

# TUBE BENDS

All reference dimensions are nominal

## 1-1/2" OD

To determine your part number when ordering:

Use GAUGE

plus PRODUCT ID

plus MATERIAL TYPE

GAUGE	PRODUCT ID	MATERIAL TYPE
16	150252	A

### Tube Specifications

- 1-1/2" through 10" OD. Up to 14" special order!
- Wall Thickness: 16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
1-1/2"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	90	150252
1-1/2"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	60	150256
1-1/2"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	45	150251
1-1/2"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	30	150253
1-1/2"	16A, 16S, 14A, 14S, 11A, 11S	6"	90	150062
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	60	150066
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	45	150061
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	30	150063
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	150092
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	150096
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	150091
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	150093
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	150122
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	150126
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	150121
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	150123
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	150182
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	150186
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	150181
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	150183
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	150242
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	150246
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	150241
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	150243
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	150302
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	150306
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	150301
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	150303
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	150362
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	150366
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	150361
1-1/2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	150363

• Nominal standard tangent is two times OD, 6" minimum.

### SPECIAL SERVICES

- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

Catalog Part Variations Available Upon Request

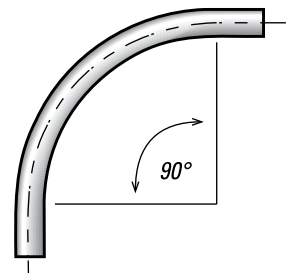
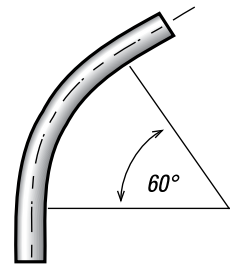
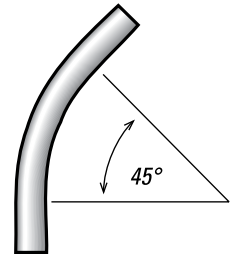
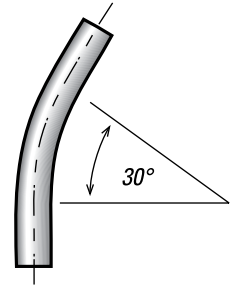
Give us a call if you can't find exactly what you need!

# TUBE BENDS

## 1-3/4" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
1-3/4"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	90	175252
1-3/4"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	60	175256
1-3/4"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	45	175251
1-3/4"	16A, 16S, 14A, 14S, 11A, 11S	2.5"	30	175253
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	175092
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	175096
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	175091
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	175093
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	175122
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	175126
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	175121
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	175123
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	175182
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	175186
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	175181
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	175183
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	175242
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	175246
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	175241
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	175243
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	175302
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	175306
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	175301
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	175303
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	175362
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	175366
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	175361
1-3/4"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	175363

• Nominal standard tangent is two times OD, 6" minimum.



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule

# TUBE BENDS

All reference dimensions are nominal

## 2" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
2"	16A, 16S, 14A, 14S, 11A, 11S	3"	90	200032
2"	16A, 16S, 14A, 14S, 11A, 11S	3"	60	200036
2"	16A, 16S, 14A, 14S, 11A, 11S	3"	45	200031
2"	16A, 16S, 14A, 14S, 11A, 11S	3"	30	200033
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	90	200062
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	60	200066
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	45	200061
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	30	200063
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	200092
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	200096
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	200091
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	200093
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	200122
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	200126
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	200121
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	200123
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	200182
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	200186
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	200181
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	200183
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	200242
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	200246
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	200241
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	200243
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	200302
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	200306
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	200301
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	200303
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	200362
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	200366
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	200361
2"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	200363

### To determine your part number when ordering:

- Use GAUGE
- plus PRODUCT ID
- plus MATERIAL TYPE

GAUGE    PRODUCT ID    MATERIAL TYPE  
 16 — 150252 — A

### Tube Specifications

- 1-1/2" through 10" OD. Up to 14" special order!
- Wall Thickness: 16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

