

NORTHERN STRANDS

CHAIN SLINGS

GRADE 80 CHAIN SLINGS

WORKING LOAD LIMITS IN POUNDS*

SIZE OF CHAIN	TYPES OR C	DOUBLE BRANCH TYPE D						
		90°	60°	45°	30°	60°	45°	30°
INCHES	MM.	POUNDS LIFT WHEN USED SINGLE	POUNDS LIFT WHEN USED AT 60° ANGLE	POUNDS LIFT WHEN USED AT 45° ANGLE	POUNDS LIFT WHEN USED AT 30° ANGLE	TRIPLE/QUAD 60° ANGLE	TRIPLE/QUAD 45° ANGLE	TRIPLE/QUAD 30° ANGLE
9/32"	7.0	3,500	6,100	4,900	3,500	9,100	7,400	5,200
5/16"	8.0	5,700	9,900	8,100	5,700	14,800	12,100	8,500
3/8"	10.0	7,100	12,300	10,000	7,100	18,400	15,100	10,600
1/2"	13.0	12,000	20,800	17,000	12,000	31,200	25,500	18,000
5/8"	16.0	18,100	31,300	25,600	18,100	47,000	38,400	27,100
3/4"	20.0	28,300	49,000	40,000	28,300	73,500	60,000	42,400
7/8"	22.0	34,200	59,200	48,400	34,200	88,900	72,500	51,300
1"	26.0	47,700	82,600	67,400	47,700	123,900	101,200	71,500
1 1/4"	32.0	72,300	125,200	102,200	72,300	187,800	153,400	108,400

NOTE: DESIGN FACTOR = 4:1 WARNING: DO NOT EXCEED RATED CAPACITIES

GRADE 100 CHAIN SLINGS

WORKING LOAD LIMITS IN POUNDS*

SIZE OF CHAIN	TYPES OR C	DOUBLE BRANCH TYPE D						
		90°	60°	45°	30°	60°	45°	30°
INCHES	MM.	POUNDS LIFT WHEN USED SINGLE	POUNDS LIFT WHEN USED AT 60° ANGLE	POUNDS LIFT WHEN USED AT 45° ANGLE	POUNDS LIFT WHEN USED AT 30° ANGLE	TRIPLE/QUAD 60° ANGLE	TRIPLE/QUAD 45° ANGLE	TRIPLE/QUAD 30° ANGLE
7/32"	5.5	2,700	4,700	3,800	2,700	7,000	5,700	4,000
9/32"	7.0	4,300	7,400	6,100	4,300	11,200	9,100	6,400
3/8"	10.0	8,800	15,200	12,400	8,800	22,900	18,700	13,200
1/2"	13.0	15,000	26,000	21,200	15,000	39,000	31,800	22,500
5/8"	16.0	22,600	39,100	32,000	22,600	58,700	47,900	33,900
3/4"	20.0	35,300	61,100	49,900	35,300	91,700	74,900	53,000
7/8"	22.0	42,700	74,000	60,400	42,700	110,900	90,600	64,000
1"	26.0	59,700	103,400	84,400	59,700	155,100	126,000	89,550
1 1/4"	32.0	90,400	156,600	127,800	90,400	234,900	191,700	135,600

NOTE: DESIGN FACTOR = 4:1 WARNING: DO NOT EXCEED RATED CAPACITIES

USE, CARE & INSPECTION OF GRADE 80 AND GRADE 100 CHAIN SLINGS

THE LIFE AND STRENGTH OF GRADE 80 AND GRADE 100 SLINGS DEPEND ON PROPER USE, MAINTENANCE AND INSPECTION. REFER TO ASME B30.9 AND OSHA REGULATIONS FOR ADDITIONAL INFORMATION. ALWAYS REFER TO ASME B30.9 IN REGARDS TO PROPER INSPECTION AND REJECTION CRITERIA FOR SLINGS.

USE

OBSERVING THE FOLLOWING PRECAUTIONS WHEN USING CHAIN SLINGS WILL HELP PROTECT BOTH OPERATORS AND MATERIALS.

1. INSPECT CHAIN SLINGS BEFORE USE AS INDICATED IN INSPECTION SECTION.
2. DO NOT EXCEED WORKING LOAD LIMIT AS INDICATED ON SLING IDENTIFICATION TAG.

