

MALLEABLE FITTINGS

CLASS 150



SPECIFICATIONS:

- **MATERIAL:** ASTM A 197 (CUPOLA)
- **DIMENSIONS:** ANSI B 16.3, B 16.4, B 16.39
- **UNION DIMENSIONS:** ASME B16.39
- **THREADS:** ANSI/ASME B 1.20, BS
- **CLASS:** 150
- **TENSILE STRENGTH:** 28.4 kg/mm. (minimum)
- **ELONGATION:** 5% minimum
- **ZINC COATING:** SI 918, ASTM A153*

*Available black and galvanized

| MALLEABLE IRON THREADED PIPE UNIONS PRESSURE - TEMPERATURE RATINGS | | | |
|---|-----------------|-----------|------|
| TEMPERATURE | | PRESSURE | |
| | | CLASS 150 | |
| (°F) | (°C) | psi | bar |
| -20° to 150° | -28.9° to 65.6° | 300 | 20.7 |
| 200° | 93.3° | 265 | 18.3 |
| 250° | 121.1° | 225 | 15.5 |
| 300° | 148.9° | 185 | 12.8 |
| 350° | 176.7° | 150 | 10.3 |
| 400° | 204.4° | 110 | 7.6 |
| 450° | 232.2° | 75 | 5.2 |

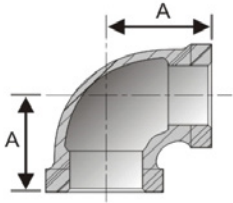
| MALLEABLE IRON THREADED PIPE FITTINGS PRESSURE - TEMPERATURE RATINGS | | | |
|---|-----------------|-----------|------|
| TEMPERATURE | | PRESSURE | |
| | | CLASS 150 | |
| (°F) | (°C) | psi | bar |
| -20° to 150° | -28.9° to 65.6° | 300 | 20.7 |
| 200° | 93.3° | 265 | 18.3 |
| 250° | 121.1° | 225 | 15.5 |
| 300° | 148.9° | 185 | 12.8 |
| 350° | 176.7° | 150 | 10.3 |

MALLEABLE FITTINGS

CLASS 150



90° ELBOW MODEL TSP-BL



| Size (In.) | A | Inner | Master | Pallet | Weight |
|------------|------|-------|--------|--------|--------|
| 1/8 | 0.69 | 50 | 600 | 28,800 | 0.07 |
| 1/4 | 0.81 | 35 | 420 | 20,160 | 0.11 |
| 3/8 | 0.95 | 80 | 320 | 17,280 | 0.16 |
| 1/2 | 1.12 | 50 | 200 | 9,600 | 0.22 |
| 3/4 | 1.31 | 35 | 105 | 5,040 | 0.39 |
| 1 | 1.50 | 20 | 60 | 2,880 | 0.61 |
| 1-1/4 | 1.75 | 20 | 40 | 1,920 | 0.85 |
| 1-1/2 | 1.94 | 15 | 30 | 1,440 | 1.10 |
| 2 | 2.25 | 8 | 16 | 768 | 1.72 |
| 2-1/2 | 2.70 | 12 | 12 | 576 | 3.17 |
| 3 | 3.08 | 8 | 8 | 384 | 4.87 |
| 4 | 3.79 | 2 | 2 | 96 | 8.21 |
| 5 | 4.50 | 2 | 2 | 96 | 15.45 |
| 6 | 5.13 | 1 | 1 | 48 | 20.41 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

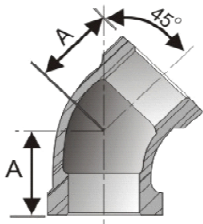
MALLEABLE FITTINGS

CLASS 150



45° ELBOW

MODEL TSP-BL45



| SIZE (In.) | A | INNER | MASTER | PALLET | WEIGHT |
|------------|------|-------|--------|--------|--------|
| 1/8 | 0.63 | 50 | 600 | 28,800 | 0.07 |
| 1/4 | 0.73 | 30 | 360 | 17,280 | 0.10 |
| 3/8 | 0.80 | 75 | 300 | 14,400 | 0.14 |
| 1/2 | 0.88 | 50 | 200 | 9,600 | 0.22 |
| 3/4 | 0.98 | 40 | 120 | 5,760 | 0.32 |
| 1 | 1.12 | 20 | 60 | 2,880 | 0.54 |
| 1-1/4 | 1.29 | 20 | 40 | 1,920 | 0.75 |
| 1-1/2 | 1.43 | 10 | 30 | 1,440 | 1.01 |
| 2 | 1.68 | 12 | 24 | 1,152 | 1.60 |
| 2-1/2 | 1.95 | 12 | 12 | 576 | 2.87 |
| 3 | 2.17 | 10 | 10 | 480 | 4.48 |
| 4 | 2.61 | 4 | 4 | 192 | 7.72 |
| 5 | 3.05 | 1 | 2 | 96 | 10.69 |
| 6 | 3.46 | 1 | 1 | 48 | 17.26 |

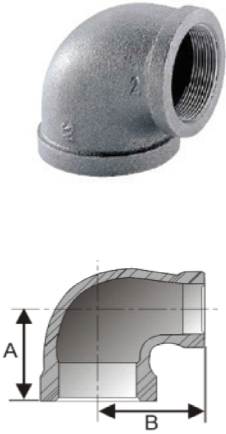
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| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