### SPECIAL SERVICES

- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

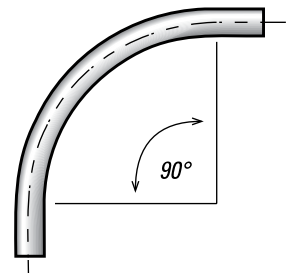
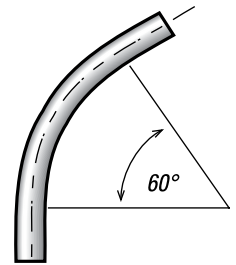
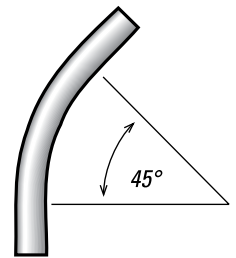
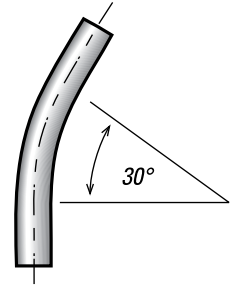
Catalog Part Variations Available Upon Request

**Give us a call if you can't find exactly what you need!**

# TUBE BENDS

## 2-1/4" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
2.25"	16A, 16S, 14A, 14S, 11A, 11S	4"	90	225042
2.25"	16A, 16S, 14A, 14S, 11A, 11S	4"	60	225046
2.25"	16A, 16S, 14A, 14S, 11A, 11S	4"	45	225041
2.25"	16A, 16S, 14A, 14S, 11A, 11S	4"	30	225043
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	225092
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	225096
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	225091
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	225093
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	225122
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	225126
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	225121
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	225123
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	225182
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	225186
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	225181
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	225183
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	225242
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	225246
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	225241
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	225243
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	225302
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	225306
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	225301
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	225303
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	225362
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	225366
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	225361
2.25"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	225363



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule

# TUBE BENDS

All reference dimensions are nominal

## 2-1/2" OD

**To determine your part number when ordering:**

Use GAUGE

plus PRODUCT ID

plus MATERIAL TYPE

GAUGE    PRODUCT ID    MATERIAL TYPE

16 — 150252 — A

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
2.5"	16A, 16S, 14A, 14S, 11A, 11S	4"	90	250042
2.5"	16A, 16S, 14A, 14S, 11A, 11S	4"	60	250046
2.5"	16A, 16S, 14A, 14S, 11A, 11S	4"	45	250041
2.5"	16A, 16S, 14A, 14S, 11A, 11S	4"	30	250043
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	90	250062
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	60	250066
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	45	250061
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	6"	30	250063
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	250092
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	250096
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	250091
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	250093
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	250122
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	250126
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	250121
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	250123
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	250182
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	250186
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	250181
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	250183
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	250242
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	250246
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	250241
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	250243
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	250302
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	250306
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	250301
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	250303
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	250362
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	250366
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	250361
2.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	250363

### Tube Specifications

- 1-1/2" through 10" OD. Up to 14" special order!
- Wall Thickness: 16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

### SPECIAL SERVICES

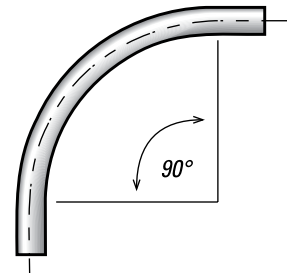
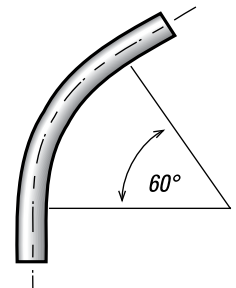
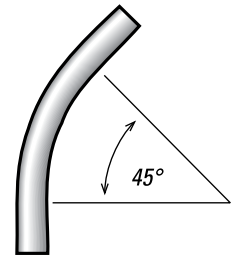
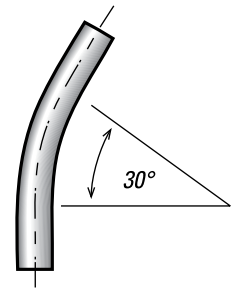
- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

