

Offshore Drilling & Pipeline Equipment

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API 6A Crosses and Tees

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API Flange Studded Crosses & Tees and Flanged Crosses & Tees are designed and manufactured in accordance with the following specifications:

API 6A	Specification for Wellhead and Christmas Tree Equipment
ANSI B31.3	Chemical Plant and Petroleum Refinery Piping.
ASME VIII	Boiler and Pressure Vessel Code.
NACE MR-01-75	Sulphide Stress Cracking Resistant Metallic Materials for Oilfield Equipment.

API Flange Studded Crosses & Tees and Flanged Crosses & Tees are available either Equal or with Reducing configuration, for use with the following pressure ratings:

TABLE 6.0

Max Working Pressure	2,000 PSI	3,000 PSI	5,000 PSI	10,000 PSI	15,000 PSI	20,000 PSI
Test Pressure	4,000 PSI	6,000 PSI	7,500 PSI	15,000 PSI	22,500 PSI	30,000 PSI
Operating Temperature Range	1,2,3 & 4	1,2,3 & 4	1,2,3 & 4	1,2,3 & 4	1,2,3 & 4	1,2,3 & 4
API Temperature Range	K (-60°C) to Y (+345°C)	K (-60°C) to Y (+345°C)	K (-60°C) to Y (+345°C)	K (-60°C) to Y (+345°C)	K (-60°C) to Y (+345°C)	K (-60°C) to Y (+345°C)
API Specified Min. Yield	60,000 PSI	60,000 PSI	60,000 PSI	60,000 PSI	60,000 PSI	60,000 PSI
API Specified Min. Tensile	85,000 PSI	85,000 PSI	85,000 PSI	85,000 PSI	85,000 PSI	85,000 PSI
Material	API 60K	API 60K	API 60K	API 60K	API 60K	API 60K

Please contact IVP Solutions for any special materials or threaded, slip on or lapped flange dimension.

Max. working pressures stated are based upon carbon steel material group 1.1 @ 38°C in accordance with ANSI B16.5

De-rating of max. working pressure will occur as the operating temperature increases above 38°C. Consult IVP Solutions for further details.



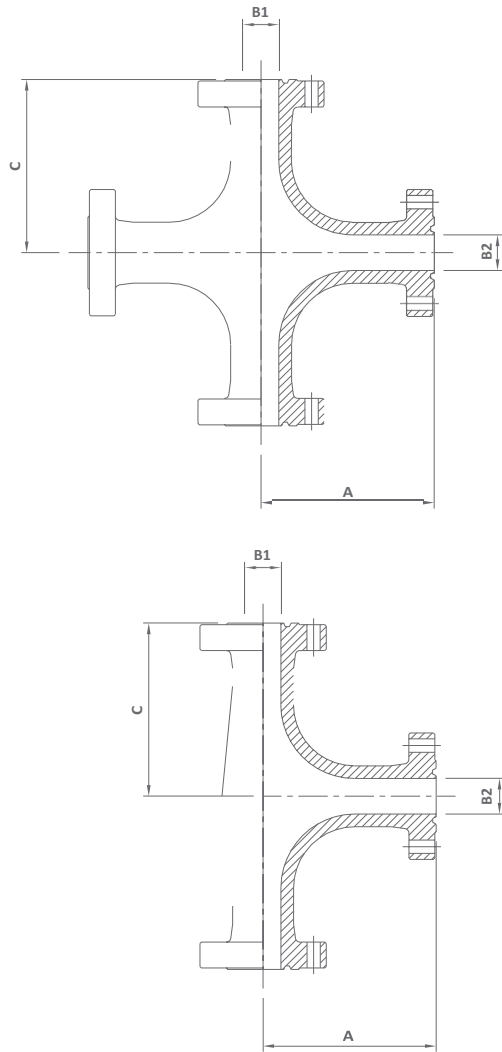


TABLE 6.1

API Flanged Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 2,000 PSI

21/16	21/16	5.81	5.81
29/16	21/16	5.94	6.31
29/16	29/16	6.56	6.56
31/8	21/16	6.06	6.69
31/8	21/16	6.56	6.81
31/8	31/8	7.06	7.06
41/16	21/16	6.31	7.94
41/16	29/16	6.81	8.06
41/16	31/8	7.19	8.19
41/16	41/16	8.56	8.56

Rated Working Pressure 3,000 PSI

31/8	21/16	7.31	7.81
31/8	29/16	7.88	7.94
31/8	31/8	7.56	7.56
41/16	21/16	7.56	8.81
41/16	29/16	8.12	8.94
41/16	31/8	8.06	8.81
41/16	41/16	9.06	9.06