REDUCING ELBOW MODEL TSP-RBL



| SIZE (In.) | A | B | INNER | MASTER | PALLET | WEIGHT |
|---------------|------|------|-------|--------|--------|--------|
| 1/4 X 1/8 | 0.74 | 0.76 | 40 | 480 | 23,040 | 0.09 |
| 3/8 X 1/8 | 0.81 | 0.85 | 105 | 420 | 20,160 | 0.11 |
| 3/8 X 1/4 | 0.88 | 0.90 | 80 | 320 | 17,280 | 0.15 |
| 1/2 X 1/8 | 1.04 | 1.03 | 60 | 240 | 11,520 | 0.15 |
| 1/2 X 1/4 | 0.97 | 0.98 | 60 | 240 | 11,520 | 0.19 |
| 1/2 X 3/8 | 1.04 | 1.03 | 50 | 200 | 11,520 | 0.22 |
| 3/4 X 1/8 | 1.03 | 1.01 | 40 | 160 | 7,680 | 0.23 |
| 3/4 X 1/4 | 1.05 | 1.08 | 40 | 160 | 7,680 | 0.27 |
| 3/4 X 1/4 | 1.05 | 1.08 | 40 | 160 | 7,680 | 0.27 |
| 3/4 X 3/8 | 1.12 | 1.13 | 40 | 160 | 7,680 | 0.28 |
| 3/4 X 1/2 | 1.20 | 1.22 | 40 | 160 | 7,680 | 0.31 |
| 1 X 1/4 | 1.18 | 1.26 | 25 | 150 | 7,200 | 0.31 |
| 1 X 3/8 | 1.18 | 1.27 | 30 | 120 | 7,200 | 0.40 |
| 1 X 1/2 | 1.26 | 1.40 | 25 | 100 | 4,800 | 0.48 |
| 1 X 3/4 | 1.37 | 1.45 | 50 | 100 | 4,800 | 0.49 |
| 1-1/4 X 1/2 | 1.34 | 1.53 | 20 | 80 | 3,840 | 0.60 |
| 1-1/4 X 3/4 | 1.45 | 1.62 | 15 | 60 | 2,880 | 0.69 |
| 1-1/4 X 1 | 1.58 | 1.67 | 10 | 40 | 1,920 | 0.80 |
| 1-1/2 X 1/2 | 1.38 | 1.65 | 15 | 60 | 2,880 | 0.75 |
| 1-1/2 X 3/4 | 1.52 | 1.75 | 10 | 40 | 1,920 | 0.92 |
| 1-1/2 X 1 | 1.65 | 1.80 | 10 | 40 | 1,920 | 0.98 |
| 1-1/2 X 1-1/4 | 1.82 | 1.88 | 15 | 30 | 1,440 | 1.15 |
| 1-1/2 X 1-1/4 | 1.82 | 1.88 | 10 | 40 | 1,920 | 1.06 |
| 1-1/2 X 1-1/4 | 1.82 | 1.88 | 9 | 36 | 1,728 | 1.23 |
| 1-1/2 X 1-1/4 | 1.82 | 1.88 | 14 | 28 | 1,344 | 1.17 |
| 1-1/2 X 1-1/4 | 1.90 | 2.10 | 10 | 20 | 960 | 1.58 |
| 2 X 1-1/4 | 1.90 | 2.10 | 10 | 20 | 960 | 1.58 |
| 2 X 1-1/2 | 2.02 | 2.16 | 10 | 20 | 960 | 1.67 |
| 2-1/2 X 1/2 | 1.77 | 2.36 | 5 | 15 | 1,440 | 1.72 |
| 2-1/2 X 3/4 | 1.89 | 2.36 | 6 | 24 | 1,440 | 1.94 |
| 2-1/2 X 1 | 2.17 | 2.48 | 10 | 20 | 1,440 | 2.09 |
| 2-1/2 X 1-1/4 | 2.04 | 2.45 | 8 | 16 | 768 | 2.38 |
| 2-1/2 X 1-1/2 | 2.16 | 2.51 | 6 | 12 | 576 | 2.63 |
| 2-1/2 X 2 | 2.39 | 2.60 | 6 | 12 | 576 | 2.80 |
| 3 X 1-1/2 | 2.28 | 2.80 | 4 | 8 | 384 | 3.19 |
| 3 X 2 | 2.52 | 2.89 | 4 | 8 | 384 | 3.80 |
| 3 X 2-1/2 | 2.83 | 2.99 | 4 | 8 | 384 | 4.75 |
| 4 X 2 | 2.72 | 3.44 | 2 | 4 | 192 | 5.05 |
| 4 X 2-1/2 | 3.04 | 3.51 | 2 | 4 | 192 | 5.91 |
| 4 X 3 | 3.30 | 3.20 | 2 | 4 | 192 | 6.78 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

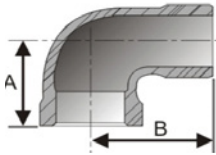
MALLEABLE FITTINGS

CLASS 150



90° STREET ELBOW

MODEL TSP-BSL

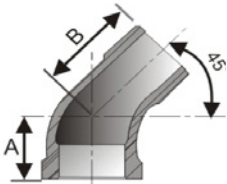


| SIZE (In.) | A | B | INNER | MASTER | PALLET | WEIGHT |
|------------|------|------|-------|--------|--------|--------|
| 1/8 | 0.69 | 1.00 | 60 | 720 | 34,560 | 0.06 |
| 1/4 | 0.80 | 1.17 | 35 | 420 | 20,160 | 0.09 |
| 3/8 | 0.95 | 1.48 | 60 | 240 | 11,520 | 0.15 |
| 1/2 | 1.10 | 1.59 | 60 | 180 | 8,640 | 0.20 |
| 3/4 | 1.28 | 1.85 | 35 | 105 | 5,040 | 0.39 |
| 1 | 1.47 | 2.10 | 40 | 80 | 4,320 | 0.62 |
| 1-1/4 | 1.75 | 2.57 | 25 | 50 | 2,400 | 0.97 |
| 1-1/2 | 1.90 | 2.63 | 9 | 27 | 1,296 | 1.36 |
| 2 | 2.21 | 3.20 | 8 | 16 | 768 | 2.02 |
| 2-1/2 | 2.65 | 3.78 | 5 | 10 | 480 | 3.43 |
| 3 | 3.02 | 4.42 | 8 | 8 | 384 | 5.36 |
| 4 | 3.72 | 5.57 | 4 | 4 | 192 | 9.35 |
| 6 | 5.13 | 8.03 | 1 | 1 | 48 | 20.39 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



45° STREET ELBOW MODEL TSP-BSL45

| SIZE (In.) | A | B | INNER | MASTER | PALLET | WEIGHT |
|------------|------|------|-------|--------|--------|--------|
| 1/8 | 0.63 | 0.83 | 70 | 840 | 40,320 | 0.05 |
| 1/4 | 0.73 | 0.94 | 40 | 480 | 23,040 | 0.09 |
| 3/8 | 0.80 | 1.03 | 120 | 360 | 19,200 | 0.13 |
| 1/2 | 0.86 | 1.30 | 75 | 225 | 10,800 | 0.19 |
| 3/4 | 0.96 | 1.48 | 40 | 120 | 5,760 | 0.28 |
| 1 | 1.10 | 1.69 | 25 | 75 | 3,600 | 0.48 |
| 1-1/4 | 1.26 | 1.87 | 10 | 40 | 1,920 | 0.75 |
| 1-1/2 | 1.40 | 2.05 | 10 | 30 | 1,440 | 1.05 |
| 2 | 1.65 | 2.38 | 12 | 24 | 1,152 | 1.73 |
| 2-1/2 | 1.95 | 2.72 | 6 | 12 | 576 | 2.79 |
| 3 | 2.17 | 3.16 | 3 | 6 | 288 | 4.49 |
| 4 | 2.61 | 3.90 | 4 | 4 | 192 | 7.72 |

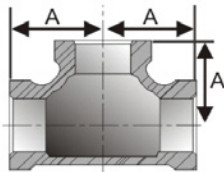
| PROJECT | APPROVAL STAMP |
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| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



TEE MODEL TSP-BT

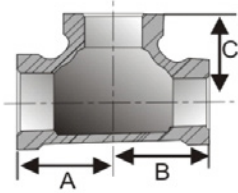


| SIZE (In.) | A | INNER | MASTER | PALLET | WEIGHT |
|------------|------|-------|--------|--------|--------|
| 1/8 | 0.69 | 120 | 480 | 23,040 | 0.10 |
| 1/4 | 0.81 | 75 | 300 | 14,400 | 0.14 |
| 3/8 | 0.95 | 45 | 180 | 8,640 | 0.22 |
| 1/2 | 1.12 | 40 | 120 | 5,760 | 0.33 |
| 3/4 | 1.31 | 35 | 70 | 3,360 | 0.49 |
| 1 | 1.50 | 20 | 40 | 1,920 | 0.76 |
| 1-1/4 | 1.75 | 14 | 28 | 1,344 | 1.24 |
| 1-1/2 | 1.94 | 12 | 24 | 1,152 | 1.56 |
| 2 | 2.26 | 8 | 16 | 768 | 2.50 |
| 2-1/2 | 2.70 | 4 | 8 | 384 | 4.59 |
| 3 | 3.08 | 6 | 6 | 288 | 6.81 |
| 4 | 3.79 | 2 | 2 | 96 | 10.94 |
| 5 | 4.50 | 2 | 2 | 96 | 20.95 |
| 6 | 5.13 | 1 | 1 | 48 | 28.62 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

