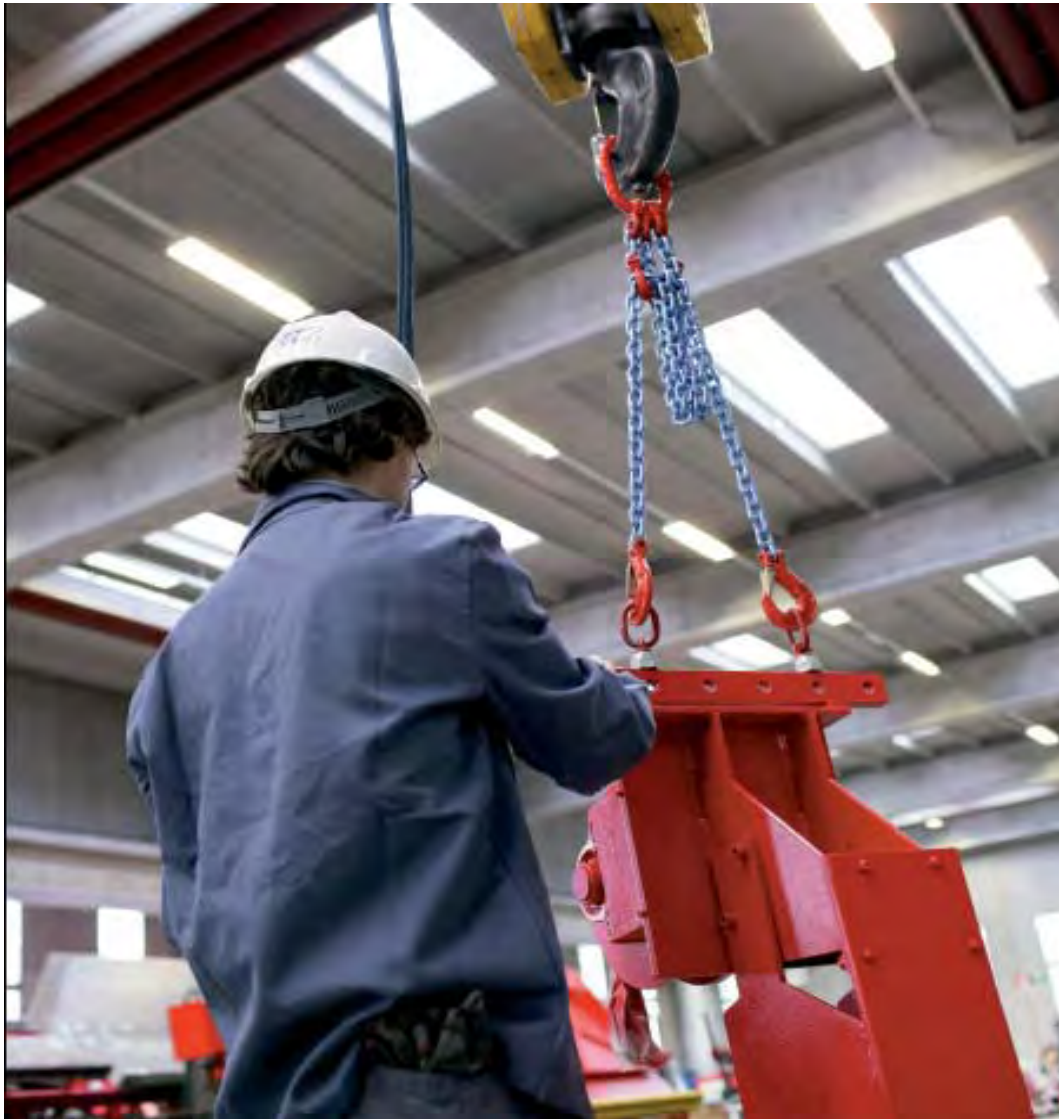




GRADE 100 CHAINS & ACCESSORIES

Grade 100 Lifting



Vanguard Steel Ltd



www.vanguardsteelvancouver.com
www.vanguardsteel.com



GRADE 100 ALLOY TABLE OF CONTENTS

	Page
Chain	1
Clevis Grab Hook	3
Clevis Slip Hook	4
Connecting Links	2
Master Link	5
Master Link Sub-Assembly	6
SC Clevis Hook	7
SL Eye Hook	8
Swivel Hook	9
WLL and Selection Guide	10
Style of Chain Slings	11



