

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	Initial Release	11/20/2021	JL

**NOTES:**

1. **SCOPE.** This item description covers the general requirements for SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.

2. **CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN).**

SECO uses a classification system as shown in the following example:

EXAMPLE OF PART NUMBER:

SECO45 CT 08 X L

3. **SALIENT CHARACTERISTICS**

- 3.1 Interface and physical dimensions. Sleeves supplied to this SECO45 shall be as specified on the applicable SECO45 specification sheet.
- 3.2 SECO45 specification sheet. The family of crush seals shall be in accordance with the requirements specified herein and the applicable SECO45 specification sheet. In the event of a conflict between this general SECO45 and the applicable SECO45 specification sheet, the latter shall govern.
- 3.3 Design and construction. Conical seal, crush, 45 degree flared tube fitting supplied to SECO45 are for use with SAE J512 and J513 45° flared fittings, they are designed to be used when small nicks or defects in the fitting do not allow for proper sealing. They can also be used on first assembly to enhance mechanical sealing and to extend joint life.
- 3.4 Materials. Materials products shall be made of the highest quality metal sheets between .030 and .032 inches thick.
- 3.5 Usage. The crush seal shall be used one time only, multiple uses after disassembly is not allowed.
- 3.6 Damaged connectors. Do not use seal if connector face is creased, nicked or damaged.
- 3.7 Cleaning. Hydraulic, and other general purpose applications shall be cleaned in accordance with SAE-AS611, class O.
- 3.8 Marking. Conical seal, crush, 45 degree flared tube fitting supplied to this SECO45 shall be marked with the manufacturer's (MFR's) standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the SECO45 PIN.)
- 3.9 Recycled, recovered, or environmentally preferable packaging materials. Recycled, recovered, or environmentally preferable packaging materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.
- 3.10 Workmanship. Crush seals shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

4. **PACKAGING.** Preservation, packing, and marking shall be as specified in the contract or order.

Dimensions In Inches Unless Otherwise Specified		DRAWING SIZE	SECO SEALS, INC sales@secoseals.com www.secoseals.com		1370 LOGAN AVE STE K COSTA MESA, CA. 92626 (714) 546-3478	
MAT'L: N/A	FSCM: 4730	<b>A</b>		TITLE: SECO45 Torque Specification	REV. -	
TREATMENT: N/A	<b>INCHES</b> DIMENSIONS IN INCHES 3RD ANGLE PROJECTION 	DESC.: SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.			ECCN: 9A991.d	
MAT'L SIZE: See Table		STANDARDS: SECO45	DRAWN BY Joe Littel		CAGE CODE: 33447	
		DATE DRAWN 11/20/2021	SCALE 1:1	CHECKED BY Jim Scott		SHEET 1 OF 5

APPENDIX A

SECO45 Flare Tube Gasket.

INSTALLATION PROCEDURE

A.1 SCOPE.

A.1.1 Scope. This commercial item description (SECO45) covers the general requirements for conical seals, crush, 45 degree flared tube fitting. Conical seals, crush, 45 degree flared tube fitting, installation procedure covered by this SECO45 are intended for Automotive and HVAC applications.


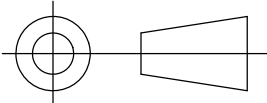
A.1.2 Intended use. Crush seals are intended for use with 45° flared tube fitting ends in accordance with SAE J512 and J513.

A.1.3 Characteristics. Crush seals are subject to compression; therefore, a double torquing procedure is used.

A.1.4 Torque technique. In order to assure a seal a drop of oil or compatible lubricant may be added, see table IV, to the threads of the connector and a drop to the SECO45 prior to assembly.

A.1.5 Torquing procedure:

1. Thread tube nut onto male connector several turns with fingers until connection is snug.  
NOTE: If tube nut cannot be tightened snugly with fingers, disassemble and correct problem to prevent assembly damage to crush seal.
2. Torque to suggested torque values in tables AI, AII, AIII or manufacturers recommended torque. Allow compression yielding of the crush seal for 15 seconds then re-torque to the values in tables AI, AII, AIII, or manufacturers recommended torque.
3. If for any reason after hand tightening, after the initial torque, or yielding torque the assembly has to be unassembled a new crush seal shall be used upon reassembly.
4. Do not tighten tube nuts more than specified in table AI, AII, AIII, or manufacturers recommended torque to avoid damaging the crush seals.
5. Do not loosen tube nut after initial torque application without replacing crush seal.