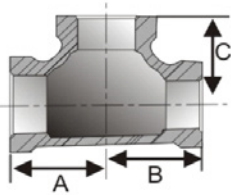
MALLEABLE FITTINGS

CLASS 150



REDUCING TEE MODEL TSP-RBT

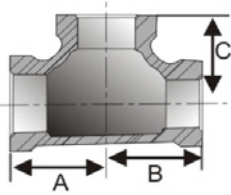
| SIZE (In.) | A | B | C | INNER | MASTER | PALLET | WEIGHT |
|-----------------------|------|------|------|-------|--------|--------|--------|
| 1/4 X 1/4 X 1/8 | 0.74 | 0.74 | 0.76 | 25 | 300 | 14,400 | 0.13 |
| 3/8 X 3/8 X 1/8 | 0.88 | 0.81 | 0.85 | 45 | 180 | 11,520 | 0.26 |
| 3/8 X 3/8 X 1/4 | 0.88 | 0.88 | 0.90 | 60 | 240 | 11,520 | 0.19 |
| 1/2 X 1/2 X 1/8 | 0.86 | 0.87 | 0.94 | 45 | 90 | 4,320 | 0.26 |
| 1/2 X 1/2 X 1/4 | 0.97 | 0.97 | 0.98 | 40 | 160 | 7,680 | 0.28 |
| 1/2 X 1/2 X 3/8 | 1.04 | 1.04 | 1.03 | 40 | 160 | 7,680 | 0.29 |
| 1/2 X 1/2 X 3/4 | 1.20 | 1.20 | 1.28 | 30 | 120 | 5,760 | 0.40 |
| 1/2 X 1/2 X 1 | 1.36 | 1.36 | 1.26 | 20 | 80 | 4,800 | 0.53 |
| 3/4 X 3/4 X 1/4 | 1.05 | 1.05 | 1.08 | 25 | 100 | 4,800 | 0.37 |
| 3/4 X 3/4 X 3/8 | 1.12 | 1.12 | 1.13 | 25 | 100 | 4,800 | 0.42 |
| 3/4 X 3/4 X 1/2 | 1.20 | 1.20 | 1.18 | 20 | 80 | 3,840 | 0.42 |
| 3/4 X 3/4 X 1 | 1.45 | 1.45 | 1.37 | 30 | 60 | 3,840 | 0.71 |
| 3/4 X 3/4 X 1-1/4 | 1.63 | 1.63 | 1.45 | 30 | 60 | 3,840 | 0.77 |
| 1 X 1 X 1/4 | 1.11 | 1.11 | 1.22 | 20 | 80 | 3,840 | 0.53 |
| 1 X 1 X 3/8 | 1.18 | 1.18 | 1.27 | 15 | 60 | 2,880 | 0.63 |
| 1 X 1 X 1/2 | 1.26 | 1.26 | 1.40 | 15 | 60 | 2,880 | 0.64 |
| 1 X 1 X 3/4 | 1.37 | 1.37 | 1.45 | 12 | 48 | 2,304 | 0.72 |
| 1 X 1 X 1-1/4 | 1.67 | 1.67 | 1.58 | 11 | 44 | 2,112 | 1.03 |
| 1 X 1 X 1-1/2 | 1.80 | 1.80 | 1.65 | 9 | 36 | 1,728 | 1.12 |
| 1 X 1 X 2 | 1.98 | 1.98 | 1.89 | 8 | 32 | 2,880 | 1.44 |
| 1-1/4 X 1-1/4 X 3/8 | 1.26 | 1.26 | 1.44 | 20 | 40 | 1,920 | 0.84 |
| 1-1/4 X 1-1/4 X 1/2 | 1.34 | 1.34 | 1.45 | 20 | 40 | 1,920 | 0.93 |
| 1-1/4 X 1-1/4 X 3/4 | 1.45 | 1.45 | 1.62 | 20 | 40 | 1,920 | 0.99 |
| 1-1/4 X 1-1/4 X 1 | 1.58 | 1.58 | 1.66 | 20 | 40 | 1,920 | 1.08 |
| 1-1/4 X 1-1/4 X 1-1/2 | 1.88 | 1.88 | 1.82 | 12 | 24 | 1,152 | 1.53 |
| 1-1/4 X 1-1/4 X 2 | 2.10 | 2.10 | 1.90 | 7 | 28 | 1,536 | 1.68 |
| 1-1/2 X 1-1/2 X 3/8 | 1.58 | 1.58 | 1.58 | 15 | 30 | 1,440 | 1.03 |
| 1-1/2 X 1-1/2 X 1/2 | 1.41 | 1.41 | 1.66 | 18 | 36 | 1,728 | 1.09 |
| 1-1/2 X 1-1/2 X 3/4 | 1.41 | 1.41 | 1.75 | 15 | 30 | 1,440 | 1.24 |
| 1-1/2 X 1-1/2 X 1 | 1.65 | 1.65 | 1.88 | 10 | 30 | 1,440 | 1.34 |
| 1-1/2 X 1-1/2 X 1-1/4 | 1.65 | 1.65 | 1.88 | 12 | 24 | 1,152 | 1.49 |
| 1-1/2 X 1-1/2 X 2 | 2.12 | 2.12 | 1.98 | 8 | 16 | 768 | 1.98 |
| 2 X 2 X 1/2 | 1.49 | 1.49 | 1.88 | 10 | 20 | 960 | 1.57 |
| 2 X 2 X 3/4 | 1.60 | 1.60 | 1.97 | 10 | 20 | 960 | 1.75 |
| 2 X 2 X 1 | 1.73 | 1.73 | 2.02 | 10 | 20 | 960 | 1.84 |
| 2 X 2 X 1-1/4 | 1.86 | 1.86 | 2.06 | 8 | 16 | 768 | 2.04 |
| 2 X 2 X 1-1/2 | 1.98 | 1.98 | 2.12 | 8 | 16 | 768 | 2.23 |
| 2 X 2 X 2-1/2 | 2.55 | 2.55 | 2.34 | 6 | 12 | 576 | 3.36 |
| 2-1/2 X 2-1/2 X 1/2 | 1.58 | 1.58 | 2.20 | 6 | 12 | 576 | 2.72 |
| 2-1/2 X 2-1/2 X 3/4 | 1.74 | 1.74 | 2.32 | 6 | 12 | 576 | 2.72 |
| 2-1/2 X 2-1/2 X 1 | 1.74 | 1.74 | 2.37 | 5 | 10 | 480 | 2.78 |
| 2-1/2 X 2-1/2 X 1-1/4 | 1.87 | 1.87 | 2.45 | 5 | 10 | 480 | 3.35 |
| 2-1/2 X 2-1/2 X 1-1/2 | 2.16 | 2.16 | 2.51 | 5 | 10 | 480 | 3.58 |
| 2-1/2 X 2-1/2 X 2 | 2.39 | 2.39 | 2.60 | 4 | 8 | 384 | 3.84 |