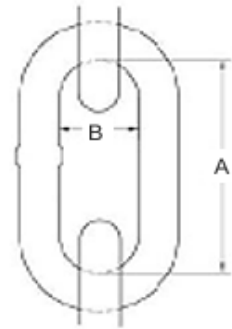
Grade 100 Alloy Lifting Chain

Produced to exceed the rigorous requirements of overhead lifting

Manufactured from a super high quality alloy steel that allows for 25 % higher working load limit (WLL) than comparable Grade 80 Alloy Chain.



G 100 Chain	Nominal Dimension		WLL	Footage	Weight	Product
	Inches		(lbs)	Drum	100 ft	Code
Size	A	B				
Full Drums						
9/32"	0.88	0.41	4,300	800	72	38150018
5/16"	1.02	0.48	5,700	500	106	38150020
3/8"	1.22	0.57	8,800	400	150	38150024
1/2"	1.56	0.75	15,000	200	261	38150032
5/8"	1.93	0.92	22,600	150	361	38150040



Material	High grade Ni-Cr-Mo Alloy Chain	
Finish	Gray Armour	
Elongation	Min 20 %	
Design Factor	4 : 1	In accordance with NACM Specifications

WARNING: NEVER EXCEED WORKING LOAD LIMITS!
LOAD RATINGS ARE FOR CHAINS IN 'NEW CONDITION'!
INSPECT LIFTING CHAINS REGULARLY AND
REPLACE ALL COMPONENTS SHOWING SIGNS OF WEAR!

Vanguard Steel Ltd. _____



Grade 100 Connecting Links

Fast, easy assembly without the need for special tools or skills.

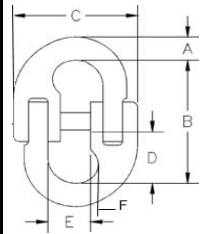
Designed for attaching hooks, master links and other end fittings to Grade 100 alloy chain

Suitable for overhead lifting, when all components are grade 100.

25 % higher WLL than grade 80.



Con. Links Grade 80		Chain Size	Dimensions Inches						WLL lbs.	Lbs. Pc	Product Code
Codes			A	B	C	D	E	F			
V-160	CLX-07	9/32"	0.39	2.01	1.83	0.79	0.63	0.75	4,300	0.26	395600163
	CLX-08	5/16"	0.45	2.44	2.09	0.98	0.71	0.91	5,700	0.40	395600203
V-161	CLX-10	3/8"	0.50	2.83	2.50	1.18	0.91	1.06	8,800	0.73	395600243
V-162	CLX-13	1/2"	0.75	3.46	3.11	1.42	1.06	1.34	15,000	1.54	395600323
V-163	CLX-16	5/8"	0.83	4.06	4.17	1.57	1.30	1.54	22,600	2.51	395600403
V-164	CLX-20	3/4"	1.14	4.45	4.82	1.81	1.64	1.85	35,300	4.52	395600483
V-165	CLX-22	7/8"	1.18	5.24	5.28	2.17	1.90	2.17	42,700	6.83	395600563



Design Factor: 4 : 1

Con. Links Grade 80		Collars	
Code	Hook Size	Product Code	
V-160	CLX-07	9/32"	39500516
	CLX-08	5/16"	39500520
V-161	CLX-10	3/8"	39500524
V-162	CLX-13	1/2"	39500532
V-163	CLX-16	5/8"	39500540
V-164	CLX-20	3/4"	39500548
V-165	CLX-22	7/8"	39500556



Load Pins	
Hook Size	Product Code
9/32"	39505016
5/16"	39505020
3/8"	39505024
1/2"	39505032
5/8"	39505040
3/4"	39505048
7/8"	39505056



WARNING: NEVER EXCEED WORKING LOAD LIMITS !
Do not use lesser than Grade 100 components for any lifting application !
Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd.