* ANY OF THE FOLLOWING FACTORS CAN LOWER THE LOAD THE CHAIN WILL HOLD:

- RAPID LOAD APPLICATION CAN PRODUCE DANGEROUS OVERLOADING.
- VARIATION IN THE ANGLE OF THE LOAD TO THE SLING. AS THE ANGLE DECREASES, THE WORKING LOAD OF THE SLING WILL DECREASE. REFER TO WORKING LOAD LIMIT CHART.
- TWISTING, KNOTTING AND KINKING SUBJECTS LINKS TO UNDESIRABLE LOADING WHICH DECREASES THE WORKING LOAD LIMIT OF THE SLING.
- CONDITIONS OTHER THAN THAT FOR WHICH SLINGS ARE INTENDED CAN REDUCE THE WORKING LOAD LIMIT OF THE SLING. FOR EXAMPLE, USE AT ELEVATED TEMPERATURES WILL RESULT IN A REDUCTION IN WORKING LIMIT.
- 3. FREE ALL TWISTS, KNOTS AND KINKS.
- 4. CENTER LOAD IN HOOK(S). HOOK LATCHES MUST NOT SUPPORT LOAD.
- 5. AVOID SUDDEN JERKS WHEN LIFTING AND LOWERING.
- 6. BALANCE ALL LOADS, AVOID TIPPING OF LOADS.
- 7. USE PADS AROUND SHARP CORNERS.
- 8. DON'T DROP LOAD ON CHAINS.
- 9. SELECT ATTACHMENTS SUCH AS HOOKS OR RINGS FOR USE WITH CHAIN TO MATCH THE SIZE AND WORKING LOAD LIMIT OF THE CHAIN.
- 10. USE ONLY GR. 80 AND 100 ALLOY CHAIN.

* THE IDENTIFICATION TAG IS FOUND ON THE MASTER COUPLING LINK OF EACH CHAIN SLING AND CONTAINS THE FOLLOWING INFORMATION: • GRADE • SIZE • REACH • TYPE • WORKING LOAD LIMIT (AT A SPECIFIC ANGLE OF LIFT) • SERIAL NUMBER

CARE

CHAIN SLINGS REQUIRE PROPER CARE AS FOLLOWS:

1. STORE SLINGS IN A CLEAN, DRY PLACE.
2. AVOID CORROSION. OIL CHAINS BEFORE PROLONGED STORAGE.
3. NEVER ALTER THE THERMAL TREATMENT OF GR. 80 AND 100 CHAIN BY HEATING.
4. DO NOT PLATE OR CHANGE SURFACE FINISH OF SLING. CONTACT NORTHERN STRANDS FOR SPECIAL REQUIREMENTS.

INSPECTION

IT IS IMPORTANT TO INSPECT CHAIN SLINGS REGULARLY AND TO KEEP A RECORD OF EACH CHAIN INSPECTION. THE FOLLOWING IS A GUIDE FOR SUCH AN INSPECTION PROCEDURE. NORTHERN STRANDS WILL SUPPLY SLING RECORD CARDS OR SHEETS AS REQUESTED. BEFORE INSPECTING, CLEAN THE CHAIN SLING SO THAT MARKS, NICKS, WEAR AND OTHER DEFECTS CAN BE SEEN. USE A NON-ACID/NON-CAUSTIC SOLVENT. EACH CHAIN LINK AND SLING COMPONENT SHOULD BE INDIVIDUALLY

INSPECTED FOR THE FOLLOWING CONDITIONS:

1. TWISTS OR BENDS.
2. NICKS OR GOUGES.
3. EXCESSIVE WEAR AT BEARING POINTS. REFER TO WEAR ALLOWANCE CHART.
4. STRETCH.
5. DISTORTED, WORN OR DAMAGED MASTER LINKS, COUPLING LINKS, OR ATTACHMENTS, ESPECIALLY SPREAD IN THROAT OPENING OF HOOKS. EACH LINK OR COMPONENT HAVING ANY CONDITION LISTED ABOVE IS TO BE MARKED WITH PAINT TO PLAINLY INDICATE REJECTION AND REMOVED FROM SERVICE UNTIL PROPERLY REPAIRED.

NOTE:

NORTHERN STRANDS ASSUMES NO RESPONSIBILITY FOR THE MISUSE OR MISAPPLICATION OF ANY OF ITS PRODUCTS. PRODUCTS ARE PROVIDED WITH THE EXPRESS UNDERSTANDING THAT THE PURCHASER AND/OR USER ARE THOROUGHLY FAMILIAR WITH THE CORRECT APPLICATION AND PROPER USE. WARNINGS AND DEFINITIONS ARE PROVIDED AS AN AID TO THE USER IN UNDERSTANDING CORRECT APPLICATION AND PROPER USE. WORKING LOAD LIMIT - REFERS TO THE MAXIMUM LOAD (RATED CAPACITY) THAT SHALL BE APPLIED TO THE CHAIN SLING. REFER TO WORKING LOAD LIMIT CHART. THE MANUFACTURER DOES NOT ACCEPT ANY LIABILITY FOR DAMAGES WHICH RESULT FROM THE SLING BEING USED IN EXCESS OF THE WORKING LOAD LIMIT OR FROM ABUSE.

