



# ESE SEAL (ELASTOMERIC SPRING ENERGIZED)

## Superior Performance in Tandem Systems

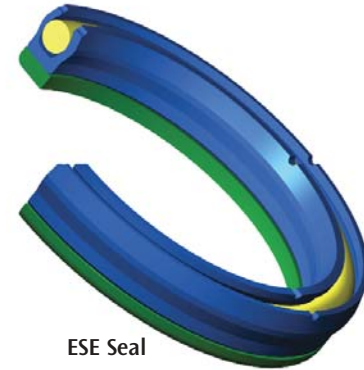
### SELF-VENTING DESIGN

Generally used as a primary rod seal in dynamic tandem systems, Greene, Tweed's new ESE design is available for use in either one or two back-up gland widths. The ESE provides superior performance in tandem seal applications. Its unidirectional, "self-venting" design is complemented with a high modulus back-up ring that is installable into "closed-groove" configurations for most sizes (unlike that of many standard, metal-spring-energized [MSE®] types). Along with the "self-venting" capability, the ESE design offers low operating friction along a wide operational temperature range.

The seal assembly itself consists of an extremely durable, PTFE jacket with an elastomeric energizer and high modulus back-up ring. In order to help optimize seal life, Greene, Tweed recommends the use of our high-performance Avalon® PTFE materials. The combination of a thermoplastic Avalon jacket with one of our specially formulated, elastomeric O-ring energizers delivers enhanced performance over a wide temperature range. Generally this range extends from -65°F to 450°F (-54°C to 232°C) depending on materials selected. Greene, Tweed's ESE also features a high strength back-up ring to provide additional stability in the gland and help prevent any possibility of extrusion.

### FEATURES & BENEFITS

- Specialized, unidirectional, "self-venting" design
- Resilient Avalon jacket coupled with a durable elastomeric energizer plus anti-extrusion back-up ring for enhanced performance over a wide temperature range
- Installable into most existing AS4716 configurations for ease of maintenance



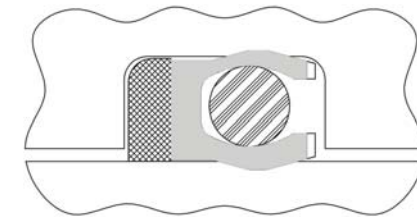
ESE Seal

### APPLICATIONS

- Primary and secondary flight control actuators (rudder, aileron, stabilizer, flaps, etc.)
- Tandem, "closed-groove" rod configurations
- Utility actuators

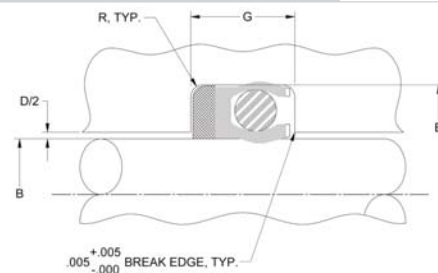
### ESE CONFIGURATION

#### ESE with Back-up Ring



#### Gland Dimensions

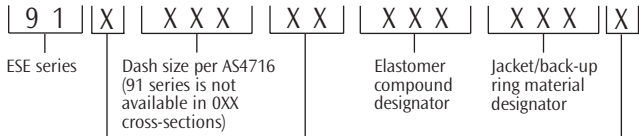
##### Rod



Note: Dimensions as specified in AS4716.

## ESE PART NUMBERING SYSTEM

The part numbering system requires the use of the material designator tables found in the next column. For nonstandard designs contact GT engineering.



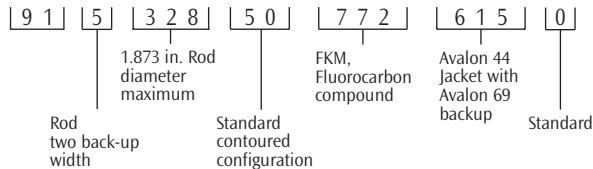
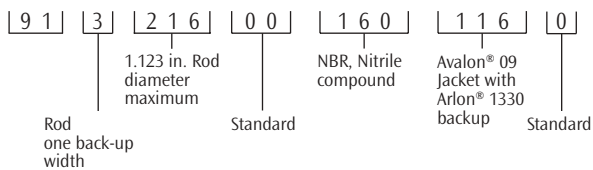
XX	STANDARD*	ROD
00	Standard	Straight b/u ring
01-49*	Nonstandard	Straight b/u ring
50	Standard	Contoured b/u ring**
51-99*	Nonstandard	Contoured b/u ring**

\* Note: Contact GT engineering.

\*\* Note: 300 series and higher cross-sections typically utilize the "contoured" configuration for ease of installation.

Rod gland width  
 3 = One back-up width groove  
 5 = Two back-up width groove

### Part Numbering Examples



Contact your local Greene, Tweed representative for specific recommendations to suit higher performance requirements.

## Material Designator Tables

CODE	ELASTOMER COMPOUND
160	NBR, Nitrile
161	NBR, Nitrile
409	FVMQ, Fluorosilicone
410	FVMQ, Fluorosilicone
731	FKM, Fluorocarbon
772	FKM, Fluorocarbon
952	EPM, Ethylene Propylene
954	EPDM, Ethylene Propylene
964	NBR, Nitrile

CODE	JACKET/BACK-UP MATERIAL
116	Avalon 09 Jacket/Arlon 1330 Backup
120	Avalon 09 Jacket/NWR Backup
601	Avalon 89 Jacket/NWR Backup
605	Avalon 50 Jacket/Arlon 1330 Backup
606	Avalon 89 Jacket/Arlon 1330 Backup
608	Avalon 89 Jacket/Avalon 69 Backup
614	Avalon 44 Jacket/Avalon 44 Backup
615	Avalon 44 Jacket/Avalon 69 Backup
616	Avalon 44 Jacket/Arlon 1330 Backup
617	Avalon 89 Jacket/Avalon 89 Backup

Note: All back-up rings are scarf cut. For solid back-up rings contact GT engineering.

See GT Surface Finish guidelines.



### Contact Us

Greene, Tweed & Co.    Tel: +1.215.256.9521  
 Aerospace            Tel: +1.800.220.4733  
 Kulpville, PA, USA    Fax: +1.215.513.9411

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