Grade 100 Clevis Grab Hooks

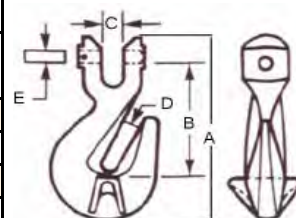
Easily attaches to Grade 100 chain with pin and cotter

Approved for overhead lifting, when all components are grade 100.

25 % higher WLL than grade 80



Grab Hooks Grade 100		Chain Size	Nominal Diameter Inches					WLL lbs.	Lbs. Pc	Product Code
Code			A	B	C	D	E			
V-190	CFX-07	9/32"	3.88	2.57	0.39	0.39	0.35	4,300	0.97	395000163
	CFX-08	5/16"	3.88	2.56	0.35	0.39	0.39	5,700	0.97	395000203
V-191	CFX-10	3/8"	4.69	3.15	0.47	0.51	0.51	8,800	2.12	395000243
V-192	CFX-13	1/2"	5.88	4.15	0.59	0.67	0.63	15,000	4.63	395000323
V-193	CFX-16	5/8"	7.03	4.40	0.71	0.75	0.82	22,600	7.50	395000403



Design Factor: 4 : 1

Spare Parts Grab & Slip Hooks		Load Pin	Product Code
Code			
V-90	CFX-07	9/32"	39506016
	CFX-08	5/16"	39506020
V-91	CFX-10	3/8"	39506024
V-92	CFX-13	1/2"	39506032
V-93	CFX-16	5/8"	39506040



Cotter Pin	Product Code
9/32"	39506016
5/16"	39506020
3/8"	39506024
1/2"	39506032
5/8"	39506040

WARNING: NEVER EXCEED WORKING LOAD LIMITS !
Do not use lesser than Grade 100 components for any lifting application !
Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd.



Grade 100 Clevis Slip Hooks & Latch Kit

Easily attaches to Grade 100 chain with pin and cotter

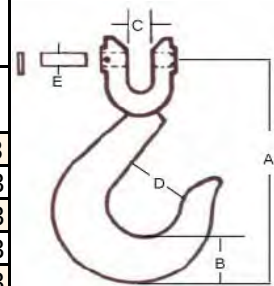
Approved for overhead lifting, when all components are grade 100.

All Hooks provided with latch kit assembled on the hook

25 % higher WLL than grade 80



Slip Hooks Grade 100			Dimensions Inches							
Codes	Chain Size		A	B	C	D	E	WLL lbs.	Lbs. Pc.	Product Code
V-190	CBX-07	9/32"	5.51	1.10	0.37	1.02	0.35	4,300	1.21	395100163
	CBX-08	5/16"	5.51	1.10	0.37	1.02	0.39	5,700	1.21	395100203
V-191	CBX-10	3/8"	6.50	1.30	0.47	1.22	0.39	8,800	2.20	395100243
V-192	CBX-13	1/2"	8.03	1.57	0.59	1.57	0.49	15,000	3.75	395100323
V-193	CBX-16	5/8"	9.33	1.89	0.71	1.77	0.78	22,600	7.05	395100403



Design Factor: 4 : 1

Replacement Cast Latch Grade 100

Code	Chain Size		Weight lbs.	Product Code
V-190	CKSX-07	9/32"	0.08	396100162
	CKSX-08	5/16"	0.08	396100202
V-191	CKSX-10	3/8"	0.10	396100242
V-192	CKSX-13	1/2"	0.12	396100322
V-193	CKSX-16	5/8"	0.35	396100402



WARNING:

NEVER EXCEED WORKING LOAD LIMITS !

