

# Grooved Rubber-Covered Rolls

## High Performance Roll Coverings for Industry

*A cost-effective solution for spreading, dewrinkling, tracking, non-slip, and air elimination. Various elastomers. Precision machined with angled, outward spiraling grooves across the roll surface.*

These anti-wrinkle rolls can influence your web in various ways, including stretching it, spreading it or allowing the web to lay flat and simply not induce wrinkles in the first place.

These idlers are covered with a rubber elastomer and are precision machined with angled, outward spiraling grooves across the roll surface. There are different elastomers available for use, each with different physical properties such as solvent resistance, heat resistance and hardness. In addition, various groove patterns are available to meet your specific application needs. Our Customer Support Specialists can help you determine which elastomer and groove pattern is best for your specific application.

### Easy Ordering with Simple Model Nomenclature

**6R -300 x 056 x 56"**



### Applications

#### Quad X

- Ideal for thin filmand paper
- This idler is machined with quadgrooves that run progressively deeper as they travel toward each end of the roll

#### Silicone Covered

- Built to elevated temperatures
- Silicone rubber coverings are nonmarking and offer excellent web release properties

#### PVC Nitrile

- Economical and non-marking, capable of withstanding temperatures up to 250° F
- Offers superior abrasion resistance

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#### RELATED PRODUCTS

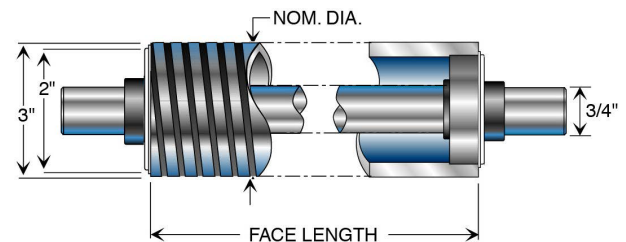
##### ASK US ABOUT:

Componex and WEBEX Plasma Rolls offer advanced durability and performance, making them an excellent choice for demanding applications.

## Grooved Rubber-Covered Roll Models

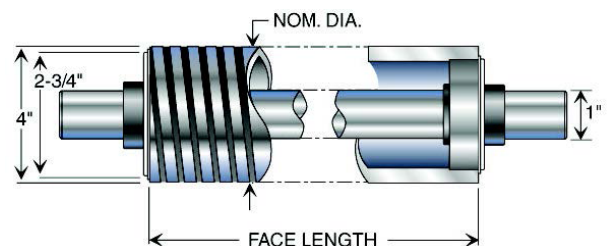
### GR-300-075

- 2.0 inch diameter aluminum core
- Rubber covered to 3.0 inch diameter
- Low-friction bearings installed for a 0.75 inch diameter dead shaft
- Generally available in Face Lengths up to 50 inches



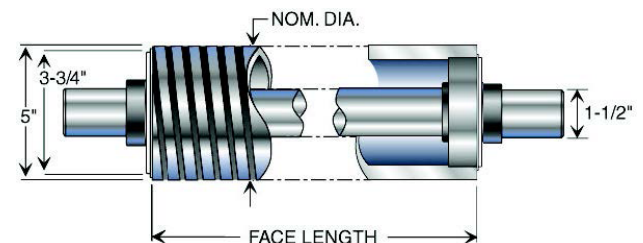
### GR-400-100

- 2.75 inch diameter aluminum core
- Rubber covered to 4.0 inch diameter
- Low-friction bearings installed for a 1.0 inch diameter dead shaft
- Generally available in Face Lengths up to 80 inches



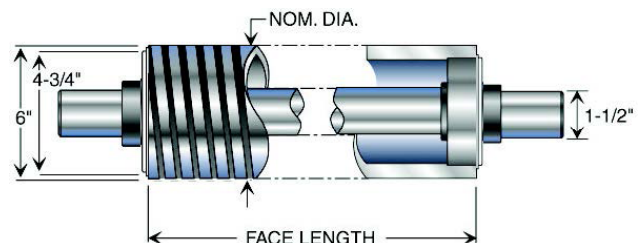
### GR-500-150

- 3.75 inch diameter aluminum core
- Rubber covered to 5.0 inch diameter
- Low-friction bearings installed for a 1.50 inch diameter dead shaft
- Generally available in Face Lengths up to 96 inches



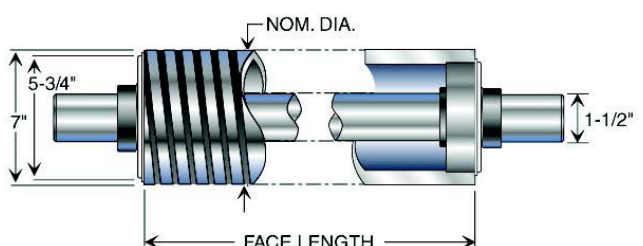
### GR-600-150

- 4.75 inch diameter aluminum core
- Rubber covered to 6.0 inch diameter
- Low-friction bearings installed for a 1.50 inch diameter dead shaft
- Generally available in Face Lengths up to 110 inches



### GR-700-150

- 5.75 inch diameter aluminum core
- Rubber covered to 7.0 inch diameter
- Low-friction bearings installed for a 1.50 inch diameter dead shaft
- Generally available in Face Lengths up to 120 inches



