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TRANZ **A500 Series Oxygen and Chemical resistant greases**

Extreme and special service high performance Oxygen and Chemical resistant greases
Fluoropolymer & co-fluoro hybrids based greases.



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TRANZ A500 Series

**Extreme and special service high performance Oxygen and Chemical resistant greases
Fluoropolymer & co-fluoro hybrids based greases.**

**-50°C in some and up to 240°C in some, to prevent pressure galling and seizing in static,
high to ultra-high mechanically loaded similar & dissimilar metal threads under pressure
from non-atmospheric gas levels, such as pure oxygen.**

Examples: Lubricating seals and threads including handling pure oxygen and corrosive
chemicals. Scuba equipment.

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| A511 | Perfluoropolymer supported grease series for many applications up to 'Extremes' involving continuous contact with pure Oxygen in most types of handling equipment. This is the most generally used commercial Oxygen resistant grease meeting DEF STAN 80-80 and BS3100 for gaseous oxygen contact
NLGI 1, 2, 3 & 4, however virtually any consistency can be made to order. |
| A512 | Based on A511/ Greases, with added DEF STAN Graphite Extreme Pressure inclusion, grey coloured. Three standard levels of Consistency are on the standard range NLGI 1, 2, & 3 however virtually any consistency can be made to order. |
| A513 | Total perfluoropolymer content grease, general purpose oxygen handling grease at operating temps -54° C to +150° C. Available in four standard levels of Consistency on the standard range – NLGI, 1, 2, 3 & 4, however virtually any consistency can be made to order. |
| A514 | Maximum perfluoropolymer level - with ultimate oxidizing, chemical resistance & flame-proofing, in various consistencies. There is a |

'Caution' expressed for this entire range that they may not be suitable for Aluminium or Magnesium dynamic bearings due to possible ignition hazard of these metals. NLGI 1, 2, & 3, others can be made to order.

- A514-3 Meets DEF STAN 80-80 AntiSeize service requirement. In place of the hydrocarbon Spec. No. S-722, ZX-38, and meets DEF STAN S176 Spec. No. TT-S-1732. NLGI 3
- A515 Perfluoropolymer, dark, lustrous grey grease. compounded with Molybdenum Disulphide for EP load bearing, for heavy load low speed factor uses such as thread seal and anti-gall. Service temps at all consistencies are from -40°C to +225°C
- A515-3 Meets DEF STAN 80-81, antiseize Spec. No.S-722, ZX-38
- A516 Standard TRANZ A511 Perfluoropolymer, pure white grease plus high level of fluoro additives for exceptional 'slip' in specialty applications. Service temps all consistencies are from - 40°C to +230°C
- A517 Based on standard TRANZ A511 Fluoropolymer grease plus addition of high-tech inert micro-inorganics, which provides the highest EP rating of the range. Service temperatures for all consistencies, are from -40°C to +240°C. The micro-inorganic metal bases include Molybdenum, Aluminium & others.

TRANZ A500 Series

Extreme and Special Service High Performance Oxygen & Chemical Resistant Greases

The TRANZ HYPALUBE A511-A517 Sub Series are a unique and exceptionally high performing range of lubricants and protectants for Extreme Service use as lubricants and on metal & composite threads and seals. Specific products in the range are designed to operate at a wide temperature range, -50°C in some and up to 240°C in some, to prevent pressure galling and seizing in static, high to ultra-high mechanically loaded similar & dissimilar metal threads under pressure from non-atmospheric gas levels, such as pure oxygen.

Competitive manufacturers of materials meeting these Specifications often simply quote a three number industry-compliant numeric nomenclature which alludes to the class of fluoropolymer and its viscosity grade. There is a Hypalube 511-A517 Subseries product to match most such grades including very highly specified NATO and MIL-PRF grades.

Service temps all consistencies vary from grade to grade.

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|------|---|
| A511 | Perfluoropolymer supported grease series for many applications up to 'Extremes' involving continuous contact with pure Oxygen in most types of handling equipment. This is the most generally used commercial Oxygen resistant grease meeting DEF STAN 80-80 and BS3100 for gaseous oxygen contact. Service temps at all consistencies are from -55°C to +220°C
NLGI 3 is standard, however virtually any consistency can be made to order. |
| A512 | Based on A511/ Greases, with added DEF STAN Graphite Extreme Pressure capability inclusion, grey coloured. Service temps at all consistencies are from -55°C to +220°C
Four standard levels of Consistency are on the standard range NLGI 1, 2, 3 & 4, however virtually any consistency can be made to order. |
| A513 | Total perfluoropolymer content grease, specifically made to meet NATO G397 and MIL-PRF-27617 Type I, but Specifications, support this as a general purpose oxygen handling grease at operating temps -55° C to +220° C. Available in four standard levels of Consistency on the standard range – NLGI 1, 2, 3 & 4, however virtually any consistency can be made to order. |
| A514 | The intensely specified A514/ Greases have maximum perfluoropolymer level - with ultimate oxidizing, chemical resistance & flame-proofing, in various consistencies and made to meet NATO G- 397, and MIL-PRF-27617 (Note: this Spec. used to be MIL-G-27617) in Types II & III. In MIL they are specified for SCUBA valve lubrication. There is a 'Caution' expressed for this entire range that they may not be suitable for Aluminium or Magnesium dynamic bearings due to possible ignition hazard of these metals. Four standard levels of |

Consistency are on the standard range NLGI 1, 2, 3 & 4, however virtually any consistency can be made to order. Service temps at all consistencies are from -60°C to +230°C

TRANZ A514-3 (that is NLGI 3)

meets DEF STAN 80-80 antiseize service requirement in place of the hydrocarbon Spec. No. S-722, ZX-38, and meets DEF STAN S176 Spec. No. TT-S-1732.

