

## MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR $45^\circ < A \leq 60^\circ$

Table S5.3-1; Hanger Rod Size Code, Size, and Allowable Load Data

Hanger Rod Code	Hanger Rod Size UNC	Minor Thread Diameter (in)	Area Moment of Inertia (in <sup>4</sup> )	Hanger Rod Allowable Load ASD (kips)
3	3/8 - 16	0.2992	0.000393	0.73
4	1/2 - 13	0.4069	0.001346	1.35
5	5/8 - 11	0.5152	0.003458	2.16
6	3/4 - 10	0.6291	0.007689	3.23
7	7/8 - 9	0.7408	0.014783	4.48
8	1 - 8	0.8492	0.025528	5.90
10	1 1/4 - 7	1.0777	0.066216	9.50

Table A5.3-2; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class I, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	7	13	21	31	43	57	92
10	7	14	22	33	46	61	99
15	8	15	24	36	50	66	107
25	10	19	30	45	63	82	133
50	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
100	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
150	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
200	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
250	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
300	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.

## MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR $45^\circ < A \leq 60^\circ$

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Table A5.3-3; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class II, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	9	14	21	29	39	63
10	-----	9	14	22	30	40	65
15	-----	9	15	23	31	41	67
25	-----	10	16	24	34	45	72
50	7	13	21	32	44	58	94
100	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
150	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
200	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
250	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
300	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.

Table A5.3-4; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class III, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	10	15	20	27	44
10	-----	-----	10	15	21	27	44
15	-----	-----	10	15	21	28	45
25	-----	-----	10	16	22	29	46
50	-----	7	11	17	24	31	51
100	-----	9	15	22	31	41	66
150	9	16	27	40	56	73	118
200	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
250	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
300	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.

MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR  $45^\circ < A \leq 60^\circ$

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**Table A5.3-5; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class IV, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°**

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	7	10	14	19	30
10	-----	-----	7	10	14	19	31
15	-----	-----	7	10	14	19	31
25	-----	-----	7	10	15	19	31
50	-----	-----	7	11	15	20	33
100	-----	-----	8	12	17	22	36
150	-----	-----	9	13	19	25	40
200	-----	-----	10	16	22	29	47
250	-----	8	13	19	27	36	58
300	-----	11	19	28	39	52	83

**Table A5.3-6; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class V, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°**

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	-----	-----	9	12	19
10	-----	-----	-----	-----	9	12	19
15	-----	-----	-----	-----	9	12	19
25	-----	-----	-----	-----	9	12	19
50	-----	-----	-----	-----	9	12	20
100	-----	-----	-----	7	9	12	20
150	-----	-----	-----	7	10	13	21
200	-----	-----	-----	7	10	13	22
250	-----	-----	-----	7	10	14	23
300	-----	-----	-----	8	11	14	24

**MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR  $45^\circ < A \leq 60^\circ$**

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Table A5.3-7; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class VI, Single Hanger Rod Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	-----	-----	-----	8	13
10	-----	-----	-----	-----	-----	8	13
15	-----	-----	-----	-----	-----	8	13
25	-----	-----	-----	-----	-----	8	13
50	-----	-----	-----	-----	-----	8	13
100	-----	-----	-----	-----	-----	8	14
150	-----	-----	-----	-----	-----	8	14
200	-----	-----	-----	-----	-----	9	14
250	-----	-----	-----	-----	7	9	14
300	-----	-----	-----	-----	7	9	15

Table A5.3-8; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class I, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	12	20	30	42	55	89
10	7	13	21	31	43	57	92
15	7	13	21	32	45	59	95
25	7	14	23	35	48	63	102
50	10	19	30	45	63	82	133
100	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
150	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
200	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
250	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
300	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.

MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR  $45^\circ < A \leq 60^\circ$

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Table A5.3-9; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class II, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	8	14	21	29	38	62
10	-----	9	14	21	29	39	63
15	-----	9	14	21	30	39	64
25	-----	9	15	22	31	41	66
50	-----	10	16	24	34	45	72
100	7	13	21	32	44	58	94
150	12	23	38	57	79	104	167
200	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
250	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
300	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.

Table A5.3-10; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class III, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	9	14	20	27	43
10	-----	-----	10	15	20	27	44
15	-----	-----	10	15	20	27	44
25	-----	-----	10	15	21	27	45
50	-----	-----	10	16	22	29	46
100	-----	7	11	17	24	31	51
150	-----	8	13	19	27	35	57
200	-----	9	15	22	31	41	66
250	-----	11	18	28	38	51	82
300	9	16	27	40	56	73	118

MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR  $45^\circ < A \leq 60^\circ$

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Table A5.3-11; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class IV, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	7	10	14	19	30
10	-----	-----	7	10	14	19	30
15	-----	-----	7	10	14	19	31
25	-----	-----	7	10	14	19	31
50	-----	-----	7	10	15	19	31
100	-----	-----	7	11	15	20	33
150	-----	-----	7	11	16	21	34
200	-----	-----	8	12	17	22	36
250	-----	-----	8	13	18	23	38
300	-----	-----	9	13	19	25	40

Table A5.3-12; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class V, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	-----	-----	9	12	19
10	-----	-----	-----	-----	9	12	19
15	-----	-----	-----	-----	9	12	19
25	-----	-----	-----	-----	9	12	19
50	-----	-----	-----	-----	9	12	19
100	-----	-----	-----	-----	9	12	20
150	-----	-----	-----	-----	9	12	20
200	-----	-----	-----	7	9	12	20
250	-----	-----	-----	7	9	13	20
300	-----	-----	-----	7	10	13	21

MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR  $45^\circ < A \leq 60^\circ$

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Table A5.3-13; Maximum Un-Stiffened Hanger Rod Length: Horizontal Force Class VI, Trapeze Supported Pipe & Duct, 10 ft Hanger Spacing, and an Installation Angle = 60°

Supported Weight (lbs/ft)	Maximum Un-Stiffened Hanger Rod Length (in) Hanger Rod Code for UNC Thread Hanger Rods						
	3	4	5	6	7	8	10
5	-----	-----	-----	-----	-----	8	13
10	-----	-----	-----	-----	-----	8	13
15	-----	-----	-----	-----	-----	8	13
25	-----	-----	-----	-----	-----	8	13
50	-----	-----	-----	-----	-----	8	13
100	-----	-----	-----	-----	-----	8	13
150	-----	-----	-----	-----	-----	8	14
200	-----	-----	-----	-----	-----	8	14
250	-----	-----	-----	-----	-----	8	14
300	-----	-----	-----	-----	-----	8	14

## MAXIMUM UN-STIFFENED HANGER ROD LENGTH FOR $45^\circ < A \leq 60^\circ$

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