Catalog Part Variations Available Upon Request

# TUBE BENDS

## 3" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
3.0"	16A, 16S, 14A, 14S, 11A, 11S	4.5"	90	300452
3.0"	16A, 16S, 14A, 14S, 11A, 11S	4.5"	60	300456
3.0"	16A, 16S, 14A, 14S, 11A, 11S	4.5"	45	300451
3.0"	16A, 16S, 14A, 14S, 11A, 11S	4.5"	30	300453
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	7.5"	90	300752
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	7.5"	60	300756
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	7.5"	45	300751
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	7.5"	30	300753
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	300092
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	300096
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	300091
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	300093
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	300122
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	300126
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	300121
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	300123
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	300182
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	300186
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	300181
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	300183
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	300242
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	300246
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	300241
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	300243
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	300302
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	300306
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	300301
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	300303
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	300362
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	300366
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	300361
3.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	300363



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule

# TUBE BENDS

All reference dimensions are nominal

## 3-1/2" OD

### To determine your part number when ordering:

- Use GAUGE
- plus PRODUCT ID
- plus MATERIAL TYPE

GAUGE    PRODUCT ID    MATERIAL TYPE

16 — 150252 — A

### Tube Specifications

- 1-1/2" through 10" OD.  
Up to 14" special order!
- Wall Thickness:  
16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
3.5"	16A, 16S, 14A, 14S, 11A, 11S	5"	90	350052
3.5"	16A, 16S, 14A, 14S, 11A, 11S	5"	60	350056
3.5"	16A, 16S, 14A, 14S, 11A, 11S	5"	45	350051
3.5"	16A, 16S, 14A, 14S, 11A, 11S	5"	30	350053
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	350092
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	350096
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	350091
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	350093
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	350122
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	350126
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	350121
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	350123
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	350182
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	350186
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	350181
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	350183
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	350242
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	350246
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	350241
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	350243
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	350302
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	350306
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	350301
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	350303
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	350362
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	350366
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	350361
3.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	350363

• Nominal standard tangent is two times OD, 6" minimum.

### SPECIAL SERVICES

- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

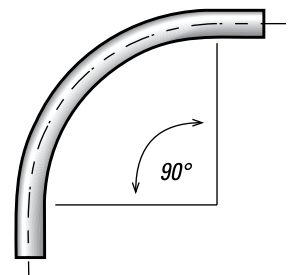
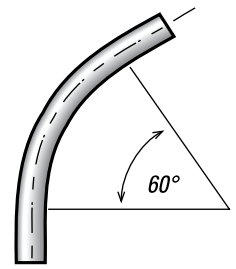
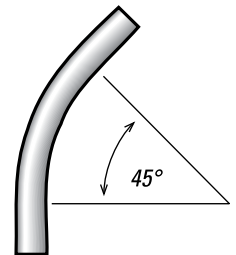
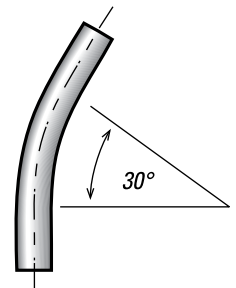
Catalog Part Variations Available Upon Request

# TUBE BENDS

## 4" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
4.0"	16A, 16S, 14A, 14S, 11A, 11S	6"	90	400062
4.0"	16A, 16S, 14A, 14S, 11A, 11S	6"	60	400066
4.0"	16A, 16S, 14A, 14S, 11A, 11S	6"	45	400061
4.0"	16A, 16S, 14A, 14S, 11A, 11S	6"	30	400063
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	400092
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	400096
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	400091
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	400093
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	400122
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	400126
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	400121
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	400123
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	400182
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	400186
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	400181
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	400183
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	400242
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	400246
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	400241
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	400243
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	400302
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	400306
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	400301
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	400303
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	400362
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	400366
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	400361
4.0"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	400363

• Nominal standard tangent is two times OD, 6" minimum.