## Grooved Rubber-Covered Roll Models

Relative Rating 1- Poor 2- Fair 3- Average 4- Above Average 5 - Excellent	NEOPRENE	NITRILE	CARBOXYLATED NITRILE	POLYURETHANE	SILICONE (STANDARD)	EPDM	HYPALON	VITON
<b>Physical Properties</b>								
Hardness Range	20-95	20-100	45-95	40-95	30-90	25-95	30-90	55-90
Tensile Strength	4	3	5	5	1	2	3	3
Modulus	4	3	5	5	3	3	4	3
Elongation at Break	5	3	3	4	2	3	3	3
Tear Strength	4	3	5	5	1	2	3	3
Cut Resistance	4	3	5	5	1	2	4	3
Resistance to Compression Set	3	3	2	3	5	3	3	2
Resistance to Permanent Set	4	3	3	4	4	3	3	2
Resiliency	4	3	2	4	5	3	3	3
Resilience to Heat Build-up	5	2	1	5	5	2	2	2
Resistance to Abrasion	3	3	5	5	1	3	3	2
Ozone Resistance	3	1	1	4	5	5	5	5
Hydrolytic Stability	5	5	5	2	5	5	5	4
Dielectric Strength	3	1	1	4	5	1	5	2
Release Characteristics	2	3	1	2	5	3	4	3
Maximum Service Temp (°F)	250	250	275	212	500	350	300	500
<b>Solvent / Chemical Resistance</b>								
Acids	4	1	1	1	4	5	5	5
Caustics	4	4	3	1	4	5	5	5
Aliphatic Hydrocarbons	3	5	5	2	1	2	3	5
Aromatic Hydrocarbons	1	3	3	1	3	1	1	55
Chlorinated Hydrocarbons	2	2	2	1	1	2	2	
Water	3	2	2	1	3	5	3	3
Ketones	4	5	4	3	4	5	4	3
Alcohol	3	4	3	2	4	5	4	4
Esters	4	5	3	2	4	5	4	3
Gylcols	3	1	1	1	3	5	3	3

### How to Specify the Right Elastomer?

Use this elastomer chart to help determine which rubber compound is best suited to your particular situation. If in doubt, call us. We'll help you determine the best possible covering based on the web handling parameters you have to share with us.

Standard Grooved Idler Rolls use the following elastomers:

- Silicone
- PVC-Nitrile

Other (nonstandard) elastomers available:

- Neoprene
- Carboxylated Nitrile
- Polyurethane
- EPDM
- Hypalon
- Viton

### Find the Right Grooved Rubber Roll

This literature presents four different groove configurations for the standard rubber-covered idlers. Other options are also available, including additional groove variations and non-groove designs. To specify the best possible groove or rubber roll design, call us. Chances are we've already designed a rubber covered roll for an application similar to yours.

## Elastomer Selection Guide

The appropriate selection of a rubber cover is important to the success of many process applications. The following is a summary guide to a few of the most popular choices of rubber elastomers used in the web converting industry.

### Neoprene

Neoprene is considered a good choice for general purpose applications. It has good mechanical properties, good chemical resistance and high resilience. Neoprene is a workhorse in the industry. It is used on nip rolls, pull rolls, feed rolls and in flexo and gravure printing.

### Nitrile

Also known as NBR or Buna-N, Nitrile is the most commonly used elastomer in the industry. It has good resistance to oils, chemicals and water. Nitrile is also a workhorse covering with applications as nip rolls, pull rolls and rolls in printing applications.

### Carboxilated Nitrile

A modified Nitrile rubber, possessing most of the properties of Nitrile along with outstanding abrasion resistance and other physical characteristics, including tensile strength.

### Nitrile/PVC Blend

Very popular in the web converting industry. The addition of PVC enhances the physical properties, abrasion resistance, strength, chemical and ozone resistance of Nitrile.

### Polyurethane

Urethane rubber is available in two basic chemical types, polyester and polyether. Polyurethane is a tough elastomer with good chemical and solvent resistance while polyethers work better in applications that come in contact with water. Urethane is typically used in applications where toughness, wear resistance and cut resistance are desired. Urethane generally has high-friction characteristics making it a favorite for pull rolls.

### Silicone

Silicone rubber is known for two main attributes, high temperature (500° F) capability and improved release characteristics. Silicone is a more expensive covering but along with heat resistance and release it has good chemical resistance and excellent ozone resistance. Silicone has generally weak physical characteristics but is widely applied in situations where its temperature and release characteristics are needed.

### EPDM

Sometimes called EPT, EPDM consists mostly of Ethylene and Propylene. It has excellent ozone resistance and chemical resistance, especially with polar solvents such as ketones. EPDM is also heat resistant to 350° F. It is typically used where its chemical and temperature capabilities are required such as coating applications.

### Hypalon

Hypalon has good physical characteristics, good chemical resistance, excellent ozone resistance and good temperature (350°F) capability. Hypalon is ideal for many roller applications and is a favorite as a covering for nip rolls.

### Viton

Viton is known for its excellent chemical resistance and high temperature (500° F) capability. Viton is very expensive so its applications are limited to extreme cases where other compounds fail and the high price can be justified.