REDUCING TEE MODEL TSP-RBT (CONTINUED)

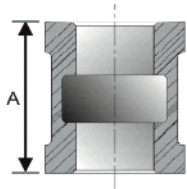
| SIZE (In.) | A | B | C | INNER | MASTER | PALLET | WEIGHT |
|---------------------|------|------|------|-------|--------|--------|--------|
| 3 X 3 X 1/2 | 1.83 | 1.83 | 2.56 | 4 | 8 | 384 | 4.20 |
| 3 X 3 X 3/4 | 1.79 | 1.79 | 2.57 | 3 | 9 | 432 | 4.16 |
| 3 X 3 X 1 | 2.00 | 2.00 | 2.66 | 3 | 6 | 288 | 4.25 |
| 3 X 3 X 1-1/4 | 2.17 | 2.17 | 2.74 | 3 | 6 | 288 | 4.49 |
| 3 X 3 X 1-1/2 | 2.29 | 2.29 | 2.81 | 3 | 6 | 288 | 4.73 |
| 3 X 3 X 2 | 2.52 | 2.52 | 2.89 | 3 | 6 | 288 | 5.31 |
| 3 X 3 X 2-1/2 | 2.83 | 2.83 | 2.99 | 3 | 6 | 288 | 5.81 |
| 4 X 4 X 1-1/4 | 2.40 | 2.40 | 3.41 | 2 | 4 | 192 | 7.02 |
| 4 X 4 X 1-1/2 | 2.46 | 2.46 | 3.25 | 2 | 4 | 192 | 6.87 |
| 4 X 4 X 2 | 2.69 | 2.69 | 3.34 | 3 | 3 | 144 | 7.70 |
| 4 X 4 X 2-1/2 | 3.05 | 3.05 | 3.51 | 3 | 3 | 144 | 8.84 |
| 4 X 4 X 3 | 3.23 | 3.23 | 3.53 | 2 | 2 | 96 | 10.06 |
| 1/2 X 1/4 X 1/2 | 1.12 | 0.98 | 1.12 | 25 | 100 | 4,800 | 0.28 |
| 3/4 X 1/2 X 1/2 | 1.18 | 1.18 | 1.20 | 25 | 100 | 4,800 | 0.40 |
| 3/4 X 1/2 X 3/4 | 1.28 | 1.20 | 1.28 | 20 | 80 | 3,840 | 0.53 |
| 3/4 X 1/2 X 1 | 1.42 | 1.37 | 1.34 | 18 | 72 | 3,456 | 0.55 |
| 1 X 1/2 X 1/2 | 1.24 | 1.10 | 1.37 | 20 | 80 | 3,840 | 0.53 |
| 1 X 1/2 X 3/4 | 1.34 | 1.20 | 1.42 | 20 | 80 | 3,840 | 0.61 |
| 1 X 1/2 X 1 | 1.47 | 1.37 | 1.47 | 15 | 60 | 2,880 | 0.75 |
| 1 X 3/4 X 1/2 | 1.24 | 1.18 | 1.37 | 20 | 80 | 3,840 | 0.57 |
| 1 X 3/4 X 3/4 | 1.34 | 1.28 | 1.42 | 15 | 60 | 2,880 | 0.67 |
| 1 X 3/4 X 1 | 1.50 | 1.45 | 1.50 | 15 | 60 | 2,880 | 0.81 |
| 1-1/4 X 1/2 X 3/4 | 1.46 | 1.26 | 1.56 | 25 | 50 | 2,400 | 0.65 |
| 1-1/4 X 1/2 X 1 | 1.58 | 1.36 | 1.67 | 20 | 40 | 1,920 | 0.93 |
| 1-1/4 X 1/2 X 1-1/4 | 1.72 | 1.50 | 1.72 | 20 | 40 | 1,920 | 0.96 |
| 1-1/4 X 3/4 X 1/2 | 1.42 | 1.28 | 1.59 | 10 | 40 | 1,920 | 0.66 |
| 1-1/4 X 3/4 X 3/4 | 1.42 | 1.28 | 1.59 | 10 | 40 | 1,920 | 0.80 |
| 1-1/4 X 3/4 X 1 | 1.55 | 1.42 | 1.63 | 10 | 40 | 1,920 | 0.89 |
| 1-1/4 X 3/4 X 1-1/4 | 1.75 | 1.62 | 1.75 | 10 | 40 | 1,920 | 1.08 |
| 1-1/4 X 1 X 1/2 | 1.31 | 1.24 | 1.50 | 20 | 40 | 1,920 | 0.74 |
| 1-1/4 X 1 X 3/4 | 1.42 | 1.34 | 1.59 | 20 | 40 | 1,920 | 0.93 |
| 1-1/4 X 1 X 1 | 1.55 | 1.47 | 1.63 | 20 | 40 | 1,920 | 1.05 |
| 1-1/4 X 1 X 1-1/4 | 1.75 | 1.67 | 1.75 | 15 | 30 | 1,440 | 1.15 |
| 1-1/4 X 1 X 1-1/2 | 1.94 | 1.67 | 1.94 | 18 | 36 | 1,920 | 1.38 |
| 1-1/2 X 1/2 X 3/4 | 1.44 | 1.12 | 1.68 | 15 | 30 | 1,440 | 0.78 |
| 1-1/2 X 1/2 X 1 | 1.65 | 1.52 | 1.94 | 12 | 24 | 1,152 | 0.98 |
| 1-1/2 X 1/2 X 1-1/4 | 1.89 | 1.73 | 1.97 | 12 | 24 | 1,152 | 1.18 |
| 1-1/2 X 1/2 X 1-1/2 | 1.94 | 1.66 | 1.94 | 12 | 24 | 1,152 | 1.37 |
| 1-1/2 X 3/4 X 1/2 | 1.40 | 1.16 | 1.67 | 15 | 30 | 1,440 | 0.88 |
| 1-1/2 X 3/4 X 3/4 | 1.51 | 1.27 | 1.64 | 15 | 30 | 1,440 | 1.09 |
| 1-1/2 X 3/4 X 1-1/4 | 1.79 | 1.57 | 1.93 | 12 | 24 | 1,152 | 1.26 |
| 1-1/2 X 3/4 X 1-1/2 | 1.90 | 1.72 | 1.90 | 12 | 24 | 1,152 | 1.39 |
| 1-1/2 X 1 X 1/2 | 1.44 | 1.25 | 1.69 | 15 | 30 | 1,440 | 1.21 |
| 1-1/2 X 1 X 3/4 | 1.49 | 1.35 | 1.73 | 15 | 30 | 1,440 | 1.30 |
| 1-1/2 X 1 X 1 | 1.65 | 1.50 | 1.80 | 15 | 30 | 1,440 | 1.18 |