When packaged in tubes, MIL-PRF-27617 Type II carries NATO Stock Number 9150-01-088-0498. MIL-PRF-27617.

Packed in larger and bulk containers, Type III meets NATO 9150-66-092-5716

A515 Perfluoropolymer, dark, lustrous grey grease. compounded with Molybdenum Disulphide for EP load bearing, for heavy load low speed factor uses such as thread seal and anti-gall. Service temps at all consistencies are from -55°C to +220°C

TRANZ *Hypalube* A515-3 meets DEF STAN 80-81, antiseize Spec. No.S-722, ZX-38

A516 Our standard TRANZ A511 white fluoro grease plus high level of added fluoropolymer for exceptional 'slip' in specialty applications. Service temps all consistencies are from - 40°C to +240°C

A517 Standard TRANZ A511 Fluoropolymer, pure white base grease plus addition of high-tech inert micro-inorganics, which provides the highest rated EP rating of the range. Service temperatures for all consistencies, are from -40°C to +240°C. The micro-inorganic metal bases include Molybdenum, Aluminium & others.

The synthetic base polymers utilized all have high polarity for tenacious adherence to metals yet allows easy make- up of tightly threaded joints. TRANZ *Hypalubes* A513 and A517 are variously fortified with approved inorganic and organic extreme pressure compounds which ensures thread movement after pressure exposure that would otherwise cold weld or massively gall, thread surfaces.

When used to lubricate deep sea drilling equipment the environmental pressures such as the extremes at great depth produce contraction of the compounds from simple compression but as long as there is no entrained air in the threads the compounds will remain in place. Although Inherently inert liquid polymer bases have proven low levels of interference with organic seals in respect of their effects on seals volume and physical integrity, It is imperative that any intended use of TRANZ A511 and A517 greases for service in contact with specific elastomers or plastics must be preceded by careful and rigorous checking in advance whether this contact may result in dimensional and property changes.

COMMON PROPERTIES

Dense, heavy, opaque, vari-functional fluoro-greases with wide temperature tolerance and extremely low reactivity. Inherently inert liquid polymer bases have proven low levels of interference with organic seals in respect of their affects on seals volume and physical integrity.

Max. compression	> 5,800 N
Flash point	> 360° C
Dropping Point	> 350°C
Flash Point	> 400°C

TRANZ 500 Series - Oxygen & Chemical Resistant Greases

Description	Extreme and Special Service High Performance Ranging from Zero to Medium Speed Factor, heavily loaded, direct metal on metal interfacial service lubrication including anti-seize service, under Category III temperatures and/or in gross chemical oxidizing/reducing environments including pure oxygen with standard consistencies available over the range NLGI 0 to NLGI 4.					
Grade	Appearance	Service Temp °C	Suits seal type	NLGI	Specify your needed NLGI by adding a dash after the TRANZ number and the number you need EG. A511-3	
A511	White	-55° C to +220°		1 to 4	Perfluoropolymer supported grease Extremes'involving continuous contact with pure Oxygen in most types of handling equipment. This is the most generally used commercial Oxygen resistant grease meeting DEF STAN 80-80 and BS3100 for gaseous oxygen contact	
A512	Grey	-55° C to +220°		1 to 4	As 511, with added DEF STAN Graphite Extreme Pressure inclusion	
A513		-55° C to +220°		1 to 4	Perfluoropolymer content grease, specifically made to meet NATO G397 and MIL-PRF-27617 Type I, but Specifications, support this as a general purpose oxygen handling grease	
A514	white	60° C to +230°		1 to 4	Maximum perfluoropolymer level - with ultimate oxidizing, chemical & flame resistance, in various consistencies and made to meet NATO G- 397, and MIL-PRF-27617 (<i>Note: this Spec. used to be MIL-G-27617</i>) in Types II & III. In MIL they are specified for SCUBA valve lubrication. <i>There is a 'Caution' expressed for this entire range that they may not be suitable for Aluminium</i>	
A515	lustrous grey	--55° C to +220°		2 to 4	Compounded with Molybdenum Disulphide for EP load bearing, for heavy load low speed factor uses such as thread seal and anti-gall. TRANZ <i>Hypalube</i> A515-3 meets DEF STAN 80-81, antiseize Spec. No.S-722, ZX-38	
A516	white	-40° C to +240°		2 to 4	Perfluoropolymer based grease plus high level perfluoropolymer slip additive	
A517	white	-40° C to +240°		2 to 4	Perfluoropolymer based grease plus micro inorganic such as molybdenum and aluminum	
PROPERTIES IN COMMON						
Dense, heavy, opaque, vari-functional fluoro-greases with wide temperature tolerance and extremely low reactivity .Inherently inert liquid polymer bases have proven low levels of interference with organic seals in respect of their effects on seals volume and physical integrity.						
Working Temp. Range		< -65°C to > 260°C	Max. compression > 5,800 N	Flash point > 360° C	Dropping Point > 350°C	Flash Point > 400°C
NOTE: It is imperative that any intended use of TRANZ A511 and A517 greases for service in contact with specific elastomers or plastics must be preceded by careful and rigorous checking in advance whether this contact may result in dimensional and property changes						
Packaging	Cartons containing 20 X 250gm. screw top jars; cartons containing 4 X 5 Kg. tins; and 20Kg. steel open head pails. Enquiries re invited concerning availability or development of alternative packaging forms, both for OEM metering and maintenance.					