80	0.042	0.027	12.42			100					
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo	
NCSHC 41301	Ni <sub>80</sub> Cr <sub>20</sub>	0.051	1.15	0.601	0.0015	0.0023	21.50	75.10	0.012	0.080		0.221			150
NCSHC 41303	6Cr <sub>4</sub> W <sub>2</sub> Mo <sub>2</sub>	0.600	0.980	0.968	0.023	0.0079	4.45		0.084	0.938		2.14	2.44	150	
NCSHC 41307c	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.050	0.512	0.803	0.029	0.0050	18.56	9.86	0.179		0.057	0.473	0.057	0.151	100
NCSHC 41308	Cr <sub>12</sub>	2.20	0.258	0.312	0.22	0.0105	12.62	0.109	0.088		0.054			0.094	150
NCSHC 41309	2Cr <sub>13</sub>	0.334	0.519	0.211	0.025	0.0073	12.79	0.126	0.048		0.039			0.016	150
NCSHC 41310b	CrNi	0.06	0.27	0.9	0.041	0.014	18.04	8.06	0.47		0.066			0.35	150
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
		Co	Sn	As	N	Fe	Alt	Als	B	N	Al*	Ti*			
NCSHC 41301	Ni <sub>80</sub> Cr <sub>20</sub>					1.23									
NCSHC 41307c	1Cr <sub>18</sub> Ni <sub>9</sub> Ti	0.052	0.017	0.0067	0.015		0.083	0.084							
NCSHC 41310b	CrNi	0.164	0.012	0.0061					0.0053	0.125	0.005	0.001			
Number	Name	Chemical Composition(%)													Unit Size (in g)
		C	Si	Mn	P	S	Cr	Ni	Mo	Cu	V	Ti	As	W	
NCSHC 37309	Stainless Steel	0.098	0.1	8.5	0.035	0.008	17.26	3.88	0.099	0.269	0.055				100
NCSHC 37310	Stainless Steel	0.132	0.764	8.33	0.044	0.016	16.76	5.42	0.051	1.11	0.099				100
NCSHC 37311	Stainless Steel	0.138	0.472	0.972	0.028	0.018	16.18	6.19	0.092	0.189	0.051		0.01	0.007	100
NCSHC 37312	Stainless Steel	0.106	0.443	1.71	0.027	0.024	24.33	19.12	0.147	0.1	0.1	0.019		0.01	100
Number	Name	Chemical Composition(%)													Unit Size (in g)
		Co	N												
NCSHC 37309	Stainless Steel	0.112	0.076												
NCSHC 37310	Stainless Steel	0.15	0.101												
NCSHC 37311	Stainless Steel	0.093	0.128												
NCSHC 37312	Stainless Steel	0.11	0.078												

## Section 1 Iron, Steel & Alloy(Chip 5)Tool Steel

Number	Name	Chemical Composition(Percent)											Unit Size (in g)			
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo				
NCSHC 11401a	W <sub>18</sub> Cr <sub>4</sub> V	0.87	0.23	0.24	0.044	0.004	3.72				1.19	19.16	0.28	150		
NCSHC 11402	W <sub>6</sub> Mo <sub>5</sub> Cr <sub>2</sub> V <sub>2</sub>	0.72	0.10	0.28	0.027	0.007	3.90			2.09	6.77	4.88	150			
NCSHC 11403	Cr <sub>12</sub> W	2.00	0.297	0.294	0.049	0.0053	11.71	0.113			0.96		150			
NCSHC 11403a	Cr <sub>12</sub> W	1.96	0.18	0.31	0.048	0.088	11.99	0.12	0.061		0.97		150			
NCSHC 11404	5CrNiMo	0.52	0.16	0.56	0.020	0.005	0.57	1.55				0.20	150			
NCSHC 11405	W <sub>2</sub>	1.14	0.274	0.287	0.014	0.0046	0.183	0.073	0.040		2.31		150			
NCSHC 11405a	W <sub>2</sub>	1.25	0.16	0.38	0.035		0.14	0.18			2.27		150			