API Flanged Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 5,000 PSI

21/16	21/16	7.31	7.31
29/16	21/16	7.44	7.88
29/16	29/16	8.31	8.31
31/8	29/16	7.69	8.31
31/8	29/16	8.25	8.44
31/8	31/8	9.31	9.31
41/16	21/16	7.94	9.19
41/16	29/16	8.50	9.31
41/16	31/8	8.94	9.56
41/16	41/16	10.81	10.81
51/8	21/16	9.06	10.56
51/8	29/16	9.62	10.69
51/8	31/8	10.06	10.94
51/8	41/16	10.93	11.19
51/8	51/8	12.19	12.19

NOTE: All dimensions in (inches).



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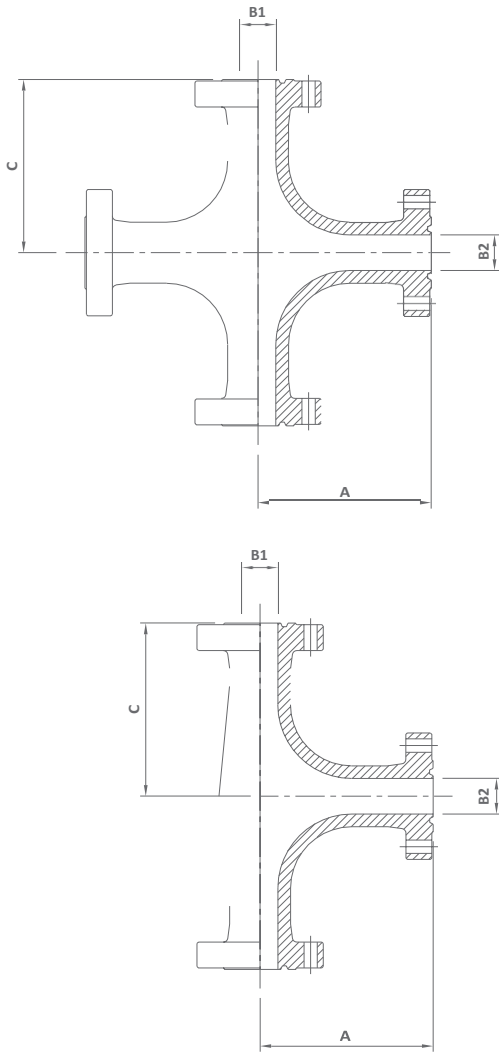


TABLE 6.1 (CONT.)

API Flanged Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 10,000 PS

21/16	113/16	6.67	6.84
21/16	21/16	6.92	6.92
29/16	113/16	6.95	7.47
29/16	21/16	7.20	7.55
29/16	29/16	7.83	7.83
31/16	113/16	7.23	8.22
31/16	21/16	7.48	8.30
31/16	29/16	8.11	8.58
31/16	31/16	8.86	8.86
41/16	113/16	7.81	9.25
41/16	21/16	8.06	9.33
41/16	29/16	8.69	9.61
41/16	31/16	9.44	9.89
41/16	41/16	10.34	10.34
51/8	113/16	8.19	10.06
51/8	21/16	8.44	10.12
51/8	29/16	9.06	10.42
51/8	31/16	9.81	10.69
51/8	41/16	10.72	11.19
51/8	51/8	11.53	11.53

API Flanged Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 15,000 PS

21/16	113/16	7.34	7.41
21/16	21/16	7.62	7.62
29/16	113/16	7.59	8.03
29/16	21/16	7.88	8.25
29/16	29/16	8.50	8.50
31/16	113/16	7.86	8.69
31/16	21/16	8.16	8.91
31/16	29/16	8.78	9.16
31/16	31/16	9.44	9.44
41/16	113/16	8.69	10.25
41/16	21/16	8.97	10.47
41/16	29/16	9.59	10.72
41/16	31/16	10.25	11.00
41/16	41/16	11.69	11.69
51/8	113/16	9.38	11.44
51/8	21/16	9.63	11.63
51/8	29/16	10.25	11.88
51/8	31/16	10.94	12.18
51/8	41/16	12.38	12.75
51/8	51/8	13.50	13.50

NOTE: All dimensions in (inches).