REDUCING TEE MODEL TSP-RBT (CONTINUED)



| SIZE (In.) | A | B | C | INNER | MASTER | PALLET | WEIGHT |
|-----------------------|------|------|------|-------|--------|--------|--------|
| 1-1/2 X 1 X 1 | 1.65 | 1.50 | 1.80 | 15 | 30 | 1,440 | 1.18 |
| 1-1/2 X 1 X 1-1/4 | 1.82 | 1.67 | 1.88 | 12 | 24 | 1,152 | 1.23 |
| 1-1/2 X 1 X 1-1/2 | 1.94 | 1.80 | 1.94 | 12 | 24 | 1,152 | 1.57 |
| 1-1/2 X 1-1/4 X 1/2 | 1.41 | 1.34 | 1.66 | 12 | 24 | 1,152 | 1.08 |
| 1-1/2 X 1-1/4 X 3/4 | 1.52 | 1.43 | 1.75 | 12 | 24 | 1,152 | 1.09 |
| 1-1/2 X 1-1/4 X 1 | 1.63 | 1.55 | 1.76 | 12 | 24 | 1,152 | 1.25 |
| 1-1/2 X 1-1/4 X 1-1/4 | 1.82 | 1.75 | 1.88 | 12 | 24 | 1,152 | 1.40 |
| 1-1/2 X 1-1/4 X 1-1/2 | 1.90 | 1.84 | 1.90 | 12 | 24 | 1,152 | 1.63 |
| 2 X 1/2 X 2 | 2.21 | 1.84 | 2.21 | 8 | 16 | 768 | 2.08 |
| 2 X 3/4 X 3/4 | 1.63 | 1.30 | 1.93 | 12 | 24 | 1,152 | 1.03 |
| 2 X 3/4 X 2 | 2.25 | 1.97 | 2.25 | 8 | 16 | 768 | 2.12 |
| 2 X 1 X 1 | 1.73 | 1.57 | 2.09 | 12 | 24 | 1,152 | 1.45 |
| 2 X 1 X 1-1/2 | 1.98 | 1.76 | 2.12 | 10 | 20 | 960 | 1.71 |
| 2 X 1 X 2 | 2.21 | 1.98 | 2.21 | 8 | 16 | 768 | 2.18 |
| 2 X 1-1/4 X 1 | 1.81 | 1.57 | 2.03 | 8 | 16 | 768 | 1.75 |
| 2 X 1-1/4 X 1-1/4 | 1.86 | 1.72 | 2.06 | 8 | 16 | 768 | 1.66 |
| 2 X 1-1/4 X 1-1/2 | 2.09 | 1.88 | 2.16 | 8 | 16 | 768 | 1.87 |
| 2 X 1-1/4 X 2 | 2.25 | 2.10 | 2.25 | 8 | 16 | 768 | 2.22 |
| 2 X 1-1/2 X 3/4 | 1.63 | 1.46 | 1.98 | 10 | 20 | 960 | 1.38 |
| 2 X 1-1/2 X 1 | 1.73 | 1.65 | 2.02 | 10 | 20 | 960 | 1.61 |
| 2 X 1-1/2 X 1-1/4 | 1.86 | 1.78 | 2.06 | 8 | 16 | 768 | 1.93 |
| 2 X 1-1/2 X 1-1/2 | 1.98 | 1.90 | 2.12 | 8 | 16 | 768 | 1.95 |
| 2 X 1-1/2 X 2 | 2.21 | 2.11 | 2.21 | 8 | 16 | 768 | 2.04 |
| 2-1/2 X 1-1/2 X 2-1/2 | 2.70 | 2.51 | 3.41 | 5 | 10 | 480 | 3.93 |
| 2-1/2 X 2 X 2 | 2.39 | 2.25 | 2.60 | 5 | 10 | 480 | 3.13 |
| 2-1/2 X 2 X 2-1/2 | 2.70 | 2.60 | 2.70 | 5 | 10 | 480 | 4.08 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |



COUPLING

MODEL TSP-BTAS

| SIZE (In.) | A | INNER CARTON | MASTER | PALLET | WEIGHT |
|------------|------|--------------|--------|--------|--------|
| 1/8 | 0.96 | 70 | 840 | 40,320 | 0.05 |
| 1/4 | 1.06 | 40 | 480 | 23,040 | 0.09 |
| 3/8 | 1.16 | 60 | 360 | 23,040 | 0.14 |
| 1/2 | 1.34 | 60 | 240 | 11,520 | 0.18 |
| 3/4 | 1.52 | 50 | 150 | 7,200 | 0.27 |
| 1 | 1.67 | 25 | 100 | 4,800 | 0.40 |
| 1-1/4 | 1.93 | 16 | 64 | 3,072 | 0.60 |
| 1-1/2 | 2.15 | 18 | 36 | 1,728 | 0.87 |
| 2 | 2.54 | 12 | 24 | 1,152 | 1.39 |
| 2-1/2 | 2.88 | 8 | 16 | 768 | 2.43 |
| 3 | 3.18 | 12 | 12 | 576 | 3.26 |
| 4 | 3.69 | 3 | 6 | 288 | 5.70 |
| 5 | 3.75 | 1 | 2 | 96 | 8.84 |

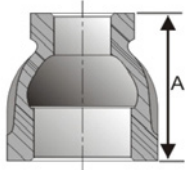
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| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