Dimensions In Inches Unless Otherwise Specified		DRAWING SIZE	SECO SEALS, INC sales@secoseals.com www.secoseals.com		1370 LOGAN AVE STE K COSTA MESA, CA. 92626 (714) 546-3478	
MAT'L: N/A	FSCM: 4730	<b>A</b>		TITLE: SECO45 Torque Specification		REV. -
TREATMENT: N/A	DESC.: SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.			ECCN: 9A991.d		
MAT'L SIZE: See Table		STANDARDS: SECO45		DRAWN BY Joe Littel		CAGE CODE: 33447
		DATE DRAWN 11/20/2021	SCALE 1:1	CHECKED BY Jim Scott		SHEET 2 OF 5

**APPENDIX A**

TABLE AI. Suggested torque values for flared brass tube fittings. 1/ 2/ 3/

SAE dash size	Tubing OD	Thread T in accordance with SAE-AS8879	All Brass fitting torque	
			lbf-in	Nm
-03	.188 (4.78)	.3750-24UNJF-3B	50-67	5-7
-04	.250 (6.35)	.4375-20UNJF-38	77-100	9-11
-05	.313 (7.95)	.5000-20UNJF-3B	100-134	13-15
-06	.375 (9.53)	.5625-18UNJF-3B	168-201	19-23
-08	.500 (12.70)	.7500-16UNJF-3B	302-335	34-38
-10	.625 (15.88)	.8750-14UNJF-3B	436-469	49-53
-12	.750 (19.05)	1.0625-12UNJ-3B	603-670	68-76

1/ Metric equivalents are given for information only.


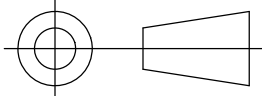
2/ Torque values shown are for dry nuts lubricated in accordance with table AIV.

3/ These torque values apply when the flared tube is copper or steel, connector and nut are brass with SECO45 copper flare tube fitting gasket.

**APPENDIX A**

TABLE AII. Suggested torque values for AN818 nut. 1/ 2/ 3/

SAE dash size	Tubing OD	Thread T in accordance with SAE-AS8879	All Brass fitting torque	
			lbf-in	Nm
-03	.188 (4.78)	.3750-24UNJF-3B	67-74	7-8
-04	.250 (6.35)	.4375-20UNJF-38	101-111	11-13
-05	.313 (7.95)	.5000-20UNJF-3B	134-147	15-17
-06	.375 (9.53)	.5625-18UNJF-3B	201-221	23-25
-08	.500 (12.70)	.7500-16UNJF-3B	335-369	38-42
-10	.625 (15.88)	.8750-14UNJF-3B	476-516	54-58
-12	.750 (19.05)	1.0625-12UNJ-3B	663-737	75-83

Dimensions In Inches Unless Otherwise Specified		DRAWING SIZE	SECO SEALS, INC sales@secoseals.com www.secoseals.com		1370 LOGAN AVE STE K COSTA MESA, CA. 92626 (714) 546-3478	
MAT'L: N/A	FSCM: 4730	<b>A</b>		TITLE: SECO45 Torque Specification		REV. -
TREATMENT: N/A	<b>INCHES</b> DIMENSIONS IN INCHES 3RD ANGLE PROJECTION 	DESC.: SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.			ECCN: 9A991.d	
MAT'L SIZE: See Table		STANDARDS: SECO45		DRAWN BY Joe Littel		CAGE CODE: 33447
		DATE DRAWN 11/20/2021	SCALE 1:1	CHECKED BY Jim Scott		SHEET 3 OF 5

- 1/ Metric equivalents are given for information only.
- 2/ Torque values shown are for dry nuts lubricated in accordance with table AIV.
- 3/ These torque values apply when the flared tube is copper or steel, connector and nut are brass with SECO45 copper flare tube fitting gasket.