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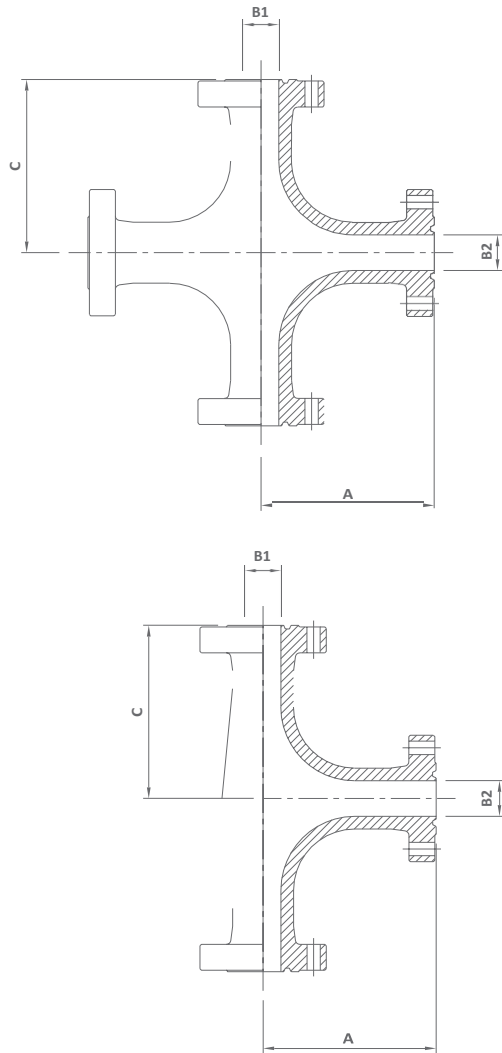


TABLE 6.1 (CONT.)

API Flanged Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 20,000 PSI

113/16	113/16	8.94	8.94
21/16	113/16	9.25	9.53
21/16	21/16	9.84	9.84
29/16	113/16	9.56	10.28
29/16	21/16	10.16	10.59
29/16	29/16	10.91	10.91
31/16	113/16	9.94	10.91
31/16	21/16	10.53	10.22
31/16	29/16	11.28	11.53
31/16	31/16	11.91	11.91
41/16	113/16	11.12	12.66
41/16	21/16	11.72	12.66
41/16	29/16	12.47	13.28
41/16	31/16	13.09	13.66
41/16	41/16	14.84	14.84

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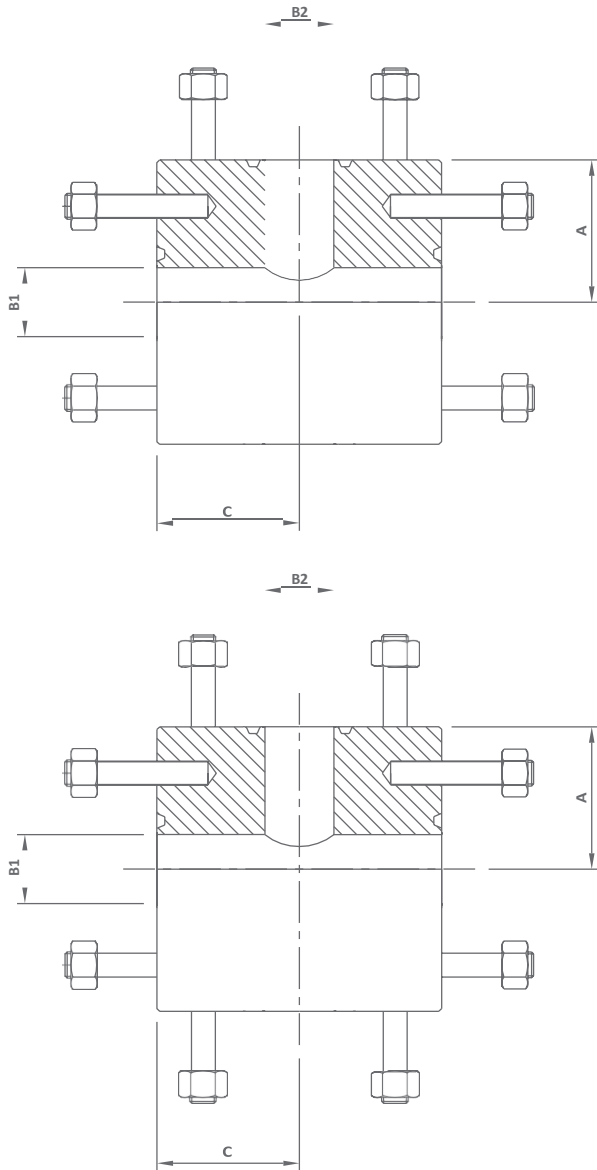