Do not use lesser than Grade 100 components for any lifting application !

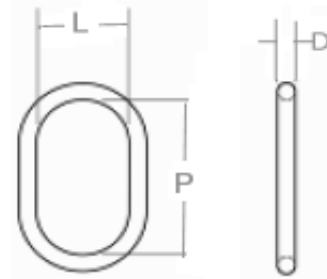
Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd.



Grade 100 Master Links

Approved for overhead lifting, when all components are grade 100.
25 % higher WLL than grade 80



Master Link Grade 100 No F.S.			Dimensions Inches							
Code		Size	Chain Sling & Type		D	L	P	WLL lbs.	Weight lbs.	Product Code
			Single	Double						
VML-132	AX-13	1/2"	9/32	7/32	1/2	2.36	4.33	4,700	0.80	395300323
VML-140	AX-16	5/8"	5/16	9/32	5/8	2.36	4.33	8,600	1.55	395300403
VML-148	AX-18	3/4"	3/8	5/16	3/4	2.95	5.31	12,900	2.70	395300483
VML-156	AX-22	7/8"	1/2	3/8	7/8	3.62	6.50	17,600	3.31	395300563
VML-1100	AX-26	1"	5/8	1/2	1	3.94	7.09	30,000	5.30	395301003
VML-1116	AX-32	1-1/4"	3/4	5/8"	1-1/4	4.33	7.87	38,200	9.75	395301163
VML-1132	AX-36	1-1/2"	7/8	5/8"	1-1/2	5.51	10.24	50,200	18.00	395301323

Design Factor 4 : 1

MASTER LINKS AND SUB-ASSEMBLIES (incl. sub links) INDIVIDUALLY PROOF TESTED PER ASTM 906/952 PRESCRIBED LOADS.

WARNING: **NEVER EXCEED WORKING LOAD LIMITS !**
Do not use lesser than Grade 100 components for any lifting application !
Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd. _____



Grade 100 Master Link Sub-Assemblies

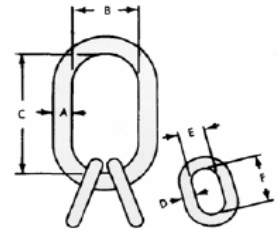
For Triple and Quad branch slings

Approved for overhead lifting, when all components are grade 100.

25 % higher WLL than grade 80



Master Link Sub Assembly		Nominal Diameter Inches						WLL (lbs @ 60°)	Lbs. Pc.	Product Code
Code	Chain	Master Link			Coupling Link					
	Size	A	B	C	D	E	F			
VSA-107	9/32"	3/4"	3.540	5.91	0.51	0.98	2.13	11,200	2.65	395400483
VSA-108	9/32+5/16"	7/8"	3.540	6.30	0.63	1.34	2.76	15,200	4.88	395400563
VSA-108	3/8"	1"	3.940	7.09	0.71	1.57	3.35	26,000	5.07	395401003
VSA-110	1/2"	1-1/4"	4.330	7.87	0.87	1.97	4.53	39,000	7.85	395401163
VSA-113	5/8"	1-1/2"	5.510	10.24	1.02	2.56	5.51	58,700	22.05	395401323



Design Factor 4 : 1

MASTER LINKS AND SUB-ASSEMBLIES (incl. sub links) INDIVIDUALLY PROOF TESTED PER ASTM 906/952 PRESCRIBED LOADS.

WARNING: **NEVER EXCEED WORKING LOAD LIMITS !**
Do not use lesser than Grade 100 components for any lifting application !
Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd.



Grade 100 Self Locking Clevis Hooks

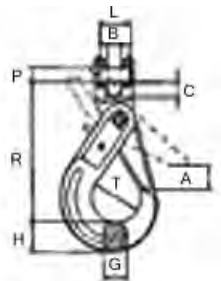
Easily attaches to Grade 100 chain with pin and cotter

Approved for overhead lifting, when all components are grade 100.