NCSHC 11406	6SiMnW	0.65	1.23	0.65	0.017	0.016	0.026				1.42		150			
NCSHC 11406a	6SiMnW	0.64	0.97	0.75	0.011	0.009		0.23	0.032		1.44		150			
NCSHC 11407	3W <sub>4</sub> Cr <sub>2</sub> V	0.34	0.30	0.11	0.013	0.009	2.44	0.087	0.034	0.65	3.61		150			
NCSHC 11408	9V	1.07	0.18	0.44	0.044	0.006		0.24		0.41			150			
NCSHC 11409	SiMnV	1.42	0.64	0.74	0.052	0.033		0.27		0.31			150			
NCSHC 11410	9Mn <sub>2</sub> V	0.84	0.23	2.02	0.051	0.006	0.10	0.034		0.16			150			
NCSHC 11411	5CrW <sub>2</sub> Si	0.50	0.60	0.40	0.030	0.031	1.15	0.14	0.048		2.30		150			
NCSHC 11412	T <sub>7</sub>	0.66	0.27	0.66	0.030	0.019	0.31	0.24	0.023				150			
NCSHC 11412a	T <sub>7</sub>	0.70	0.26	0.79	0.035	0.028	0.005	0.019	0.024				150			
NCSHC 11412b	T <sub>7</sub>	0.72	0.34	0.18	0.013	0.003		0.013	0.024				150			
NCSHC 11413	T <sub>8</sub>	0.79	0.25	0.28	0.029	0.007							150			
NCSHC 11413a	T <sub>8</sub>	0.82	0.30	0.78	0.021	0.015							150			
NCSHC 11414	T <sub>10</sub>	1.05	0.33	0.41	0.011	0.009	0.63	0.021	0.022	0.23			150			
NCSHC 11415	T <sub>11</sub>	1.15	0.24	0.34	0.019	0.005	0.050	0.039	0.023				150			
NCSHC 11416	T <sub>12</sub>	1.20	0.21	0.19	0.012	0.009	0.044	0.030	0.095				150			
Number	Name	Chemical Composition(Percent)											Unit Size (in g)			
NCSHC 13401	T <sub>9</sub> A	0.81	0.18	0.23	0.013	0.0065								100		
NCSHC 13402	T <sub>13</sub> A	1.26	0.25	0.28	0.018	0.0105								100		
NCSHC 13403	T <sub>11</sub> A	1.155	0.46	1.14	0.043	0.038								100		
NCSHC 13404	T <sub>12</sub> A	1.18	0.32	0.70	0.010	0.0065								100		
Number	Name	Chemical Composition(Percent)											Unit Size (in g)			
NCSHC 14401	T <sub>8</sub>	0.785	0.563	0.614	0.0115	0.029	0.064							150		
Number	Name	Chemical Composition(Percent)														Unit Size (in g)
NCSHC 17401	W <sub>18</sub> Cr <sub>4</sub> V	0.762	0.241	0.280	0.0241	0.026	4.03	0.040	0.038		1.30	18.16	0.245		100	
NCSHC 17402	W <sub>6</sub> Mo <sub>5</sub> Cr <sub>4</sub> V <sub>2</sub>	0.855	0.232	0.275	0.0261	0.011	4.08	0.046	0.041		2.02	5.99	4.84		100	
NCSHC 17403	3Cr <sub>2</sub> W <sub>8</sub> V	0.359	0.170	0.298	0.0211	0.021	2.48	0.0208	0.030		0.27	8.39	0.055		100	
NCSHC 17405	High Speed Steel	0.941	0.521	0.441	0.023	0.028	1.99	0.095			0.18	19.22	0.122		100	
NCSHC 17406	High Speed Steel	0.78	0.230	0.427	0.024	0.020	3.64	0.134			0.44	18.72	0.176		100	
NCSHC 17407	High Speed Steel	0.710	0.183	0.268	0.029	0.0064	4.29	0.187			1.05	17.64	0.266		100	
NCSHC 17408	High Speed Steel	0.577	0.383	0.233	0.015	0.0043	2.70	0.231			0.81	16.24	0.330		100	
NCSHC 17409	High Speed Steel	0.493	0.493	0.343	0.304	0.0048	4.78	0.278			1.49	14.96	0.411		100	
NCSHC 17414	High Speed Steel	0.332	1.16	2.719	0.0228	0.0177	4.43	0.862		1.955	1.083	9.22	6.16	2.989	100	