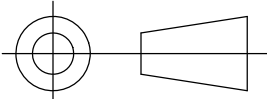
**APPENDIX A**

**TABLE AIII. Suggested torque values for AN818 nut - Continued. 1/ 2/ 3/**

SAE dash size	Tubing OD	Thread T in accordance with SAE-AS8879	Brass fitting brass sleeve seal	
			lbf-in	Nm
-03	.188 (4.78)	.3750-24UNJF-3B	60-67	7-8
-04	.250 (6.35)	.4375-20UNJF-3B	90-100	11-13
-05	.313 (7.95)	.5000-20UNJF-3B	120-134	15-17
-06	.375 (9.53)	.5625-18UNJF-3B	181-201	23-25
-08	.500 (12.70)	.7500-16UNJF-3B	302-335	38-42
-10	.625 (15.88)	.8750-14UNJF-3B	436-469	54-58
-12	.750 (19.05)	1.0625-12UNJ-3B	536-670	75-83

**TABLE AIV. Installation lubricant.**

Application	Installation lubricant
Hydraulic	MIL-PRF-5606 MIL-PRF-83282 MIL-PRF-87257
Engine oil	MIL-PRF-7808 or applicable engine oil
Fuel	Applicable fuel or Petrolatum in accordance with VV-P-236
Pneumatic	Lubricating grease in accordance with SAE-AMS-G-4343 or Petrolatum in accordance with VV-P-236
Water	Petrolatum in accordance with VV-P-236

Dimensions In Inches Unless Otherwise Specified		DRAWING SIZE	SECO SEALS, INC sales@secoseals.com www.secoseals.com		1370 LOGAN AVE STE K COSTA MESA, CA. 92626 (714) 546-3478	
MAT'L:	FSCM:	<b>A</b>		TITLE: SECO45 Torque Specification		REV. -
N/A	4730					
TREATMENT:	INCHES DIMENSIONS IN INCHES 3RD ANGLE PROJECTION	DESC.: SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.			ECCN: 9A991.d	
N/A		STANDARDS: SECO45		DRAWN BY: Joe Littel		CAGE CODE: 33447
MAT'L SIZE:		DATE DRAWN: 11/20/2021	SCALE: 1:1	CHECKED BY: Jim Scott		SHEET 4 OF 5
See Table						

**A.2 APPLICABLE DOCUMENTS SECO45**

**APPENDIX A**

**DEPARTMENT OF DEFENSE SPECIFICATIONS**

MIL-PRF-5606 - Hydraulic Fluid, Petroleum Base; Aircraft, Missile, and Ordnance MIL-PRF-7808 - Lubricating Oil, Aircraft Turbine Engine, Synthetic Base

MIL-PRF-83282 - Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537

MIL-PRF-87257 - Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft and Missile

AN818 - Nut, Tube Coupling, Short

VV-P-236 - Petrolatum Technical

(Copies of these documents are available online at <https://quicksearch.dla.mil/> or from the DLA Document Services Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094).

Other Publications.


SAE INTERNATIONAL

SAE J512 Automotive Tube Fittings

SAE J513 Refrigeration Tube Fittings—General Specifications

SAE-AMS-G-4343 - Grease, Pneumatic System

(Copies of these documents are available on line at [www.sae.org](http://www.sae.org) from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, and Tel: 877-606-7323 [inside USA and Canada] or 724-776-4970 [outside USA], email at [CustomerService@sae.org](mailto:CustomerService@sae.org).)

Dimensions In Inches Unless Otherwise Specified		DRAWING SIZE	SECO SEALS, INC sales@secoseals.com www.secoseals.com		1370 LOGAN AVE STE K COSTA MESA, CA. 92626 (714) 546-3478	
MAT'L:	FSCM:	<b>A</b>		TITLE: SECO45 Torque Specification		REV. -
N/A	4730					
TREATMENT:	INCHES DIMENSIONS IN INCHES 3RD ANGLE PROJECTION	DESC.: SECO45 Flare Tube Gaskets for use in 45 degree flared tube fittings per SAE J512 and J513.			ECCN: 9A991.d	
N/A		STANDARDS: SECO45	DRAWN BY Joe Littel		CAGE CODE: 33447	
MAT'L SIZE:		DATE DRAWN 11/20/2021	SCALE 1:1	CHECKED BY Jim Scott		SHEET 5 OF 5
See Table						