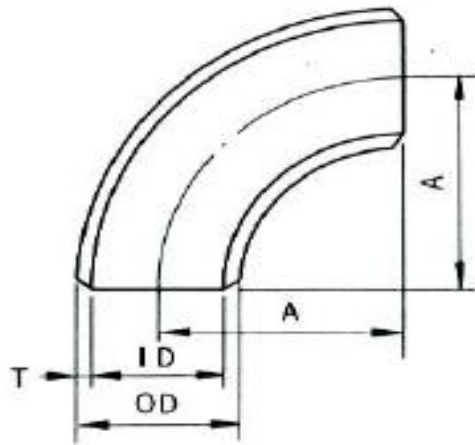


Butt Welded Fittings



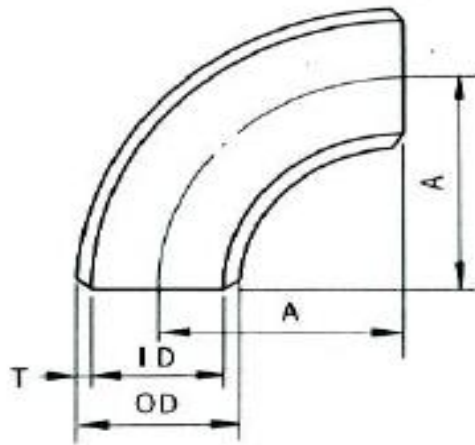
90° LONG RADIUS ELBOW



| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|--------------------|-----------|-------------|-------------------|
| | | Inch | | | |
| | | Sch. 10 S | Sch. 40 S | | |
| ½ | 21.34 | 0.083 | 0.109 | 0.06/0.08 | 38.1 |
| ¾ | 26.67 | 0.083 | 0.113 | 0.07/0.09 | 38.1 |
| 1 | 33.53 | 0.109 | 0.133 | 0.14/0.16 | 38.1 |
| 1 ¼ | 42.16 | 0.109 | 0.140 | 0.23/0.25 | 47.76 |
| 1 ½ | 48.26 | 0.109 | 0.145 | 0.31/0.40 | 57.15 |
| 2 | 60.45 | 0.109 | 0.154 | 0.51/0.71 | 76.2 |
| 2 ½ | 73.15 | 0.120 | 0.203 | 0.85/1.36 | 95.25 |
| 3 | 88.9 | 0.120 | 0.216 | 1.22/2.18 | 114.3 |
| 4 | 114.3 | 0.120 | 0.237 | 2.15/4.17 | 152.4 |
| 5 | 141.22 | 0.134 | 0.258 | 3.63/6.86 | 190.5 |
| 6 | 168.15 | 0.134 | 0.280 | 4.9/10.89 | 228.6 |
| 8 | 218.95 | 0.148 | 0.322 | 10.66/21.55 | 304.8 |
| 10 | 273.05 | 0.165 | 0.365 | 19.5/38.56 | 381 |
| 12 | 323.85 | 0.180 | 0.375 | 27.22/59.42 | 457.2 |



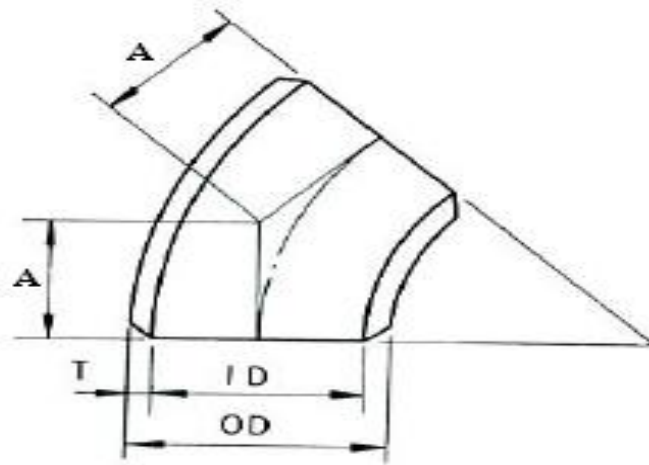
90° LONG RADIUS ELBOW



| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|--------------------|-----------|-------------|-------------------|
| | | Inch | | | |
| | | Sch. 10 S | Sch. 40 S | | |
| 14" | 355.6 | 0.19 | - | 36.30 | 533.4 |
| 16" | 406.4 | 0.19 | - | 47.63 | 609.6 |
| 18" | 457.2 | 0.19 | - | 59.87 | 685.8 |
| 20" | 508.0 | 0.22 | - | 99.79 | 762.0 |
| 24" | 609.6 | 0.25 | - | 140.61 | 914.4 |