WIRE ROPE SLINGS

RATED CAPACITY IN POUNDS

DIA.	BASKET AND 2 LEG BRIDLES			3 LEG BRIDLES			EYE DIMENSIONS (APPROXIMATE)					
	VERTICAL	CHOKER HITCH	VERTICAL BASKET	30°	45°	60°	WIDTH INCHES	LENGTH INCHES				
1/4"	1,300	960	2,600	1,300	1,820	2,200	3,800	1,940	2,800	3,400	2	4
5/16"	2,000	1,480	4,000	2,000	2,800	3,400	6,000	3,000	4,200	5,200	2 1/2	5
3/8"	2,800	2,200	5,800	2,800	4,000	5,000	8,600	4,400	6,000	7,400	3	6
7/16"	3,800	2,800	7,800	3,800	5,400	6,800	11,600	5,800	8,200	10,000	3 1/2	7
1/2"	5,000	3,800	10,200	5,000	7,200	8,800	15,200	7,600	10,800	13,200	4	8
9/16"	6,400	4,800	12,800	6,400	9,000	11,000	19,200	9,600	13,600	16,600	4 1/2	9
5/8"	7,800	5,800	15,600	7,800	11,000	13,600	24,000	11,800	16,600	20,000	5	10
3/4"	11,200	8,200	22,000	11,200	15,800	19,400	34,000	16,800	24,000	30,000	6	12
7/8"	15,200	11,200	30,000	15,200	22,000	26,000	46,000	22,000	32,000	40,000	7	14
1"	19,600	14,400	40,000	19,600	28,000	34,000	58,000	30,000	42,000	52,000	8	16
1 1/8"	24,000	18,200	48,000	24,000	34,000	42,000	72,000	36,000	52,000	62,000	9	18
1 1/4"	30,000	22,000	60,000	30,000	42,000	52,000	88,000	44,000	62,000	76,000	10	20
1 3/8"	36,000	26,000	72,000	36,000	50,000	62,000	106,000	54,000	76,000	92,000	11	22
1 1/2"	42,000	32,000	84,000	42,000	60,000	74,000	126,000	64,000	90,000	110,000	12	24
1 5/8"	48,000	36,000	98,000	48,000	70,000	84,000	146,000	74,000	104,000	126,000	13	26
1 3/4"	56,000	42,000	114,000	56,000	80,000	98,000	170,000	84,000	120,000	148,000	14	28
2"	74,000	56,000	146,000	74,000	104,000	126,000	220,000	110,000	156,000	190,000	16	32
2 1/4"	88,000	70,000	178,000	88,000	126,000	154,000	266,000	134,000	188,000	232,000	18	36
2 1/2"	108,000	84,000	218,000	108,000	154,000	188,000	326,000	164,000	230,000	282,000	20	40
2 3/4"	130,000	102,000	260,000	130,000	184,000	226,000	390,000	194,000	276,000	338,000	22	44
3"	154,000	120,000	306,000	154,000	216,000	266,000	460,000	230,000	324,000	398,000	24	48

NOTE: DESIGN FACTOR = 5:1 WARNING: DO NOT EXCEED RATED CAPACITIES

RATED CAPACITIES BASKET HITCH BASED ON D/D RATIO OF 25/1.

RATED CAPACITIES BASED ON PIN DIAMETER NO LARGER THAN 1/2 NATURAL EYE WIDTH OR LESS THAN THE NOMINAL SLING DIAMETER.

HORIZONTAL SLING ANGLES LESS THAN 30 DEGREES SHALL NOT BE USED.

RATED CAPACITIES SHOWN APPLY ONLY TO 6 X 19 AND 6 X 37 EXTRA IMPROVED PLOW STEEL (EIPS) IWRC CLASSIFICATION WIRE ROPE.

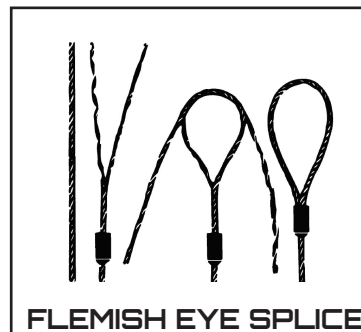
ALWAYS REFER TO ASME B30.9 USE IN REGARDS TO PROPER INSPECTION AND REJECTION CRITERIA FOR SLINGS.