TABLE 6.2

API Flanged Studded Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 2,000 PSI

21/16	21/16	3.50	3.50
29/16	21/16	3.50	4.00
29/16	29/16	4.50	4.50
31/8	21/16	3.50	4.50
31/8	29/16	4.50	4.50
31/8	31/8	4.50	4.50
41/16	21/16	4.50	5.00
41/16	29/16	4.50	5.50
41/16	31/8	4.50	5.50
41/16	41/16	5.50	5.50

Rated Working Pressure 3,000 PSI

31/8	21/16	4.50	5.00
31/8	29/16	5.00	5.00
31/8	31/8	5.00	5.00
41/16	21/16	4.50	6.12
41/16	29/16	5.00	6.12
41/16	31/8	5.00	6.12
41/16	41/16	6.12	6.12

API Flanged Studded Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 5,000 PSI

21/16	21/16	4.50	4.50
29/16	21/16	4.50	5.00
29/16	29/16	5.00	5.00
31/8	21/16	4.50	5.50
31/8	29/16	5.50	5.50
31/8	31/8	5.50	5.50
41/16	21/16	4.50	6.50
41/16	29/16	5.00	6.50
41/16	31/8	5.50	6.50
41/16	41/16	6.50	6.50
51/8	21/16	6.12	7.62
51/8	29/16	6.12	7.62
51/8	31/8	6.12	7.62
51/8	41/16	7.97	7.97
51/8	51/8	7.97	7.97

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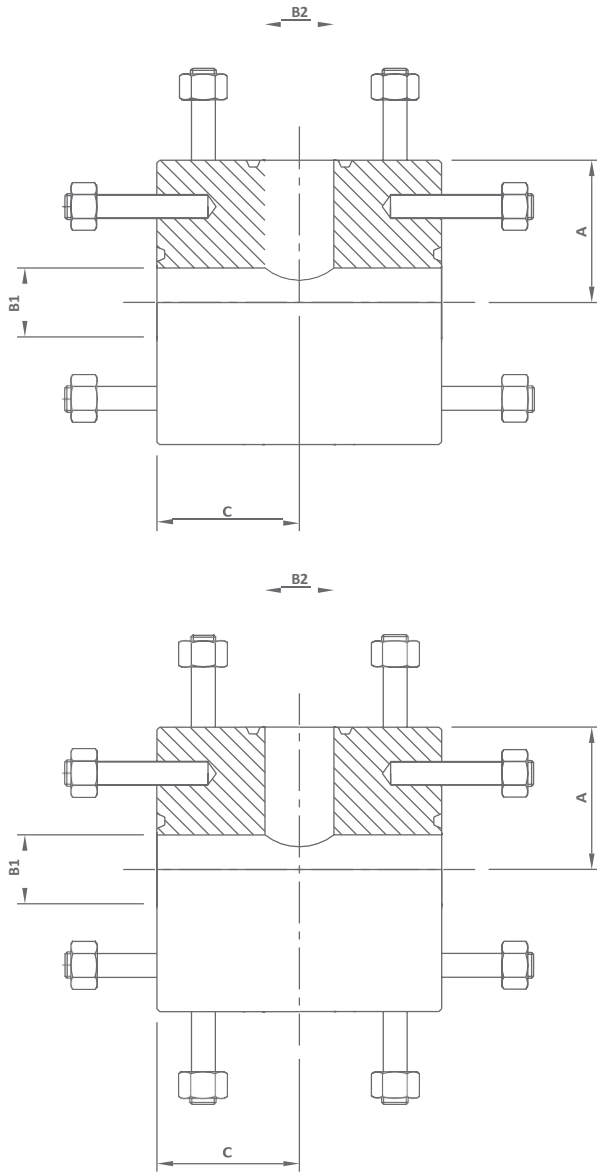


TABLE 6.2 (CONT.)

