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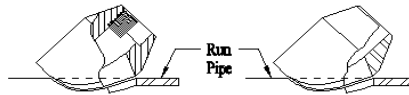
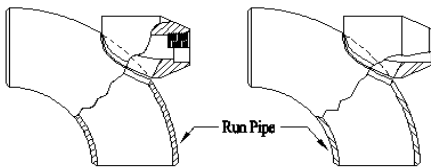
JOT- 13

CARBON OUTLETS

PENN FORGED CARBON STEEL OUTLETS

ASTM A105/ASME SA105 -- MSS SP 97 -- ASME B31.1 -- ASME B16.11 -- ASME B16.9

JANUARY 10 , 2011



LONG RADIUS 90 DEGREE ELBOW CONNECTIONS

OUTLET SIZE	3000# THREAD	3000# SOCKET	6000# THREAD	6000# SOCKET	STD/XS B-W
1/4	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
3/8	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
1/2	37.98	57.13	82.81	88.91	75.81
3/4	45.02	58.20	90.92	97.71	89.45
1	49.77	61.93	107.18	120.43	97.57
1-1/4	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
1-1/2	110.16	130.31	144.98	161.34	159.46
2	123.89	145.19	AVAIL	AVAIL	182.08
2-1/2	AVAIL	AVAIL	AVAIL	AVAIL	402.83
3	AVAIL	AVAIL	AVAIL	AVAIL	591.82
4	AVAIL	AVAIL	AVAIL	AVAIL	793.49

Short radius available POA

Size on Size POA

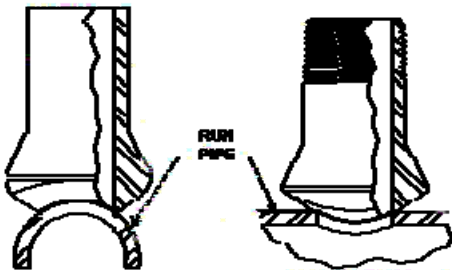
LATERAL CONNECTIONS

OUTLET SIZE	3000# THREAD	3000# SOCKET	6000# THREAD	6000# SOCKET	STD/XS B-W
1/4	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
3/8	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
1/2	112.37	AVAIL	AVAIL	AVAIL	AVAIL
3/4	114.50	AVAIL	AVAIL	AVAIL	AVAIL
1	122.71	AVAIL	AVAIL	AVAIL	AVAIL
1-1/4	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
1-1/2	222.62	AVAIL	AVAIL	AVAIL	AVAIL
2	425.23	AVAIL	AVAIL	AVAIL	AVAIL
2-1/2	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
3	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
4	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL

NIPPLE CONNECTIONS 3 1/2" LONG *

OUTLET SIZE	EXTRA STRONG PLAIN END	XXS/S160 PLAIN END	EXTRA STRONG THREADED	XXS/S160 THREADED
1/2	131.11	162.89	153.49	162.89
3/4	146.66	190.09	227.75	217.55
1	200.48	268.79	246.63	295.93
1-1/4	AVAIL	AVAIL	AVAIL	AVAIL
1-1/2	374.67	409.37	356.06	415.22
2	378.44	424.48	380.82	505.43

*Other lengths including 6-1/2 long and higher available POA



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