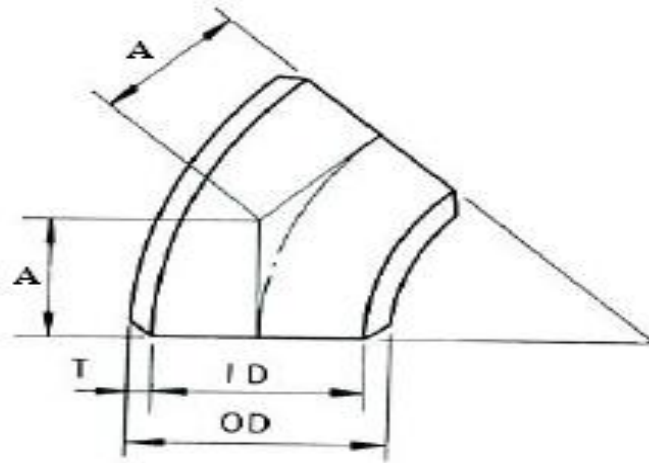
45° LONG RADIUS ELBOW



unit:mm(1"=25.4)

| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) Inch | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|----------------------------|-----------|-------------|-------------------|
| | | Sch. 10 S | Sch. 40 S | | |
| ½ | 21.34 | 0.083 | 0.109 | 0.03/0.035 | 15.75 |
| ¾ | 26.67 | 0.083 | 0.113 | 0.03/0.04 | 11.18 |
| 1 | 33.53 | 0.109 | 0.133 | 0.09/0.11 | 22.35 |
| 1 ¼ | 42.16 | 0.109 | 0.140 | 0.11/0.17 | 25.40 |
| 1 ½ | 48.26 | 0.109 | 0.145 | 0.17/0.23 | 28.45 |
| 2 | 60.45 | 0.109 | 0.154 | 0.25/0.40 | 35.05 |
| 2 ½ | 73.15 | 0.120 | 0.203 | 0.48/0.77 | 44.45 |
| 3 | 88.90 | 0.120 | 0.216 | 0.63/1.08 | 50.80 |
| 4 | 114.30 | 0.120 | 0.237 | 1.08/2.09 | 63.50 |
| 5 | 141.22 | 0.134 | 0.258 | 1.81/3.43 | 79.25 |
| 6 | 168.15 | 0.134 | 0.280 | 2.72/5.44 | 95.25 |
| 8 | 218.95 | 0.148 | 0.322 | 5.33/10.77 | 127.00 |
| 10 | 273.05 | 0.165 | 0.365 | 9.75/19.28 | 158.75 |
| 12 | 323.85 | 0.180 | 0.375 | 13.61/29.71 | 190.50 |