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule



# TUBE BENDS

All reference dimensions are nominal

## 4-1/2" OD

### To determine your part number when ordering:

- Use GAUGE
- plus PRODUCT ID
- plus MATERIAL TYPE

GAUGE    PRODUCT ID    MATERIAL TYPE

16 — 150252 — A

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	90	450092
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	60	450096
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	45	450091
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	9"	30	450093
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	90	450122
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	60	450126
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	45	450121
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	12"	30	450123
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	90	450182
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	60	450186
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	45	450181
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	18"	30	450183
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	90	450242
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	60	450246
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	45	450241
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	24"	30	450243
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	90	450302
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	60	450306
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	45	450301
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	30"	30	450303
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	90	450362
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	60	450366
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	45	450361
4.5"	16A, 16C, 16S, 14A, 14C, 14S, 11A, 11C, 11S	36"	30	450363

• Nominal standard tangent is two times OD, 6" minimum.

### Tube Specifications

- 1-1/2" through 10" OD.  
Up to 14" special order!
- Wall Thickness:  
16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

### SPECIAL SERVICES

- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

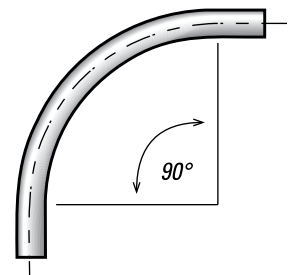
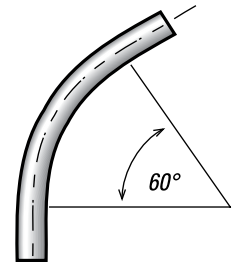
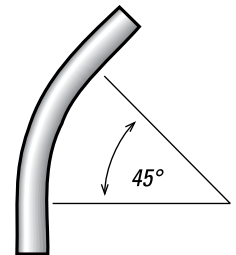
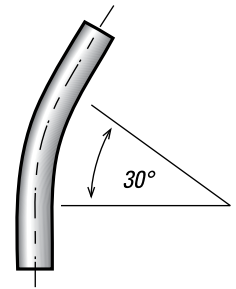
Catalog Part Variations Available Upon Request

# TUBE BENDS

## 5" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
5.0"	14A, 14C, 14S, 11A, 11C, 11S	7.5"	90	500752
5.0"	14A, 14C, 14S, 11A, 11C, 11S	7.5"	60	500756
5.0"	14A, 14C, 14S, 11A, 11C, 11S	7.5"	45	500751
5.0"	14A, 14C, 14S, 11A, 11C, 11S	7.5"	30	500753
5.0"	14A, 14C, 14S, 11A, 11C, 11S	12.5"	90	500122
5.0"	14A, 14C, 14S, 11A, 11C, 11S	12.5"	60	500126
5.0"	14A, 14C, 14S, 11A, 11C, 11S	12.5"	45	500121
5.0"	14A, 14C, 14S, 11A, 11C, 11S	12.5"	30	500123
5.0"	14A, 14C, 14S, 11A, 11C, 11S	18"	90	500182
5.0"	14A, 14C, 14S, 11A, 11C, 11S	18"	60	500186
5.0"	14A, 14C, 14S, 11A, 11C, 11S	18"	45	500181
5.0"	14A, 14C, 14S, 11A, 11C, 11S	18"	30	500183
5.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	90	500242
5.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	60	500246
5.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	45	500241
5.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	30	500243
5.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	90	500302
5.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	60	500306
5.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	45	500301
5.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	30	500303
5.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	90	500362
5.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	60	500366
5.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	45	500361
5.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	30	500363

• Nominal standard tangent is two times OD, 6" minimum.