API Flanged Studded Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 10,000 PS

113/16	113/16	4.38	4.38
21/16	113/16	4.38	4.38
21/16	113/16	4.38	4.38
29/16	113/16	4.50	5.12
29/16	21/16	4.50	5.12
29/16	29/16	5.12	5.12
31/16	113/16	4.50	5.88
31/16	21/16	4.50	5.88
31/16	29/16	5.12	5.88
31/16	31/16	5.88	5.88
41/16	113/16	4.50	6.88
41/16	29/16	4.50	6.88
41/16	29/16	5.12	6.88
41/16	31/16	5.88	6.88
51/8	41/16	6.88	6.88
51/8	513/16	5.25	7.75
51/8	21/16	5.25	7.75
51/8	29/16	5.25	7.75
51/8	31/16	6.75	7.75
51/8	41/16	6.75	7.75
51/8	51/8	7.75	7.75

API Flanged Studded Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 15,000 PS

113/16	113/16	5.00	5.00
21/16	113/16	5.00	5.00
21/16	21/16	5.00	5.00
29/16	113/16	5.50	5.50
29/16	21/16	5.50	5.50
29/16	29/16	5.50	5.50
31/16	113/16	6.31	6.31
31/16	21/16	6.31	6.31
31/16	29/16	6.31	6.31
31/16	31/16	6.31	6.31
41/16	113/16	7.62	7.62
41/16	21/16	7.62	7.62
41/16	29/16	7.62	7.62
41/16	31/16	7.62	7.62
41/16	41/16	7.62	7.62
51/8	113/16	6.62	8.75
51/8	21/16	6.62	8.75
51/8	29/16	6.62	8.75
51/8	31/16	6.62	8.75
51/8	41/16	9.25	9.25
51/8	51/8	9.25	9.25

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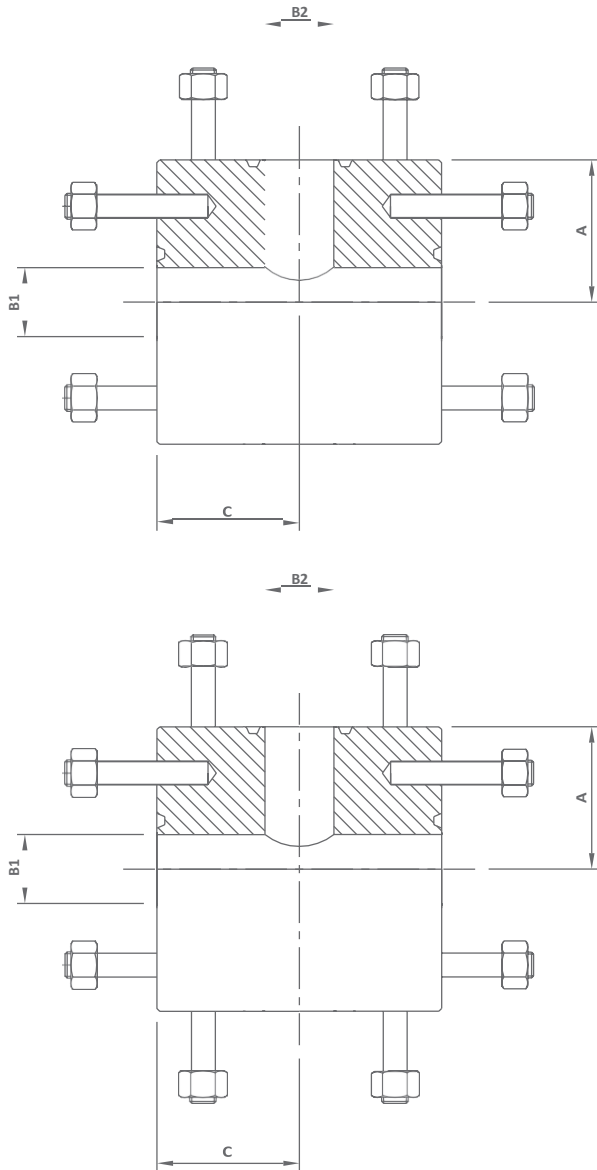


TABLE 6.2 (CONT.)

API Flanged Studded Crosses and Tees			
Nominal Size and Bore		Centre to Face Vertical Run C	Centre to Face Horizontal Run A
Vertical B1	Horizontal B2		
(inches) +0.03, -0	(inches) +0.03, -0	(inches) ±0.03	(inches) ±0.03

Rated Working Pressure 20,000 PSI

113/16	113/16	6.47	6.47
21/16	113/16	6.47	6.47
21/16	21/16	6.47	6.47
29/16	113/16	7.28	7.28
29/16	21/16	7.28	7.28
29/16	29/16	7.28	7.28
31/16	113/16	7.97	7.97
31/16	21/16	7.97	7.97
31/16	29/16	7.97	7.97
31/16	31/16	7.97	7.97
41/16	113/16	9.91	9.91
41/16	21/16	9.91	9.91
41/16	29/16	9.91	9.91
41/16	31/16	9.91	9.91
41/16	41/16	9.91	9.91

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