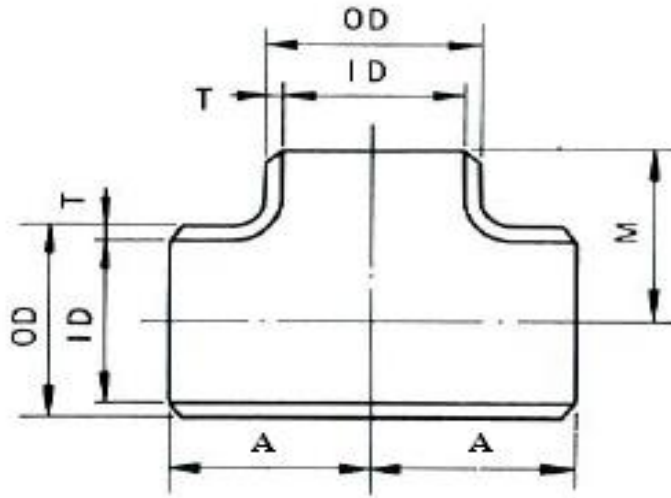
45° LONG RADIUS ELBOW



| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|--------------------|-----------|-------------|-------------------|
| | | Inch | | | |
| | | Sch. 10 S | Sch. 40 S | | |
| 14" | 355.6 | 0.19 | - | 18.14 | 222.3 |
| 16" | 406.4 | 0.19 | - | 23.81 | 254.0 |
| 18" | 457.2 | 0.19 | - | 29.94 | 285.8 |
| 20" | 508.0 | 0.22 | - | 49.89 | 317.5 |
| 24" | 609.6 | 0.25 | - | 70.31 | 381.0 |



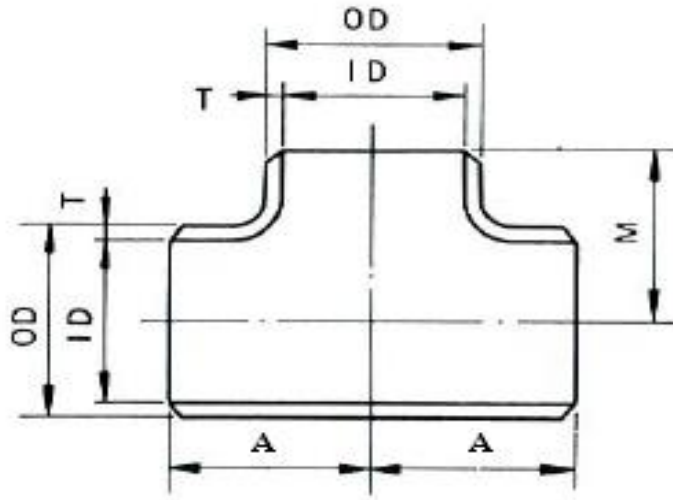
STRAIGHT TEES



unit:mm(1"=25.4)

| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) Inch | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|----------------------------|-----------|-------------|-------------------|
| | | Sch. 10 S | Sch. 40 S | | |
| ½ | 21.34 | 0.083 | 0.109 | 0.065/0.085 | 25.40 |
| ¾ | 26.67 | 0.083 | 0.113 | 0.092/0.115 | 28.40 |
| 1 | 33.53 | 0.109 | 0.133 | 0.204/0.245 | 38.10 |
| 1 ¼ | 42.16 | 0.109 | 0.140 | 0.327/0.42 | 47.76 |
| 1 ½ | 48.26 | 0.109 | 0.145 | 0.457/0.595 | 57.15 |
| 2 | 60.45 | 0.109 | 0.154 | 0.630/0.872 | 63.50 |
| 2 ½ | 73.15 | 0.120 | 0.203 | 1.01/1.70 | 76.20 |
| 3 | 88.90 | 0.120 | 0.216 | 1.37/1.90 | 85.85 |
| 4 | 114.30 | 0.120 | 0.237 | 2.15/4.13 | 104.65 |
| 5 | 141.22 | 0.134 | 0.258 | 3.48/6.55 | 123.95 |
| 6 | 168.15 | 0.134 | 0.280 | 4.76/9.73 | 142.75 |
| 8 | 218.95 | 0.148 | 0.322 | 8.46/18.00 | 177.80 |
| 10 | 273.05 | 0.165 | 0.365 | 14.20/30.80 | 215.90 |
| 12 | 323.85 | 0.180 | 0.375 | 21.60/44.30 | 254.00 |

STRAIGHT TEES

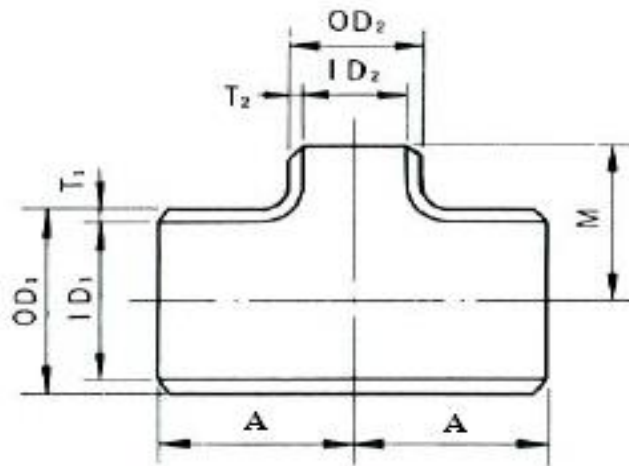


unit:mm(1"=25.4)

| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) | | Weight (kg) | Center to End (A) |
|-------------------|-----------------------|--------------------|-----------|-------------|-------------------|
| | | Inch | | | |
| | | Sch. 10 S | Sch. 40 S | | |
| 14" | 355.6 | 0.19 | - | 48.53 | 279.4 |
| 16" | 406.4 | 0.19 | - | 58.97 | 304.8 |
| 18" | 457.2 | 0.19 | - | 76.66 | 342.9 |
| 20" | 508.0 | 0.22 | - | 103.42 | 381.0 |
| 24" | 609.6 | 0.25 | - | 155.58 | 431.8 |



REDUCING OUTLET TEES



unit:mm(1"=25.4)

| nominal pipe size | | Outside Dia. OD ₁ | Outside Dia. OD ₂ | Wall Thickness (T ₁ , T ₂) Inch | | Center to End (A) | Center to End (M) | Weight (Kg) |
|-------------------|--------|---------------------------------|---------------------------------|--|----------------|----------------------|----------------------|----------------|
| Run | outlet | | | Sch. 10S | | | | |
| | | | | T ₁ | T ₂ | | | |
| ¾ | ½ | 26.67 | 21.34 | 0.083 | 0.083 | 28.45 | 28.45 | 0.083 |
| 1 | ½ | 33.53 | 21.34 | 0.109 | 0.083 | 38.10 | 38.10 | 0.187 |
| 1 | ¾ | 33.53 | 26.67 | 0.109 | 0.083 | 38.10 | 38.10 | 0.187 |
| 1 ¼ | ½ | 42.16 | 21.34 | 0.109 | 0.083 | 47.76 | 47.76 | 0.285 |
| 1 ¼ | ¾ | 42.16 | 26.67 | 0.109 | 0.083 | 47.76 | 47.76 | 0.29 |
| 1 ¼ | 1 | 42.16 | 33.53 | 0.109 | 0.109 | 47.76 | 47.76 | 0.312 |
| 1 ½ | ½ | 48.26 | 21.34 | 0.109 | 0.083 | 57.15 | 57.15 | 0.397 |
| 1 ½ | ¾ | 48.26 | 26.67 | 0.109 | 0.083 | 57.15 | 57.15 | 0.397 |
| 1 ½ | 1 | 48.26 | 33.53 | 0.109 | 0.109 | 57.15 | 57.15 | 0.421 |
| 1 ½ | 1 ¼ | 48.26 | 42.16 | 0.109 | 0.109 | 57.15 | 57.15 | 0.442 |
| 2 | 1 | 60.45 | 33.53 | 0.109 | 0.109 | 63.50 | 50.80 | 0.542 |
| 2 | 1 ¼ | 60.45 | 42.16 | 0.109 | 0.109 | 63.50 | 57.15 | 0.571 |
| 2 | 1 ½ | 60.45 | 48.26 | 0.109 | 0.109 | 63.50 | 60.45 | 0.592 |
| 2 ½ | 1 ½ | 73.15 | 48.26 | 0.12 | 0.109 | 76.20 | 66.55 | 0.895 |
| 2 ½ | 2 | 73.15 | 60.45 | 0.12 | 0.109 | 76.20 | 69.85 | 0.937 |

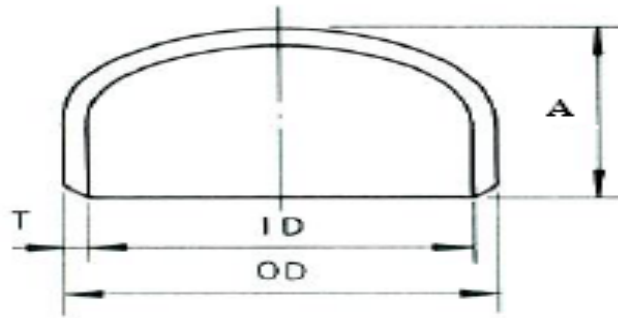
REDUCING OUTLET TEES

(CONT)