WARNING!

WIRE ROPE WILL FAIL IF WORN-OUT, OVERLOADED, MISUSED, DAMAGED, IMPROPERLY MAINTAINED OR ABUSED. WIRE ROPE FAILURE MAY CAUSE SERIOUS INJURY OR DEATH! PROTECT YOURSELF AND OTHERS. ALWAYS INSPECT WIRE ROPE FOR WEAR, DAMAGE OR ABUSE BEFORE USE. NEVER USE WIRE ROPE THAT IS WORN-OUT, DAMAGED OR ABUSED, NEVER OVERLOAD A WIRE ROPE.

INFORM YOURSELF:

READ AND UNDERSTAND MANUFACTURER'S LITERATURE OR "WIRE ROPE AND WIRE ROPE SLING SAFETY BULLETIN". REFER TO APPLICABLE CODES, STANDARDS AND REGULATIONS FOR INSPECTION REQUIREMENTS AND REMOVAL CRITERIA.
* FOR ADDITIONAL INFORMATION OR THE BULLETIN, ASK YOUR EMPLOYER OR WIRE ROPE SUPPLIER.



FLEMISH EYE SPLICE

NORTHERN STRANDS
(306)-242-7073

FORTIS
MINING ENGINEERING MANUFACTURING
(306)-242-4427

CERTIFIED
SALES AND RENTALS
(306)-384-8593

NS:GOC
NORTHERN STRANDS GROUP OF COMPANIES

SYNTHETIC SLINGS

WEB SLINGS (POLYESTER OR NYLON)

	WEB WIDTH	Single PLY SLING NO.	RATED CAPACITIES IN LBS.			WEB WIDTH	DOUBLE PLY SLING NO.	RATED CAPACITIES IN LBS.			
			VERTICAL	CHOKER	BASKET			VERTICAL	CHOKER	BASKET	
TYPE 3 Flat Eyes	1"	EE1 901	1,600	1,280	3,200	1"	EE2 901	3,100	2,480	6,200	
	2"	EE1 902	3,100	2,480	6,200	2"	EE2 902	6,200	4,960	12,400	
	3"	EE1 903	4,700	3,760	9,400	3"	EE2 903	8,800	7,040	17,600	
	4"	EE1 904	6,200	4,960	12,400	4"	EE2 904	11,000	8,800	22,000	
	5"	EE1 905	7,800	6,240	15,600	5"	EE2 905	13,700	10,960	27,400	
	6"	EE1 906	9,300	7,440	18,600	6"	EE2 906	16,500	13,200	33,000	
TYPE 4 Twisted Eyes	8"	EE1 908	11,800	9,400	23,500	8"	EE2 908	22,750	18,200	45,500	
	10"	EE1 910	14,700	11,760	29,400	10"	EE2 910	28,400	22,720	56,800	
	12"	EE1 912	17,650	14,120	35,300	12"	EE2 912	34,100	27,280	68,200	
	TYPE 5 Endless Slings	1"	EN1 901	32,000	2,550	6,400	1"	EN2 901	6,200	4,950	12,400
		2"	EN1 902	6,200	4,950	12,400	2"	EN2 902	12,400	9,900	24,800
		3"	EN1 903	9,400	7,500	18,800	3"	EN2 903	17,600	14,050	35,200
4"		EN1 904	12,400	9,900	24,800	4"	EN2 904	22,000	17,600	44,000	
5"		EN1 905	15,600	12,450	31,200	5"	EN2 905	27,400	21,900	54,800	
6"		EN1 906	18,600	14,850	37,200	6"	EN2 906	33,000	26,400	66,000	

NOTE: DESIGN FACTOR = 5:1 WARNING: DO NOT EXCEED RATED CAPACITIES

POLYESTER ROUND SLINGS

TABLE 1: RATED CAPACITY FOR POLYESTER ROUND SLINGS

Round Slings Size / #		VERTICAL	CHOKER	VERTICAL BASKET	45° BASKET
	COLOR*	POUNDS	POUNDS	POUNDS	POUNDS
NS3	Purple	3,000	2,400	6,000	4,200
NS4	Black	4,000	3,200	8,000	5,600
NS6	Green	6,000	4,800	12,000	8,400
NS9	Yellow	9,000	7,200	18,000	12,600
NS12	Tan	12,000	9,600	24,000	16,800
NS14	Red	14,000	11,200	28,000	19,600
NS17	Orange	17,000	13,600	34,000	23,800
NS23	Blue	23,000	18,400	46,000	