REDUCING COUPLING MODEL TSP-BRS



| SIZE (In.) | A | INNER | MASTER | PALLET | WEIGHT |
|---------------|------|-------|--------|--------|--------|
| 1/4 X 1/8 | 1.00 | 50 | 600 | 28,800 | .07 |
| 3/8 X 1/8 | 1.13 | 50 | 600 | 28,800 | .09 |
| 3/8 X 1/4 | 1.13 | 50 | 600 | 28,800 | .11 |
| 1/2 X 1/8 | 1.25 | 50 | 600 | 28,800 | .14 |
| 1/2 X 1/4 | 1.25 | 50 | 600 | 28,800 | .14 |
| 1/2 X 3/8 | 1.25 | 50 | 600 | 28,800 | .16 |
| 3/4 X 1/8 | 1.44 | 50 | 600 | 28,800 | .21 |
| 3/4 X 1/4 | 1.44 | 50 | 600 | 28,800 | .22 |
| 3/4 X 3/8 | 1.44 | 50 | 600 | 28,800 | .21 |
| 3/4 X 1/2 | 1.44 | 50 | 600 | 28,800 | .24 |
| 1 X 1/4 | 1.69 | 50 | 600 | 28,800 | .32 |
| 1 X 3/8 | 1.69 | 50 | 600 | 28,800 | .37 |
| 1 X 1/2 | 1.69 | 50 | 600 | 28,800 | .30 |
| 1 X 3/4 | 1.69 | 50 | 600 | 28,800 | .37 |
| 1-1/4 X 3/8 | 2.06 | 50 | 600 | 28,800 | .85 |
| 1-1/4 X 1/2 | 2.06 | 50 | 600 | 28,800 | .55 |
| 1-1/4 X 3/4 | 2.06 | 50 | 600 | 28,800 | .61 |
| 1-1/4 X 1 | 2.06 | 50 | 600 | 28,800 | .62 |
| 1-1/2 X 3/8 | 2.31 | 50 | 600 | 28,800 | .66 |
| 1-1/2 X 1/2 | 2.31 | 50 | 600 | 28,800 | .70 |
| 1-1/2 X 3/4 | 2.31 | 50 | 600 | 28,800 | .74 |
| 1-1/2 X 1 | 2.31 | 50 | 600 | 28,800 | .78 |
| 1-1/2 X 1-1/4 | 2.31 | 50 | 600 | 28,800 | .87 |
| 2 X 1/2 | 2.81 | 50 | 600 | 28,800 | 1.14 |
| 2 X 3/4 | 2.81 | 12 | 36 | 1,728 | 1.15 |
| 2 X 1 | 2.81 | 12 | 36 | 1,728 | 1.18 |
| 2 X 1-1/4 | 2.81 | 9 | 27 | 1,296 | 1.18 |
| 2 X 1-1/2 | 2.81 | 9 | 27 | 1,296 | 1.35 |
| 2-1/2 X 1/2 | 3.25 | 10 | 20 | 960 | 1.72 |
| 2-1/2 X 3/4 | 3.25 | 10 | 20 | 960 | 2.34 |
| 2-1/2 X 1 | 3.25 | 10 | 20 | 960 | 1.79 |
| 2-1/2 X 1-1/4 | 3.25 | 10 | 20 | 960 | 2.20 |
| 2-1/2 X 1-1/2 | 3.25 | 7 | 14 | 672 | 2.09 |
| 2-1/2 X 2 | 3.25 | 7 | 14 | 672 | 2.26 |
| 2-1/2 X 2 | 3.25 | 7 | 14 | 672 | 2.26 |
| 3 X 3/4 | 3.69 | 6 | 12 | 576 | 2.82 |
| 3 X 1 | 3.69 | 6 | 12 | 576 | 3.04 |
| 3 X 1-1/4 | 3.69 | 6 | 12 | 576 | 3.15 |
| 3 X 1-1/2 | 3.69 | 6 | 12 | 576 | 3.27 |
| 3 X 2 | 3.69 | 6 | 12 | 576 | 3.25 |
| 3 X 2-1/2 | 3.69 | 5 | 10 | 480 | 3.64 |
| 4 X 1-1/2 | 4.38 | 3 | 6 | 288 | 5.43 |
| 4 X 2 | 4.38 | 3 | 6 | 288 | 5.35 |
| 4 X 2-1/2 | 4.38 | 3 | 6 | 288 | 5.69 |
| 4 X 3 | 4.38 | 3 | 6 | 288 | 5.90 |
| 6 X 4 | 5.81 | 2 | 2 | 96 | 13.17 |

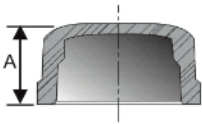
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| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |
| | |

MALLEABLE FITTINGS

CLASS 150

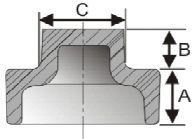


CAP MODEL TSP-BRCA



| SIZE (In.) | A | INNER CARTON | MASTER | PALLET | WEIGHT |
|------------|------|--------------|--------|--------|--------|
| 1/8 | 0.55 | 120 | 1440 | 69,120 | 0.03 |
| 1/4 | 0.63 | 60 | 720 | 46,080 | 0.06 |
| 3/8 | 0.74 | 50 | 600 | 34,560 | 0.08 |
| 1/2 | 0.87 | 75 | 300 | 14,400 | 0.11 |
| 3/4 | 0.97 | 40 | 160 | 7,680 | 0.17 |
| 1 | 1.16 | 25 | 100 | 4,800 | 0.31 |
| 1-1/4 | 1.28 | 20 | 80 | 3,840 | 0.46 |
| 1-1/2 | 1.33 | 18 | 54 | 2,592 | 0.55 |
| 2 | 1.45 | 12 | 36 | 1,728 | 0.82 |
| 2-1/2 | 1.70 | 16 | 32 | 1,920 | 1.55 |
| 3 | 1.80 | 10 | 20 | 1,152 | 2.39 |
| 4 | 2.08 | 6 | 12 | 576 | 3.81 |
| 5 | 2.32 | 4 | 8 | 480 | 5.77 |
| 6 | 2.55 | 2 | 4 | 192 | 9.09 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |



PLUG

MODEL TSP-PG

| SIZE (In.) | A | B | C | MASTER | PALLET | WEIGHT |
|------------|------|------|------|--------|--------|--------|
| 1/8 | 0.39 | 0.24 | 0.28 | 2400 | 11,520 | 0.02 |
| 1/4 | 0.46 | 0.28 | 0.37 | 1200 | 86,400 | 0.03 |
| 3/8 | 0.50 | 0.31 | 0.43 | 960 | 57,600 | 0.05 |
| 1/2 | 0.58 | 0.38 | 0.56 | 600 | 28,800 | 0.08 |
| 3/4 | 0.65 | 0.44 | 0.63 | 360 | 17,280 | 0.10 |
| 1 | 0.75 | 0.50 | 0.82 | 240 | 11,520 | 0.20 |
| 1-1/4 | 0.82 | 0.56 | 0.94 | 120 | 5,760 | 0.34 |
| 1-1/2 | 0.85 | 0.62 | 1.13 | 90 | 4,320 | 0.48 |
| 2 | 0.91 | 0.68 | 1.31 | 60 | 2,880 | 0.74 |
| 2-1/2 | 1.26 | 0.74 | 1.50 | 32 | 1,536 | 1.01 |
| 3 | 1.16 | 0.80 | 1.69 | 28 | 1,536 | 1.66 |
| 4 | 1.22 | 1.00 | 2.28 | 12 | 576 | 3.10 |
| 5 | 1.31 | 1.00 | 2.50 | 7 | 480 | 6.35 |
| 6 | 1.40 | 1.25 | 3.03 | 4 | 480 | 10.66 |

| PROJECT | APPROVAL STAMP |
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| PROJECT: | <input type="checkbox"/> APPROVED |
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| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

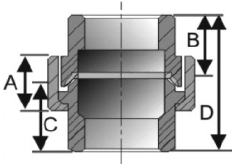
MALLEABLE FITTINGS

CLASS 150



UNION

MODEL TSP-CUBRA



| SIZE (In.) | A | B | C | D | INNER | MASTER | PALLET | WEIGHT |
|------------|------|------|------|------|-------|--------|--------|--------|
| 1/8 | 0.55 | 0.65 | 0.69 | 1.26 | 60 | 240 | 11,520 | 0.14 |
| 1/4 | 0.61 | 0.73 | 0.80 | 1.44 | 18 | 216 | 11,520 | 0.22 |
| 3/8 | 0.63 | 0.83 | 0.90 | 1.61 | 35 | 140 | 7,680 | 0.32 |
| 1/2 | 0.67 | 0.91 | 1.00 | 1.72 | 50 | 100 | 4,800 | 0.43 |
| 3/4 | 0.71 | 1.00 | 1.09 | 1.95 | 35 | 70 | 3,360 | 0.62 |
| 1 | 0.79 | 1.06 | 1.18 | 2.20 | 20 | 40 | 1,920 | 0.89 |
| 1-1/4 | 0.94 | 1.18 | 1.38 | 2.26 | 15 | 30 | 1,440 | 1.38 |
| 1-1/2 | 1.00 | 1.30 | 1.50 | 2.41 | 10 | 20 | 960 | 1.74 |
| 2 | 1.06 | 1.46 | 1.61 | 2.75 | 6 | 12 | 576 | 2.60 |
| 2-1/2 | 1.16 | 1.65 | 1.77 | 3.22 | 4 | 8 | 384 | 4.57 |
| 3 | 1.28 | 1.85 | 1.97 | 3.50 | 4 | 8 | 384 | 6.07 |
| 4 | 1.54 | 2.28 | 2.38 | 3.85 | 2 | 4 | 192 | 11.08 |