unit:mm(1"=25.4)

| nominal pipe size | | Outside Dia. OD ₁ | Outside Dia. OD ₂ | Wall Thickness (T ₁ , T ₂) Inch | | Center to End (C) | Center to End (M) | Weight (Kg) |
|-------------------|--------|------------------------------|------------------------------|--|----------------|-------------------|-------------------|-------------|
| Run | outlet | | | Sch. 10S | | | | |
| | | | | T ₁ | T ₂ | | | |
| 3 | 1 ½ | 88.90 | 48.26 | 0.12 | 0.109 | 85.85 | 73.15 | 1.19 |
| 3 | 2 | 88.90 | 60.45 | 0.12 | 0.109 | 85.85 | 76.20 | 1.19 |
| 3 | 2 ½ | 88.90 | 73.15 | 0.12 | 0.12 | 85.85 | 82.55 | 1.31 |
| 4 | 2 | 114.30 | 60.45 | 0.12 | 0.109 | 104.65 | 88.90 | 1.88 |
| 4 | 2 ½ | 114.30 | 73.15 | 0.12 | 0.12 | 104.65 | 95.25 | 1.95 |
| 4 | 3 | 114.30 | 88.90 | 0.12 | 0.12 | 104.65 | 98.55 | 2.02 |
| 5 | 3 | 141.22 | 88.90 | 0.134 | 0.12 | 123.95 | 111.25 | 3.13 |
| 5 | 4 | 141.22 | 114.30 | 0.134 | 0.12 | 123.95 | 117.35 | 3.26 |
| 6 | 3 | 168.15 | 88.90 | 0.134 | 0.12 | 142.75 | 123.95 | 4.21 |
| 6 | 4 | 168.15 | 114.30 | 0.134 | 0.12 | 142.75 | 130.05 | 4.34 |
| 6 | 5 | 168.15 | 141.22 | 0.134 | 0.134 | 142.75 | 136.65 | 4.56 |
| 8 | 5 | 218.95 | 141.22 | 0.148 | 0.134 | 177.80 | 162.05 | 7.7 |
| 8 | 6 | 218.95 | 168.15 | 0.148 | 0.134 | 177.80 | 168.15 | 7.91 |
| 10 | 6 | 273.05 | 168.15 | 0.165 | 0.134 | 215.90 | 193.55 | 12.8 |
| 10 | 8 | 273.05 | 218.95 | 0.165 | 0.148 | 215.90 | 203.20 | 13.3 |
| 12 | 8 | 323.85 | 218.95 | 0.18 | 0.148 | 254.00 | 228.60 | 19.6 |
| 12 | 10 | 323.85 | 273.05 | 0.18 | 0.165 | 254.00 | 241.30 | 20.5 |

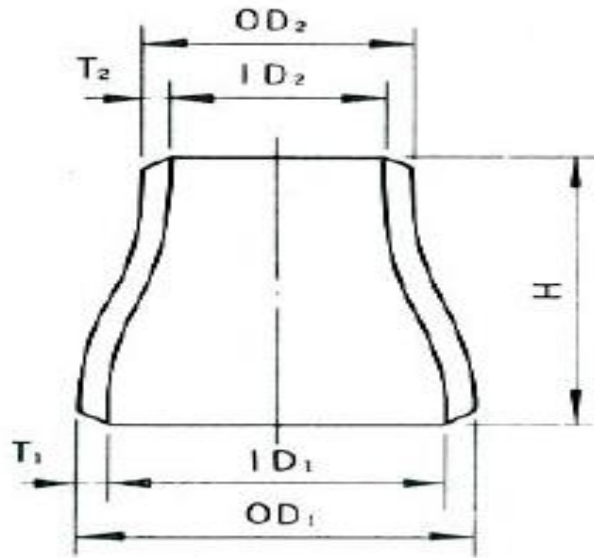
Cap



unit:mm(1"=25.4)

| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) Inch | | Weight (kg) | Length (A) |
|-------------------|-----------------------|----------------------------|-----------|-------------|------------|
| | | Sch. 10 S | Sch. 40 S | | |
| ½ | 21.34 | 0.083 | 0.109 | 0.028 | 25.40 |
| ¾ | 26.67 | 0.083 | 0.113 | 0.035 | 25.40 |
| 1 | 33.53 | 0.109 | 0.133 | 0.087 | 38.10 |
| 1 ¼ | 42.16 | 0.109 | 0.140 | 0.110 | 38.10 |
| 1½ | 48.26 | 0.109 | 0.145 | 0.127 | 38.10 |
| 2 | 60.45 | 0.109 | 0.154 | 0.165 | 38.10 |
| 2½ | 73.15 | 0.120 | 0.203 | 0.232 | 38.10 |
| 3 | 88.90 | 0.120 | 0.216 | 0.367 | 63.50 |
| 4 | 114.30 | 0.120 | 0.237 | 0.594 | 76.20 |
| 5 | 141.22 | 0.134 | 0.258 | 0.993 | 88.90 |
| 6 | 168.15 | 0.134 | 0.280 | 1.39 | 101.60 |
| 8 | 218.95 | 0.148 | 0.322 | 2.38 | 127.00 |
| 10 | 273.05 | 0.165 | 0.365 | 4.14 | 152.40 |
| 12 | 323.85 | 0.180 | 0.375 | 6.39 | 177.80 |

Cone reducer



unit:mm(1"=25.4)

| Nominal pipe size | Outside Dia. OD1 | Outside Dia. OD2 | Wall Thickness (T ₁ , T ₂) Inch | | | | Length | Weight (Kg) |
|-------------------|------------------|------------------|--|----------------|----------------|----------------|--------|-------------|
| | | | Sch. 10S | | Sch. 40S | | | |
| | | | T ₁ | T ₂ | T ₁ | T ₂ | | |
| ¾ / ½ | 26.67 | 21.34 | 0.083 | 0.083 | 0.113 | 0.091 | 38.10 | 0.043 |
| 1" / ¾ | 33.53 | 26.67 | 0.109 | 0.083 | 0.133 | 0.113 | 50.80 | 0.095 |
| 1 ¼ / 1 | 42.16 | 33.53 | 0.109 | 0.109 | 0.140 | 0.133 | 50.80 | 0.112 |
| 1 ½ / 1 | 48.26 | 33.53 | 0.109 | 0.109 | 0.145 | 0.133 | 63.50 | 0.166 |
| 1 ½ / 1 ¼ | 48.26 | 42.16 | 0.109 | 0.109 | 0.145 | 0.140 | 63.50 | 0.184 |
| 2 / 1 | 60.45 | 33.53 | 0.109 | 0.109 | 0.154 | 0.133 | 76.20 | 0.233 |
| 2 / 1 ¼ | 60.45 | 42.16 | 0.109 | 0.109 | 0.154 | 0.140 | 76.20 | 0.245 |
| 2 / 1 ½ | 60.45 | 48.26 | 0.109 | 0.109 | 0.154 | 0.145 | 76.20 | 0.269 |
| 2 ½ / 1 ½ | 73.15 | 48.26 | 0.12 | 0.109 | 0.203 | 0.145 | 88.90 | 0.388 |
| 2 ½ / 2" | 73.15 | 60.45 | 0.12 | 0.109 | 0.203 | 0.154 | 88.90 | 0.426 |
| 3 / 1 ½ | 88.90 | 48.26 | 0.12 | 0.109 | 0.216 | 0.145 | 88.90 | 0.449 |
| 3 / 2 | 88.90 | 60.45 | 0.12 | 0.109 | 0.216 | 0.154 | 88.90 | 0.484 |
| 3 / 2 ½ | 88.90 | 73.15 | 0.12 | 0.12 | 0.216 | 0.203 | 88.90 | 0.522 |