NCSHC 17414	High Speed Steel		Nb													
NCSHC 17414	High Speed Steel	0.497														

## Section 1 Iron, Steel & Alloy(Chip) 5)Tool Steel

Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo	Sn	Co		
NCSHC 21401	High Speed Steel	0.828	0.226	0.283	0.028	0.0065	4.08	0.083	0.140	1.33	9.23	3.13	0.017	0.018	150	
		Ti Als														
		0.0044	0.013													
Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo	R <sub>E</sub>			
NCSHC 23402	Cr <sub>4</sub> Mo <sub>4</sub> VR <sub>E</sub>	0.85	0.39	0.35	0.034	0.014	4.07			0.99		4.38	0.035	150		
NCSHC 23404	W <sub>9</sub> Mo <sub>3</sub> Cr <sub>4</sub> V	0.823	0.303	0.303	0.027	0.017	3.99	0.100	0.138	1.44	9.17	2.92		100		
NCSHC 23405	High-speed tool Steel	0.888	0.267	0.308	0.026	0.018	3.99	0.103	0.147	1.94	6.13	4.85		100		
Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	W	Mo			
NCSHC 24403	High Speed Steel	0.731	0.207	0.286	0.22	0.22	2.96	0.156	0.249		0.44	15.99	0.42	100		
NCSHC 24404	High Speed Steel	0.909	0.309	0.244	0.025	0.026	3.25	0.203	0.223		0.84	14.41	0.88	100		
NCSHC 24405	High Speed Steel	0.821	0.443	0.307	0.025	0.024	3.54	0.383	0.211	0.059	1.23	11.71	1.57	100		
NCSHC 24407	High Speed Steel	1.09	0.352	0.405	0.034	0.034	4.26	0.201	0.248		2.77	6.85	3.75	100		
NCSHC 24408	High Speed Steel	0.996	0.648	0.293	0.026	0.026	5.19	0.224	0.203	0.128	4.51	1.80	6.52	100		
Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo	Co	Ti		
NCSHC 28401	T <sub>10</sub>	0.985	0.286	0.211	0.027	0.012	0.070	0.037	0.086						100	
NCSHC 28402	High Speed Steel	0.847	0.190	0.296	0.023	0.012	3.99	0.096	0.122	1.93	6.14	5.06	0.023	0.0013	100	
		Als														
NCSHC 28402	High Speed Steel	0.0020														
Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	V	W	Mo				
NCSHC 41401	T <sub>8</sub>	0.822	0.223	0.267	0.008	0.0075	0.101	0.035	0.084	0.001				150		
NCSHC 41403	T <sub>9</sub>	0.890	0.209	0.252	0.021	0.0115								150		
NCSHC 41404	W <sub>18</sub> Cr <sub>4</sub> V	0.740	0.165	0.178	0.025	0.0015	4.18			1.30	17.97			150		
NCSHC 41406	W <sub>6</sub> Mo <sub>5</sub> Cr <sub>2</sub> V <sub>2</sub>	0.874	0.367	0.301	0.020	0.017	4.12	0.317	0.080	1.76	6.15	4.73		150		

## Section 1 Iron, Steel & Alloy(Chip 6)Superalloy, Precious Alloy & Heat Resisting Alloy

Number	Name	Chemical Composition(Percent)													Unit Size (in g)	
		C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo		
NCSHC 11501	GH49	0.032					9.60			3.56	0.30	1.83	5.82	5.45	100	
NCSHC 11503	GH37	0.10	0.59	0.45	0.009	0.013	16.02			2.27	0.38	2.29	6.93	4.04	100	
NCSHC 11505	GH143	0.19	0.08	0.92	0.0015	0.004	15.13			4.83		1.32		5.57	100	
NCSHC 11506	GH130		0.04		0.004	0.0013	14.97	37.53		1.95		2.93	5.07		100	