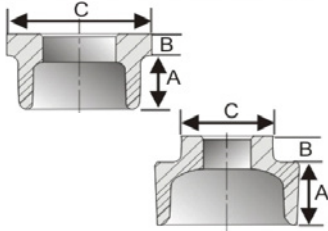
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| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



BUSHING MODEL TSP-HBU



| SIZE (In.) | A | B | C | INNER CARTON | MASTER | PALLET | WEIGHT |
|---------------|------|------|------|--------------|--------|--------|--------|
| 1/4 X 1/8 | 0.52 | 0.15 | 0.64 | 120 | 1440 | 69,120 | 0.02 |
| 3/8 X 1/8 | 0.48 | 0.16 | 0.85 | 75 | 900 | 43,200 | 0.05 |
| 3/8 X 1/4 | 0.48 | 0.16 | 0.84 | 75 | 900 | 43,200 | 0.04 |
| 1/2 X 1/8 | 0.65 | 0.19 | 1.03 | 150 | 600 | 28,800 | 0.08 |
| 1/2 X 1/4 | 0.56 | 0.19 | 1.03 | 150 | 600 | 28,800 | 0.08 |
| 1/2 X 3/8 | 0.56 | 0.19 | 1.03 | 150 | 600 | 28,800 | 0.07 |
| 3/4 X 1/8 | 0.63 | 0.22 | 1.15 | 75 | 300 | 14,400 | 0.14 |
| 3/4 X 1/4 | 0.63 | 0.22 | 1.15 | 75 | 300 | 14,400 | 0.13 |
| 3/4 X 3/8 | 0.63 | 0.22 | 1.15 | 75 | 300 | 14,400 | 0.13 |
| 3/4 X 1/2 | 0.71 | 0.22 | 1.15 | 75 | 300 | 14,400 | 0.10 |
| 3/4 X 1/2 | 0.71 | 0.22 | 1.15 | 75 | 300 | 14,400 | 0.10 |
| 1 X 1/8 | 0.75 | 0.38 | 1.12 | 50 | 200 | 9,600 | 0.21 |
| 1 X 1/4 | 0.75 | 0.38 | 1.12 | 50 | 200 | 9,600 | 0.22 |
| 1 X 3/8 | 0.75 | 0.38 | 1.12 | 50 | 200 | 9,600 | 0.19 |
| 1 X 1/2 | 0.85 | 0.25 | 1.42 | 50 | 200 | 9,600 | 0.21 |
| 1 X 3/4 | 0.85 | 0.25 | 1.42 | 50 | 200 | 9,600 | 0.17 |
| 1-1/4 X 1/8 | 0.90 | 0.34 | 1.12 | 30 | 120 | 5,760 | 0.33 |
| 1-1/4 X 1/4 | 0.90 | 0.34 | 1.12 | 30 | 120 | 5,760 | 0.30 |
| 1-1/4 X 3/8 | 0.90 | 0.34 | 1.12 | 30 | 120 | 5,760 | 0.29 |
| 1-1/4 X 1/2 | 0.90 | 0.34 | 1.24 | 30 | 120 | 5,760 | 0.29 |
| 1-1/4 X 3/4 | 0.80 | 0.28 | 1.76 | 30 | 120 | 5,760 | 0.34 |
| 1-1/4 X 1 | 0.80 | 0.28 | 1.76 | 30 | 120 | 5,760 | 0.29 |
| 1-1/2 X 1/8 | 0.93 | 0.37 | 1.12 | 25 | 75 | 3,600 | 0.47 |
| 1-1/2 X 1/4 | 0.93 | 0.37 | 1.12 | 25 | 75 | 3,600 | 0.40 |
| 1-1/2 X 3/8 | 0.93 | 0.37 | 1.12 | 25 | 75 | 3,600 | 0.39 |
| 1-1/2 X 1/2 | 0.93 | 0.37 | 1.34 | 25 | 75 | 3,600 | 0.37 |
| 1-1/2 X 3/4 | 0.93 | 0.37 | 1.44 | 25 | 75 | 3,600 | 0.40 |
| 1-1/2 X 1 | 0.92 | 0.31 | 2.00 | 25 | 75 | 3,600 | 0.45 |
| 1-1/2 X 1-1/4 | 0.92 | 0.31 | 2.00 | 25 | 75 | 3,600 | 0.32 |
| 2 X 1/4 | 0.86 | 0.42 | 1.12 | 20 | 60 | 2,880 | 0.58 |
| 2 X 3/8 | 0.88 | 0.39 | 1.12 | 20 | 60 | 2,880 | 0.57 |
| 2 X 1/2 | 0.98 | 0.41 | 1.34 | 20 | 60 | 2,880 | 0.50 |

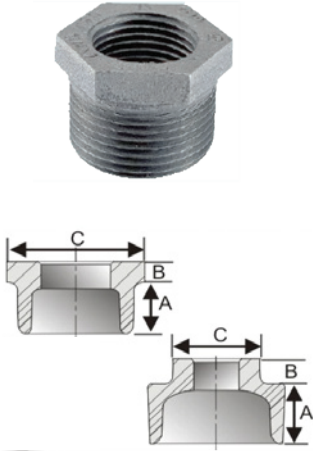
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| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



BUSHING MODEL TSP-HBU (CONTINUED)