25 % higher WLL than grade 80



SL Eye Grade 100		Dimensions Inches										
Code	Chain Size	A	B	C	G	H	R	T	WLL lbs.	Lbs. Pc	Product Code	
VSC-107/8	CRFX-07 9/32"	1.34	0.35	0.39	0.79	1.02	4.84	1.69	4,300	2.09	396200163	
	CRFX-08 5/16"	1.77	0.35	0.39	0.79	1.02	4.84	1.69	5,700	2.09	396200203	
VSC-110	CRFX-10 3/8"	1.77	0.47	0.55	0.98	1.18	5.63	2.20	8,800	3.53	396200243	
VSC-113	CRFX-13 1/2"	2.01	0.59	0.67	1.38	1.57	7.09	2.72	15,000	7.05	396200323	
VSC-116	CRFX-16 5/8"	2.36	0.75	0.75	1.42	1.97	8.46	3.15	22,600	13.23	396200403	



Design Factor 4 : 1

Trigger Kit SL Hook		Product Code
VTK-107/8	CKSLX-08	39693016
VTK-110	CKSLX-10	39693024
VTK-113	CKSLX-13	39693032
VTK-116	CKSLX-16	39693040



WARNING: **NEVER EXCEED WORKING LOAD LIMITS !**
Do not use lesser than Grade 100 components for any lifting application !
Do not use chains or accessories with signs of wear or deformation !

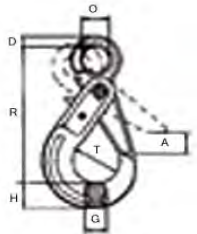


Grade 100 Self Locking Eye Hooks

Easily attaches to Grade 100 chain with Shackle or connecting link
 Approved for overhead lifting, when all components are grade 100.
 25 % higher WLL than grade 80



SL Eye Grade 100		Dimensions Inches										
Code	Chain Size	A	D	G	H	O	R	T	WLL lbs.	Lbs. Pc	Product Code	
VSL-107/8	CROX-08 9/32"	1.34	0.47	0.79	1.02	0.98	5.31	1.69	5,700	2.12	396400163	
VSL-110	CROX-10 3/8"	1.77	0.63	0.98	1.18	1.30	6.61	2.20	8,800	3.64	396400243	
VSL-113	CROX-13 1/2"	2.01	0.79	1.38	1.57	1.57	8.07	2.72	15,000	7.16	396400323	
VSL-116	CROX-16 5/8"	2.36	1.06	1.42	1.97	1.97	9.88	3.15	22,600	13.45	396400403	



Design Factor 4 : 1

Trigger Kit SL Hook		Product Code	
VTK-107/8	CKSLX-08		39693016
VTK-110	CKSLX-10		39693024
VTK-113	CKSLX-13		39693032
VTK-116	CKSLX-16		39693040



WARNING: **NEVER EXCEED WORKING LOAD LIMITS !**
 Do not use lesser than Grade 100 components for any lifting application !
 Do not use chains or accessories with signs of wear or deformation !



Grade 100 Self Locking Swivel Hooks

Easily attaches to Grade 100 chain with Shackle or Connecting link

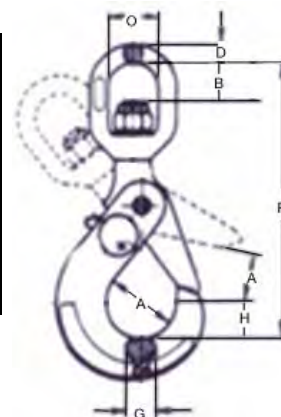
Approved for overhead lifting, when all components are grade 100

25 % higher WLL than grade 80



SL Eye Grade 100		Dimensions Inches									
Code	Chain Size	R	A	B	O	D	G	H	WLL lbs.	Lbs. Pc	Product Code
VSC-7/8	9/32-5/16"	7.17	1.34	1.06	1.42	0.51	0.73	1.02	5,700	2.42	39660016
VSC-10	3/8"	8.54	1.77	1.38	1.65	0.63	0.98	1.18	8,800	4.40	39660024
VSC-13	1/2"	10.67	2.13	1.69	1.97	0.83	1.38	1.57	15,000	8.80	39660032
VSC-16	5/8"	12.60	2.44	2.28	2.44	0.94	1.50	1.97	22,600	14.96	39660040

