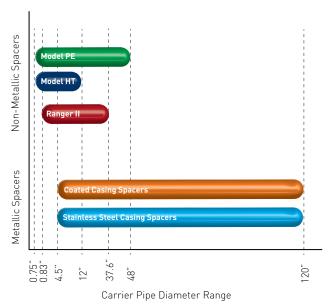
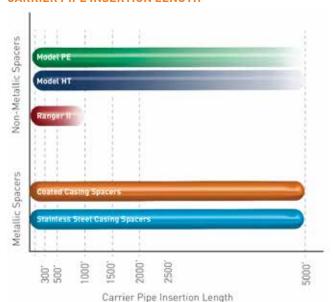
Casing Spacer General Ordering Guidelines

CARRIER PIPE INSERTION RANGE OPTIONS



CARRIER PIPE INSERTION LENGTH



Contact GPT if longer insertions are needed.

CARRIER PIPE COMPATIBILITY WITH SPACER MODEL GUIDELINES

	Non-Metallic Casing Spacers			Metallic Casing Spacers	
	Model PE	Model HT	Ranger II®	Models C & C with 8" Band	Models C & C with 12" Band
Steel	E	E	E	E	E
Steel (Motar Coated)	U	U	U	NR	E
Ductile Iron	U	U	G	G	Е
Cement	U	U	U	E	E
Profile Pipe	U	U	S	E	E
Clay	NR	NR	U	E	E
HDPE	NR	NR	E	E	E
PVC Water Pipe	NR	NR	E	E	E
PVC Sewer Pipe	NR	NR	E	E	E

E = Excellent

NR - Not Recommended

G = Good

F = Fair

S = Satisfactory U = Unsatisfacotry

General Notes:The foregoing performance data are intended as guidelines only. Performance suitability for specific applications should be determined by the user. Variation in carrier pipe type, carrier pipe diameter, casing length, casing condition, and position may preclude suggested service use. Casing Spacer selection is at the sole risk of the user. Consult with a specialist or GPT for specific applications. GPT's responsibilities will be limited to those listed in the GPT standard warranties. Consult with a specialist or GPT for specific applications.

STANDARD MATERIAL PROPERTY COMPARISON - GPT CASING SPACERS

For detailed information and higher/lower metallic temp. range please view specific Model pages.

_	Non-Metallic Casing Spacers		Metallic Casing Spacers			
	Model PE	Model HT	Ranger II®	Models C8 - C12	Models S8 - S12	Model SL8
Band Material	Polyethylene	Polycarbonate	Polypropylene	14 Gauge PVC Coated Steel	14 Gauge304 Coated Steel	16 Gauge 304 Coated Steel
Runner Material	Polyethylene	Polycarbonate	Polypropylene	Glass Reinforced Nylon	Glass Reinforced Nylon	Glass Reinforced Nylon
Riser Material	None	None	None	10 Gauge Coated Steel	10 Gauge Coated Steel	12 Gauge Coated Steel
Liner Material	None	T.P.E Liner (some sizes)	None	Polyvinyl Chloride	Polyvinyl Chloride	Polyvinyl Chloride
Hardware	Plated Steel	Plated Steel	None	Plated or 304 Stainless Steel	304 Stainless Steel	304 Stainless Steel
Compressive Strength	3,200 psi	12,500 psi	3,000 psi	18,000 psi	18,000 psi	18,000 psi
Temperature Range	180°F (82°C)	280°F (138°C)	-22°F (-30°C) to 212°F (100°C)	-40°F (-40°C) to 170°F (77°C)	-40°F (-40°C) to 170°F (77°C)	-40°F (-40°C) to 170°F (77°C)

Casing Spacer General Ordering Guidelines

GENERAL RUNNER HEIGHT OPTIONS

MODEL PE NON-METALLIC CASING SPACERS

- » Model PE runners are molded as an integral part of each segment.
- » Runner heights range from 5/16" (7.94mm) to 1-1/2" (38.1mm) depending on model dimensions.
- » Runner height is symmetrical around spacer.
- » Runner/Band width for PE spacers is 3.0" (76.19mm) through 6.25" (158.75mm).
- » Refer to pages 8 9 for detailed information on PE Casing Spacers.

MODEL HT (HIGH TEMP) NON-METALLIC CASING SPACERS

- » Model HT runners are molded as an integral part of each segment.
- » Runner height range from 5/16" (8.0mm) to 7/8" (48.5mm) depending on model dimensions.
- » Runner height is symmetrical around spacer.
- » Runner/Band width for HT spacers is 3.0" (7.94mm) through 5.0" (127.0mm).
- » Refer to pages 10 11 for detailed information on HT Casing Spacers.