NCSHC 11508	GH131	0.08	0.72	0.73	0.012	0.003	20.94	27.75					5.66	2.96	100	
NCSHC 11510	GH35-1	0.13	0.80	0.75	0.016	0.016	23.00	36.43		0.50		1.19	3.38		100	
NCSHC 11511	GH35-2	0.10	0.62	0.61	0.013	0.029	21.00	35.95		0.44			2.66		100	
NCSHC 11512	GH36	0.37	0.43	8.56	0.012	0.029	12.81	8.52			1.41	0.06		1.28	100	
NCSHC 11513	GH39	0.031	0.056	0.30		0.004	18.94		0.009	0.25		0.60		1.90	100	
NCSHC 11514	GH128	0.025	0.55	0.28		0.004	20.10			0.34			8.15	8.09	100	
NCSHC 11515	K3	0.15	0.06			0.003	10.92			5.53		2.72	4.91	3.98	100	
NCSHC 11516	K13	0.059	0.11	0.044	0.006	0.004	14.91	35.37		1.82		3.58			100	
NCSHC 11517	4J29		0.077	0.35			0.21	28.91							100	
NCSHC 11519	Heat Resisting Steel	0.400	1.85	0.95	0.015	0.0041	25.58	34.86			0.041		0.93	0.348	100	
		Co	Nb	Zr	B	N	Fe	Ce								
NCSHC 11501	GH49	14.87			0.028		(0.48)	0.0023								
NCSHC 11503	GH37				0.025		(4.09)									
NCSHC 11505	GH143	19.73			0.017		(1.07)									
NCSHC 11506	GH130				0.018											
NCSHC 11508	GH131		1.03		0.0015	0.11										
NCSHC 11510	GH35-1							0.014								
NCSHC 11511	GH35-2		1.43					0.013								
NCSHC 11512	GH36		0.44													
NCSHC 11513	GH39		0.82				(0.42)									
NCSHC 11514	GH128			0.032	0.007		(1.94)	0.007								
NCSHC 11515	K3	5.41		0.096	0.034		(0.22)	0.015								
NCSHC 11516	K13				0.100											
NCSHC 11517	4J29	17.17														
Number	Name	Chemical Composition(µg/g)													Unit Size (in g)	
		Ag	As	Bi	Ca	Cd	In	Mg	Pb	Sb	So	Sn	Te	Ti		
NCSHC 11520	Superalloy Trace Elements	3.5	17	4.2	42	7.0	11	82	12	204	43	103	3.0	8.5	150	
NCSHC 11521	Superalloy Trace Elements	4.6	11	0.4	21	4.6	2.6	16	4.1	95	16	53	11	22	150	
NCSHC 11522	Superalloy Trace Elements	5.3	15	0.4	11	1.8	30	15	11	59	11	72	2.1	51	150	
NCSHC 11523	Superalloy Trace Elements	0.3	72	0.5	32	1.9	0.4	53	2.2	7.4	43	1040	0.5	83	150	
NCSHC 11524	Superalloy Trace Elements	0.7	72	3.4	5.3	1.6	9.2	111	91	6.2	53	92	83	8.1	150	
		Zn	Ga													
NCSHC 11520	Superalloy Trace Elements	24	29													
NCSHC 11521	Superalloy Trace Elements	32	32													
NCSHC 11522	Superalloy Trace Elements	105	108													
NCSHC 11523	Superalloy Trace Elements	20	28													
NCSHC 11524	Superalloy Trace Elements	6.0	63													

## Section 1 Iron, Steel & Alloy(Chip 6)Superalloy, Precious Alloy & Heat Resisting Alloy

Number	Name	Chemical Composition(µg/g)													Unit Size (in g)
		Ag	As	B	Bi	Cd	Ce	Cl	Hf	Ga	Ge	In	P	Pb	
NCS HC 11525	Trace elements in superalloy	0.78	6.7	90	0.14	0.31	0.38	571	3.5	31	13	0.88	41	3.4	100
NCS HC 11526	Trace elements in superalloy	1.0	14	47	0.19	<0.02	1.8	363	7.4	34	24	7.2	36	3.7	100
NCS HC 11527	Trace elements in superalloy	2.5	96	25	1.2	<0.02	0.45	172	3.8	38	38	2.6	55	4.7	100