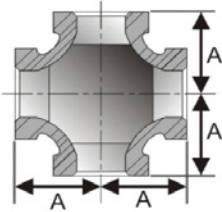
| SIZE (In.) | A | B | C | INNER CARTON | MASTER | PALLET | WEIGHT |
|---------------|------|------|------|--------------|--------|--------|--------|
| 2 X 3/4 | 0.98 | 0.41 | 1.63 | 20 | 60 | 2,880 | 0.63 |
| 2 X 1 | 0.98 | 0.41 | 1.77 | 20 | 60 | 2,880 | 0.66 |
| 2 X 1-1/4 | 1.06 | 0.43 | 2.48 | 20 | 60 | 2,880 | 0.74 |
| 2 X 1-1/2 | 1.06 | 0.43 | 2.48 | 20 | 60 | 2,880 | 0.59 |
| 2-1/2 X 1/2 | 1.07 | 0.44 | 1.34 | 15 | 30 | 1,440 | 0.95 |
| 2-1/2 X 3/4 | 1.07 | 0.44 | 1.63 | 15 | 30 | 1,440 | 0.93 |
| 2-1/2 X 1 | 1.07 | 0.44 | 1.95 | 15 | 30 | 1,440 | 0.96 |
| 2-1/2 X 1-1/4 | 1.07 | 0.44 | 2.39 | 15 | 30 | 1,440 | 1.01 |
| 2-1/2 X 1-1/2 | 1.07 | 0.44 | 2.98 | 15 | 30 | 1,440 | 1.13 |
| 2-1/2 X 2 | 1.17 | 0.37 | 2.98 | 15 | 30 | 1,440 | 0.97 |
| 3 X 1/2 | 1.13 | 0.48 | 1.34 | 6 | 12 | 576 | 1.34 |
| 3 X 3/4 | 1.13 | 0.48 | 1.63 | 6 | 12 | 576 | 1.40 |
| 3 X 1 | 1.13 | 0.48 | 1.95 | 12 | 24 | 1,152 | 1.44 |
| 3 X 1-1/4 | 1.13 | 0.48 | 2.39 | 12 | 24 | 1,152 | 1.41 |
| 3 X 1-1/2 | 1.13 | 0.48 | 2.68 | 12 | 24 | 1,152 | 1.61 |
| 3 X 2 | 1.13 | 0.48 | 3.86 | 10 | 20 | 1,152 | 2.17 |
| 3 X 2-1/2 | 1.13 | 0.48 | 3.86 | 12 | 24 | 1,152 | 1.64 |
| 3 X 1 | 1.13 | 0.48 | 1.95 | 12 | 24 | 1,152 | 1.47 |
| 3-1/2 X 1-1/2 | 1.18 | 0.52 | 2.76 | 8 | 16 | 768 | 1.73 |
| 3-1/2 X 3 | 1.18 | 0.43 | 4.62 | 8 | 16 | 768 | 1.99 |
| 4 X 3/4 | 1.50 | 0.51 | 4.76 | 5 | 10 | 480 | 3.23 |
| 4 X 1 | 1.22 | 0.60 | 2.44 | 5 | 10 | 480 | 3.79 |
| 4 X 1-1/4 | 1.22 | 0.60 | 2.56 | 3 | 6 | 288 | 2.50 |
| 4 X 1-1/2 | 1.22 | 0.60 | 2.68 | 5 | 10 | 480 | 2.46 |
| 4 X 2 | 1.42 | 0.60 | 3.28 | 5 | 10 | 480 | 3.10 |
| 4 X 2-1/2 | 1.22 | 0.60 | 3.86 | 5 | 10 | 480 | 3.35 |
| 4 X 3 | 1.46 | 0.55 | 4.96 | 5 | 10 | 480 | 3.54 |
| 5 X 4 | 1.64 | 0.61 | 5.78 | 2 | 4 | 192 | 4.78 |
| 6 X 2 | 1.40 | 0.75 | 3.28 | 2 | 4 | 192 | 6.00 |
| 6 X 3 | 1.40 | 0.75 | 4.62 | 2 | 4 | 192 | 7.07 |
| 6 X 4 | 1.57 | 0.75 | 5.79 | 2 | 4 | 192 | 7.10 |
| 6 X 5 | 1.40 | 0.75 | 7.05 | 3 | 2 | 384 | 7.20 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |



CROSS

MODEL TSP-BCR



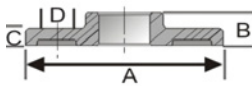
| SIZE (In.) | A | INNER CARTON | MASTER | PALLET | WEIGHT |
|------------|------|--------------|--------|--------|--------|
| 1/8 | 0.69 | 30 | 180 | 8,640 | 0.11 |
| 1/4 | 0.80 | 40 | 240 | 11,520 | 0.18 |
| 3/8 | 0.95 | 25 | 150 | 7,200 | 0.26 |
| 1/2 | 1.12 | 30 | 90 | 4,320 | 0.41 |
| 3/4 | 1.31 | 20 | 60 | 2,880 | 0.60 |
| 1 | 1.50 | 15 | 30 | 1,440 | 0.99 |
| 1-1/4 | 1.75 | 10 | 20 | 960 | 1.44 |
| 1-1/2 | 1.94 | 8 | 16 | 768 | 1.84 |
| 2 | 2.25 | 5 | 10 | 480 | 2.88 |
| 2-1/2 | 2.70 | 3 | 6 | 288 | 5.41 |
| 3 | 3.08 | 2 | 4 | 384 | 7.35 |
| 4 | 3.79 | 2 | 4 | 192 | 12.74 |
| 6 | 5.20 | 1 | 1 | 48 | 28.66 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |



FLOOR FLANGE*

MODEL TSP-BFL



| SIZE (In.) | A | B | C | D | INNER CARTON | MASTER | PALLET | WEIGHT |
|------------|------|------|------|------|--------------|--------|--------|--------|
| 1/4 | 2.37 | 0.46 | 0.28 | 0.25 | 10 | 30 | 1,440 | 0.62 |
| 3/8 | 3.50 | 0.56 | 0.28 | 0.25 | 25 | 75 | 3,600 | 0.58 |
| 1/2 | 3.50 | 0.50 | 0.28 | 0.25 | 25 | 50 | 2,400 | 0.63 |
| 3/4 | 3.50 | 0.63 | 0.31 | 0.25 | 15 | 45 | 2,160 | 0.76 |
| 1 | 4.00 | 0.69 | 0.34 | 0.25 | 15 | 30 | 1,440 | 1.01 |
| 1-1/4 | 4.00 | 0.75 | 0.34 | 0.25 | 10 | 30 | 1,440 | 1.01 |
| 1-1/2 | 4.50 | 0.87 | 0.37 | 0.31 | 8 | 24 | 1,152 | 1.39 |
| 2 | 5.50 | 1.00 | 0.41 | 0.31 | 8 | 16 | 768 | 2.15 |

*Structural use only not for pressure applications

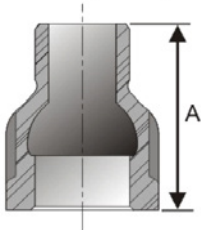
| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |

MALLEABLE FITTINGS

CLASS 150



EXTENSION PIECE MODEL TSP-EP



| SIZE (In.) | A | INNER CARTON | MASTER | PALLET | WEIGHT |
|------------|------|--------------|--------|--------|--------|
| 1/2 | 1.57 | 70 | 280 | 14,400 | 0.18 |
| 3/4 | 1.89 | 40 | 160 | 7,680 | 0.28 |
| 1 | 2.17 | 30 | 90 | 4,320 | 0.45 |
| 1-1/4 | 2.36 | 30 | 60 | 2,880 | 0.67 |
| 1-1/2 | 2.56 | 20 | 40 | 1,920 | 0.95 |
| 2 | 2.76 | 15 | 30 | 1,440 | 1.28 |

| PROJECT | APPROVAL STAMP |
|-----------------|--|
| PROJECT: | <input type="checkbox"/> APPROVED |
| ADDRESS: | <input type="checkbox"/> APPROVED AS NOTED |
| ENGINEER: | <input type="checkbox"/> NOT APPROVED |
| SUBMITTAL DATA: | REMARKS: |
| NOTES 1: | |
| NOTES 2: | |