RANGER II® NON-METALLIC CASING SPACERS

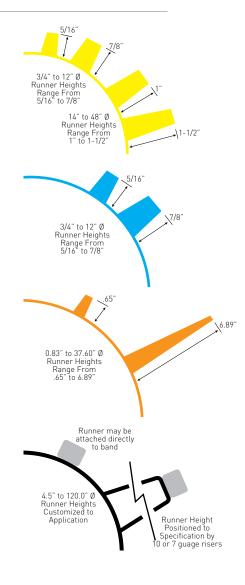
- » Ranger II runners are molded as an integral part of each segment.
- » Runner height range from .65" (16.5mm) to 6.89" (175.0mm).
- » Runners may be placed asymmetrically around spacer.
- » Runner/Segment widths for Ranger II spacers is 2.13" [54.1mm] through 8.86" (225.04mm).
- » Refer to pages 12 15 for detailed information on Ranger II Casing Spacers.

METALLIC CASING SPACERS COATED (C) & STAINLESS STEEL (S)

- » 2" (50.8mm) wide nylon or polyester glass reinforced runners.
- » Effective runner height = 1.07" (27.2mm) or 1.70" (43.2mm).
- » Runners may be attached directly to spacer band.
- » Runners may be attached on top of 10 or 7 gauge risers to accommodate any runner height configuration.
- » Metallic spacers available in 8.0" (203.2mm) or 12.0" (304.79mm) wide bands.
- » Refer to page 16 21 for detailed information on coated or stainless steel casing spacers.

*Caution Note

If casing pipe has offsets or weld beads in excess of 1/8", consider using a metallic casing spacer.



Casing Spacer General Ordering Guidelines

POSITION WITHIN CASING OPTIONS

MODEL PE NON-METALLIC CASING SPACERS

- » Standard position within casing.
- » Runner height must be symmetrical around spacer.
- » Refer to pages 8 9 for detailed information on PE Casing Spacers.

MODEL HT (HIGH TEMP) NON-METALLIC CASING SPACERS

- » Standard position within casing.
- » Runner height must be symmetrical around spacer.
- » Refer to pages 10 11 for detailed information on HT Casing Spacers.

RANGER II® NON-METALLIC CASING SPACERS

- » Multiple positions within casing possible.
- » Different height runner segments may be mixed around carrier pipe.
- » Runner height may be asymmetrical around carrier pipe.
- » Positioning options include: standard (clear bell), centered, centered-restrained and non-centered-restrained
- » Refer to page 12 15 for detailed information on Ranger II® Casing Spacers.

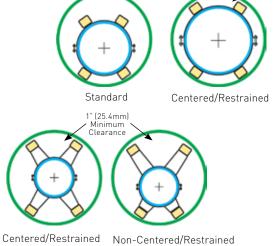
Standard Position Centered/Restrained

Standard Position

Standard Position

METALLIC CASING SPACERS COATED (C) & STAINLESS STEEL (S)

- » Multiple positions within casing possible.
- » Runner height may be asymmetrical around carrier pipe.
- » Positioning options include: standard (clear bell), centered, centered/ restrained and non-centered/restrained
- » Refer to pages 16-21 for detailed information on Metallic Casing Spacers.

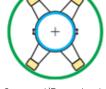


Typical Energy Market



Centered

Typical Water Market



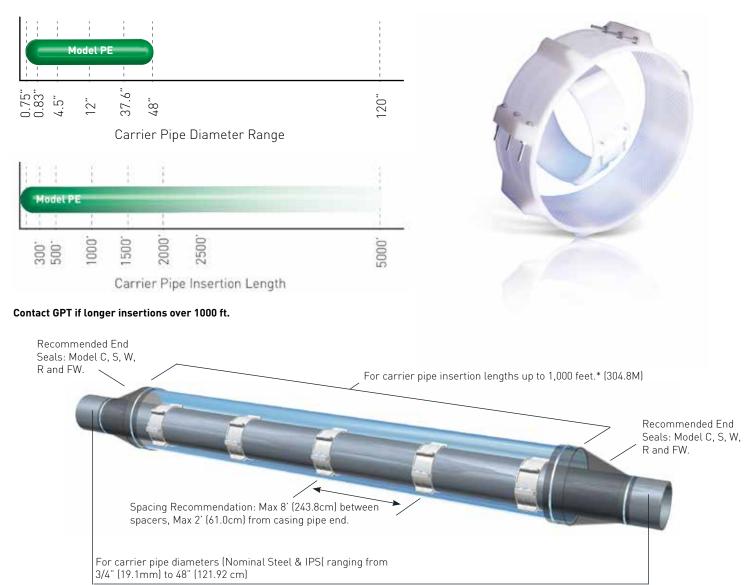
Contact GPT for use with Link-Seal® modular seals.