NCS HC 11528	Trace elements in superalloy	4.4	44	24	2.0	<0.02	0.028	94	33	52	75	31	131	8.2	100
NCS HC 11529	Trace elements in superalloy	5.4	25	13	1.8	<0.02	0.19	53	12	49	27	10	80	11	100
		Sb	Sc	Se	Sn	Te	Ti	Zn							
NCS HC 11525	Trace elements in superalloy	1.4	1.3	9.8	3.2	28	0.13	12							
NCS HC 11526	Trace elements in superalloy	3.3	2.7	12	8.3	31	0.16	13							
NCS HC 11527	Trace elements in superalloy	16	1.2	4.1	18	7.5	4.3	14							
NCS HC 11528	Trace elements in superalloy	49	1.2	2.5	45	2.3	3.9	15							
NCS HC 11529	Trace elements in superalloy	33	0.6	2.2	43	1.3	1.1	13							
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 11530	Nickel Base Super Alloy	C	Si	Mn	P	S	Cr	Fe	Mo	B	Al <sub>3</sub>	Nb	Zr	Ti	50
		0.120	0.249	0.276	0.0077	0.0046	12.81	0.454	4.53	0.011	6.14	2.15	0.094	0.850	
		Pb	Bi												
NCS HC 11530	Nickel Base Super Alloy	0.00023	(0.00006)												
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 20503	4J29	C	Si	Mn	P	S	Cr	Ni	Cu	Ti	Mo	Co			100
NCS HC 20504	1J79	0.0015	0.106	0.307	0.0019	0.0056	0.148	28.80	0.072	0.0040	4.13	17.77			100
NCS HC 20505	2J64	0.008	0.36	1.08	0.0009	0.0030									100
		0.73	0.25	0.26	0.009	0.004		79.56	0.072		3.98				100
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 23505	GH130	C	Si	Mn	P	S	Cr	Ni	Cu	Al	Ti	W	Mo	Co	100
NCS HC 23507	G263	0.038	0.19	0.28	0.08	0.05	14.28	37.83		1.88	2.89	5.87			100
NCS HC 23511	F176	0.06	0.26	0.47		0.0028	20.08		0.078	0.33	2.15			20.58	100
		0.057	0.61	0.91	0.023	0.059	16.05	9.20	0.12			0.04	0.75		100
		B	Se	Fe											
NCS HC 23505	GH130	0.016	0.106												
NCS HC 23507	G263	0.0038		0.255											
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 24513	2J9	C	Si	Mn	P	S	Ni	V	Co						100
		0.070	0.61	0.74	0.0038	0.0079	0.93	8.82	52.08						
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 57511	GH4169	C	Si	Mn	P	S	Cr	Ni	Cu	Al	V	Ti	W	Mo	100
		0.019	0.084	0.0016*	0.0012	0.0056	18.59	52.36	0.0021	0.42	0.16	0.93	0.23	3.08	
		Co	B	Nb	Zr										
NCS HC 57511	GH4169	1.03	0.011	5.09	0.018										
Number	Name	Chemical Composition(Percent)													Unit Size (in g)
NCS HC 41501	Nickel-based superalloy	C	Si	Mn	P	S	Cr	Ni	Cu	Al	Fe	Ti	Co	Mo	100
NCS HC 41502	Nickel-based superalloy	0.043	0.071	0.124	0.0023	0.0006	20.69	63.72		0.016	3.50	0.011		8.37	
NCS HC 41503	Corrosion-resisting alloy	0.027	0.080	0.057	0.0033	0.0005	18.56	52.27	0.023	0.635	18.54	1.03	0.111	3.28	
		0.071	0.36	0.807	0.015	0.0006	20.72	32.27	0.038	0.299		0.49	0.050	0.297	
		Nb	Ta*	B	Co*	Ta**									
NCS HC 41501	Nickel-based superalloy	3.19			0.011	0.001									
NCS HC 41502	Nickel-based superalloy	5.15	0.008	0.0025											