Cone reducer

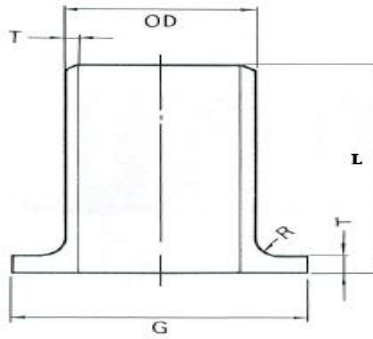
(Cont)

unit:mm(1"=25.4)

| Nominal pipe size | Outside Dia. OD1 | Outside Dia. OD2 | Wall Thickness (T ₁ , T ₂) Inch | | | | Length | Weight (Kg) |
|-------------------|------------------|------------------|--|----------------|----------------|----------------|--------|-------------|
| | | | Sch. 10S | | Sch. 40S | | | |
| | | | T ₁ | T ₂ | T ₁ | T ₂ | | |
| 4 2 | 114.30 | 60.45 | 0.12 | 0.109 | 0.237 | 0.154 | 101.60 | 0.665 |
| 4 2 ½ | 114.30 | 73.15 | 0.12 | 0.12 | 0.237 | 0.203 | 101.60 | 0.706 |
| 4 3 | 114.30 | 88.90 | 0.12 | 0.12 | 0.237 | 0.216 | 101.60 | 0.758 |
| 5 3 | 141.22 | 88.90 | 0.134 | 0.12 | 0.258 | 0.216 | 127.00 | 1.22 |
| 5 4 | 141.22 | 114.30 | 0.134 | 0.12 | 0.258 | 0.237 | 127.00 | 1.33 |
| 6 4 | 168.15 | 114.30 | 0.134 | 0.12 | 0.280 | 0.237 | 139.70 | 1.65 |
| 6 5 | 168.15 | 141.22 | 0.134 | 0.12 | 0.280 | 0.258 | 139.70 | 1.78 |
| 8 5 | 218.95 | 141.22 | 0.148 | 0.134 | 0.322 | 0.258 | 152.40 | 2.57 |
| 8 6 | 218.95 | 168.15 | 0.148 | 0.134 | 0.322 | 0.280 | 152.40 | 2.72 |
| 10 6 | 273.05 | 168.15 | 0.165 | 0.134 | 0.365 | 0.280 | 177.80 | 4.14 |
| 10 8 | 273.05 | 218.95 | 0.165 | 0.148 | 0.365 | 0.322 | 177.80 | 4.49 |
| 12 8 | 323.85 | 218.95 | 0.18 | 0.148 | 0.375 | 0.322 | 203.20 | 6.31 |
| 12 10 | 323.85 | 273.05 | 0.18 | 0.165 | 0.375 | 0.365 | 203.20 | 6.78 |



LAP JOINT STUB ENDS



(unit: inch)

| Nominal Pipe Size | Outside Diameter (OD) | Wall Thickness (T) | Diameter of Lap (G) | Length (L) | Radius R | Weight (kg) |
|-------------------|-----------------------|--------------------|---------------------|------------|----------|-------------|
| | | Sch. 10 S | | ANSI | | |
| ½ | 0.840 | 0.083 | 1.375 | 2.0 | 0.13 | 0.091 |
| ¾ | 1.050 | 0.083 | 1.688 | 2.0 | 0.13 | 0.100 |
| 1 | 1.315 | 0.109 | 2.000 | 2.0 | 0.13 | 0.227 |
| 1 ¼ | 1.660 | 0.109 | 2.500 | 2.0 | 0.19 | 0.326 |
| 1 ½ | 1.900 | 0.109 | 2.875 | 2.0 | 0.25 | 0.367 |
| 2 | 2.375 | 0.109 | 3.625 | 2.5 | 0.31 | 0.693 |
| 2 ½ | 2.875 | 0.120 | 4.125 | 2.5 | 0.31 | 0.924 |
| 3 | 3.500 | 0.120 | 5.000 | 2.5 | 0.38 | 1.205 |
| 4 | 4.500 | 0.120 | 6.188 | 3.0 | 0.44 | 1.640 |
| 5 | 5.563 | 0.134 | 7.313 | 3.0 | 0.50 | 2.582 |
| 6 | 6.625 | 0.134 | 8.500 | 3.5 | 0.50 | 3.610 |
| 8 | 8.625 | 0.148 | 10.625 | 4 | 0.50 | 3.760 |
| 10 | 10.750 | 0.165 | 12.750 | 5.0 | 0.50 | 8.450 |
| 12 | 12.750 | 0.180 | 15.000 | 6.0 | 0.50 | 10.510 |