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule

# TUBE BENDS

All reference dimensions are nominal

## 6" OD

### To determine your part number when ordering:

- Use GAUGE
- plus PRODUCT ID
- plus MATERIAL TYPE

GAUGE    PRODUCT ID    MATERIAL TYPE

16 — 150252 — A

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
6.0"	14A, 14C, 14S, 11A, 11C, 11S	9"	90	600092
6.0"	14A, 14C, 14S, 11A, 11C, 11S	9"	60	600096
6.0"	14A, 14C, 14S, 11A, 11C, 11S	9"	45	600091
6.0"	14A, 14C, 14S, 11A, 11C, 11S	9"	30	600093
6.0"	14A, 14C, 14S, 11A, 11C, 11S	15"	90	600152
6.0"	14A, 14C, 14S, 11A, 11C, 11S	15"	60	600156
6.0"	14A, 14C, 14S, 11A, 11C, 11S	15"	45	600151
6.0"	14A, 14C, 14S, 11A, 11C, 11S	15"	30	600153
6.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	90	600242
6.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	60	600246
6.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	45	600241
6.0"	14A, 14C, 14S, 11A, 11C, 11S	24"	30	600243
6.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	90	600302
6.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	60	600306
6.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	45	600301
6.0"	14A, 14C, 14S, 11A, 11C, 11S	30"	30	600303
6.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	90	600362
6.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	60	600366
6.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	45	600361
6.0"	14A, 14C, 14S, 11A, 11C, 11S	36"	30	600363
6.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	90	600482
6.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	60	600486
6.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	45	600481
6.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	30	600483

• Nominal standard tangent is two times OD, 6" minimum.

### Tube Specifications

- 1-1/2" through 10" OD.  
Up to 14" special order!
- Wall Thickness:  
16, 14, 12 & 11 Gauge
- Standard length is 20' But we will cut to your specifications!

### Material type

- A = Aluminum
- C = Carbon
- S = Stainless
- Z = Galvanized

### SPECIAL SERVICES

- Shot Peening
- Spiral Grooving
- Porcelain Lining
- Ceramic Coating
- Part Variations

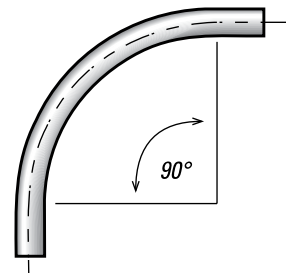
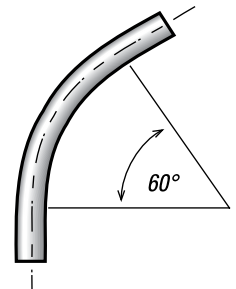
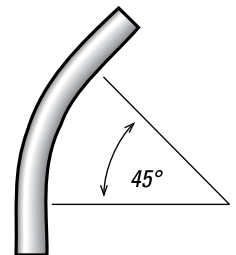
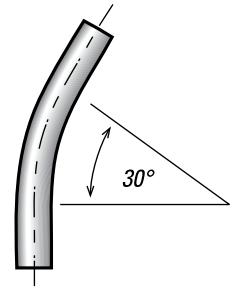
Catalog Part Variations Available Upon Request

# TUBE BENDS

## 8" OD

OD	GAUGE (WALL THICKNESS) & MATERIAL	CLR	DEGREE	PRODUCT ID
8.0"	14A, 14C, 14S, 11A, 11C, 11S	12"	90	800122
8.0"	14A, 14C, 14S, 11A, 11C, 11S	12"	60	800126
8.0"	14A, 14C, 14S, 11A, 11C, 11S	12"	45	800121
8.0"	14A, 14C, 14S, 11A, 11C, 11S	12"	30	800123
8.0"	14A, 14C, 14S, 11A, 11C, 11S	20"	90	800202
8.0"	14A, 14C, 14S, 11A, 11C, 11S	20"	60	800206
8.0"	14A, 14C, 14S, 11A, 11C, 11S	20"	45	800201
8.0"	14A, 14C, 14S, 11A, 11C, 11S	20"	30	800203
8.0"	14A, 14C, 14S, 11A, 11C, 11S	32"	90	800322
8.0"	14A, 14C, 14S, 11A, 11C, 11S	32"	60	800326
8.0"	14A, 14C, 14S, 11A, 11C, 11S	32"	45	800321
8.0"	14A, 14C, 14S, 11A, 11C, 11S	32"	30	800323
8.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	90	800482
8.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	60	800486
8.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	45	800481
8.0"	14A, 14C, 14S, 11A, 11C, 11S	48"	30	800483

• Nominal standard tangent is two times OD, 6" minimum.



### TERMINOLOGY

CLR = Center Line Radius  
 ERW = Electric Resistance  
 Welded  
 FNPT = Female National  
 Pipe Thread  
 ID = Inside Diameter  
 MNPT = Male National  
 Pipe Thread  
 NPS = Nominal Pipe Size  
 OD = Outside Diameter  
 SCH = Schedule