1" [25.4mm]

Minimum Clearance

Casing Spacer Models - Non-Metallic, Model PE





FEATURES/BENEFITS

- » Ribbed inner surface prevents slippage & guards against coating damage.
- » Molded from virgin polyethylene material.
- » Lightweight for ease of handling and installation.
- » Screwdriver is only tool needed for installation.
- » Eliminates the need for grout, blown sand or pea gravel.

TARGETED USE - ENERGY

Model PE Casing Spacers are designed for smaller diameter steel or polyethylene carrier pipes (ANSI O.D. pipe without a bell mechanical joint). We do not recommend that they be used on any carrier pipe over 24" (61.0cm) in diameter or for installations over 400 feet (121.9M) long without consulting with GPT. PE Isolators should not be used on concrete carrier pipe.

High density (linear), injection molded virgin Polyethylene casing isolators/spacers provide positive electrical isolation, high abrasion resistance and low coefficient of friction for a wide variety of double containment carrier/casing pipe applications. They are extremely light in weight and easy to handle during installation.

A ribbed inner surface prevents slippage and guards against carrier pipe coating damage while the outer surface may include any one of several molded runners to accommodate 2" (50.8mm) x 4" (101.6mm) or larger carrier/casing differentials. One piece solid molded segments provide for maximum load bearing. Hardware includes cadmium plated steel bolts and nuts. A screwdriver is the only tool needed for installation.

Casing Spacer Models - Non-Metallic, Model PE

MATERIAL SPECIFICATIONS

Specification	ASTM Test	Value
Band/Runner Segments		Injection Molded Virgin Polyethylene
Tensile Strength	D638, D651	3,100 - 5,500 psi (218 - 387 kg/cm²)
Compressive Strength	D693	3,200 psi (225kg/cm2)
Water Absorption	D570	0.1%
Temperature		180°F. Max. (82°C)
Impact Strength	D256	1.5-2.0 ft lb/in. (0.8-1.07 newton-meters/cm)
Dielectric Strength	D149	450 Volts/Mil.
Color		White
Liner - None		

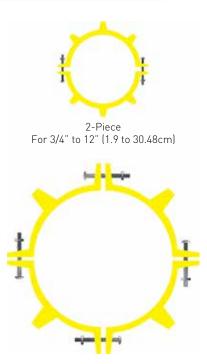
Runners - Size and Configurations 3/4" (19mm) through 12" (305mm) = 2-piece with molded-in runners

14" (356mm) and larger = Multiple segments with molded-in runners.

Metallic - Bolts and Square Nuts = Plated Steel

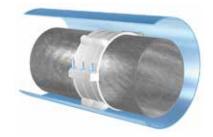
BAND WIDTH AND RUNNER HEIGHT

Model Size	Band Width	Runner Height	
3/4 x 2	3.0" (76.19mm)	5/16" (7.94mm)	
1 x 3	3.0" (76.19mm)	1/2" (12.7mm)	
1-1/4 x 3	3.0" (76.19mm)	1/2" (12.7mm)	
1-1/2 x 3	3.0" (76.19mm)	1/2" (12.7mm)	
2 x 4	4.0" (101.6mm)	5/8" (15.88mm)	
2-1/2 x 5	4.0" (101.6mm)	5/8" (15.88mm)	
3 x 6	4.0" (101.6mm)	5/8" (15.88mm)	
4 x 6	4.0" (101.6mm)	9/16" (14.29mm)	
4 x 8	4.0" (101.6mm)	1" (25.4mm)	
6 x 8	4.0" (101.6mm)	9/16" (14.29mm)	
6 x 10	4.0" (101.6mm)	1" (25.4mm)	
8 x 10	4.0" (101.6mm)	9/16" (14.29mm)	
8 x 12	5.0" (127.0mm)	1" (25.4mm)	
10 x 14	5.0" (127.0mm)	7/8" (22.23mm)	
12 x 16	5.0" (127.0mm)	7/8" (22.23mm)	
All multiple segments* (4" differential)	6.25" (158.75mm)	1" (25.4mm)	
All multiple segments* (6" differential)	6.25" (158.75mm)	1-1/2" (38.1mm)	



Multi-Segment For 14" (35.56cm) and above

Position in Casing



Model PE Standard S= Standard

Note: Model PE sized for nominal steel and IPS pipe

^{*} Download model size information from www.gptindustries.com