Design Factor: 4 : 1



Trigger Kit SL Hook		Product Code
------------------------	--	-----------------

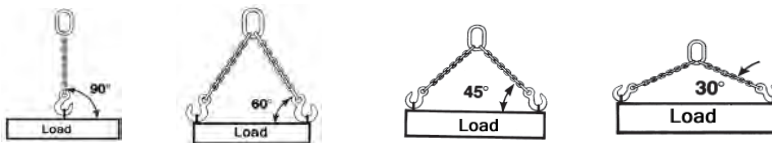
VTK-107/8	CKSLX-08	39693016
VTK-110	CKSLX-10	39693024
VTK-113	CKSLX-13	39693032
VTK-116	CKSLX-16	39693040

WARNING: NEVER EXCEED WORKING LOAD LIMITS !
 Do not use lesser than Grade 100 components for any lifting application !
 Do not use chains or accessories with signs of wear or deformation !

Vanguard Steel Ltd.



Grade 100 Chain Working Load Limit



Chain Size	Single 90°	Double			Triple/Quad		
		60°	45°	30°	60°	45°	30°
9/32"	4,300	7,400	6,100	4,300	11,200	9,100	6,400
5/16"	5,700	9,900	8,100	5,700	14,800	12,100	8,500
3/8"	8,800	15,200	12,400	8,800	22,900	18,700	13,200
1/2"	15,000	26,000	21,200	15,000	39,000	31,800	22,500
5/8"	22,600	39,100	32,000	22,600	58,700	47,900	33,900

Grade 100 Component Selection Guide

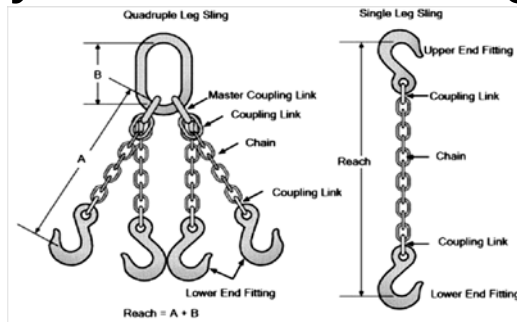
Sling Type	Chain Size	Master Link		Coupling Link	Hooks			
		Oblong	Sub Ass		Grab	Slip	Eye Grab	Eye Sling
Single	9/32"	1/2"		9/32"	9/32"	9/32"	9/32"	9/32"
Double		5/8"						
Triple/Quad			3/4"					
Single	5/16"	5/8"		5/16"	5/16"	5/16"	5/16"	5/16"
Double		3/4"						
Triple/Quad			7/8"					
Single	3/8"	3/4"		3/8"	3/8"	3/8"	3/8"	3/8"
Double		7/8"						
Triple/Quad			1"					
Single	1/2"	7/8"		1/2"	1/2"	1/2"	1/2"	1/2"
Double		1"						
Triple/Quad			1-1/2"					
Single	5/8"	1"		5/8"	5/8"	5/8"	5/8"	5/8"
Double		1-1/2"						
Triple/Quad								

Working Load Limit - 4 to 1 design factor

Vanguard Steel Ltd. _____



Styles of Chain Slings



Single Leg Type Slings



CO



SOG



SOS



SGS



SSS



ASOS

Double Leg Type Slings



DOG



DOS



DOF



ADOS



ADOB



DOSSLB

Triple Leg Type Slings



TOG



TOS



TOCSL

Quadruple Type Leg Slings



QOG



QOG



QOCSL

Basket Type



SINGLE ENDLESS
BASKET



DOUBLE ENDLESS
BASKET