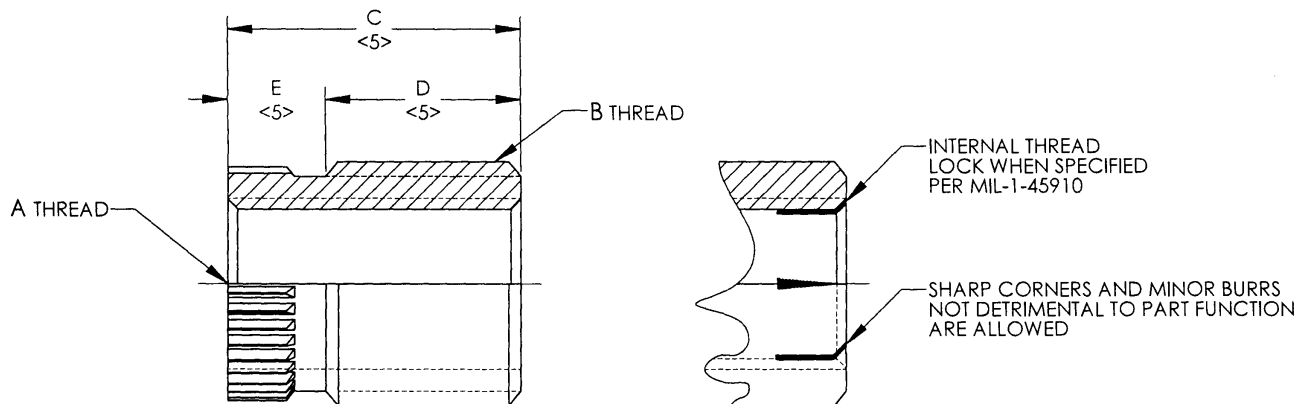


MANUFACTURE OF THE PROPRIETARY PARTS SHOWN HERE  
WITHOUT WRITTEN CONSENT IS ABSOLUTELY PROHIBITED

THIS DRAWING EMBODIES A CONFIDENTIAL, PROPRIETARY DESIGN & ALL DESIGN, MANUFACTURING  
PRODUCTION, USE & SALE RIGHTS REGARDING SAME ARE EXPRESSLY RESERVED.



INTERIM DOCUMENT REVISION		
Rev.	Date	DAF#
C1	10/8/2018	117431

R J 306 SB 8 L  
INTERNAL THREAD LOCKING FEATURE (LEAVE BLANK FOR NON-LOCK)  
"C" LENGTH IN 1/16" INCREMENTS  
MATERIAL CODE <1>

TABLE I

SERIES NUMBER (THREAD COMBINATION)

INSERT		LOCKRING		A INTERNAL THREAD UNJF-3B	B EXTERNAL THREAD <2><3>			C ±.015	D ±.015	E
ALCOA PART NUMBER	MILITARY PART NUMBER	ALCOA PART NUMBER <4>	MILITARY PART NUMBER <4>		SIZE	PITCH DIA.	MINOR DIA.			
RJ302()4	-	RLRR16SB5	MS51990-102P	.1120-48	.1900-32	.1699-.1714	.1475-.1534	.250	.150	.100
RJ303()5	-	RLRR18SB6	MS51990-103P	.1380-40	.2160-28	.1931-.1946	.1674-.1740	.310	.190	.120
RJ304()6	-	RLRR21SB6	MS51990-104P	.1640-36	.2500-28	.2271-.2286	.2014-.2080	.380	.250	.130
RJ305()7	-	RLRR24SB7	MS51990-105P	.1900-32	.3125-24	.2858-.2873	.2559-.2632	.440	.290	.150
RJ306()8	-	RLRR28SB8	MS51990-106P	.2500-28	.3750-24	.3479-.3498	.3185-.3257	.500	.330	.170
RJ306()9	-	RLRR28SB8	MS51990-106P	.2500-28	.3750-24	.3479-.3498	.3185-.3257	.560	.390	.170
RJ306()11	-	RLRR28SB8	MS51990-106P	.2500-28	.3750-24	.3479-.3498	.3185-.3257	.690	.520	.170
RJ307()9	-	RLRR31SB9	-	.3125-24	.4375-20	.4053-.4073	.3700-.3784	.560	.380	.180
RJ307()13	-	RLRR31SB9	-	.3125-24	.4375-20	.4053-.4073	.3700-.3784	.810	.630	.180
RJ308()10	-	RLRR38SB9	MS51990-108P	.3750-24	.5000-20	.4678-.4698	.4325-.4409	.620	.420	.200
RJ308()15	-	RLRR38SB9	MS51990-108P	.3750-24	.5000-20	.4678-.4698	.4325-.4409	.940	.740	.200
RJ309()11	-	RLRR47SB10	MS51990-109P	.4375-20	.6250-18	.5894-.5914	.5498-.5593	.690	.460	.230
RJ309()14	-	RLRR47SB10	MS51990-109P	.4375-20	.6250-18	.5894-.5914	.5498-.5593	.880	.640	.240
RJ309()17	-	RLRR47SB10	MS51990-109P	.4375-20	.6250-18	.5894-.5914	.5498-.5593	1.060	.830	.230
RJ310()12	-	RLRR56SB11	MS51990-110P	.5000-20	.7500-16	.7097-.7122	.6656-.6761	.750	.490	.260
RJ311()14	MS51991-311	RLRR64SB11	MS51990-111P	.5625-18	.8750-14	.8291-.8316	.7786-.7904	.880	.620	.260
RJ312()16	MS51991-312	RLRR72SB11	MS51990-112P	.6250-18	1.0000-14	.9541-.9566	.9036-.9154	1.000	.740	.260
RJ312()16F	MS51991-312.1	RLRR72SB11	MS51990-112P	.6250-18	1.0000-12	.9466-.9491	.8878-.9010	1.000	.740	.260
RJ313()18	MS51991-313	RLRR82SB12	MS51990-113P	.7500-16	1.1250-12	1.0716-1.0741	1.0128-1.0260	1.120	.800	.320
RJ314()20	MS51991-314	RLRR90SB12	MS51990-114P	.8750-14	1.2500-12	1.1966-1.1991	1.1378-1.1510	1.250	.900	.350
RJ315()22F	MS51991-315	RLRR100SB12	MS51990-115P	1.0000-12	1.3750-12	1.3216-1.3241	1.2628-1.2760	1.380	1.020	.360
RJ315()22	-	RLRR100SB12	MS51990-115P	1.0000-14UNJS	1.3750-12	1.3216-1.2760	1.2628-1.2760	1.380	1.020	.360

APPROVED DATE  
08/24/07

REV. LETTER AND DATE  
C 03/24/16

DAF NUMBER  
113841



ARCONIC

Arconic Fastening Systems

ROSAN PRODUCTS  
3018 W. LOMITA BLVD.  
TORRANCE, CA 90505-5103

TITLE:

INSERT - RING LOCKED,  
FINE INTERNAL AND EXTERNAL THREADS

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES &  
ASME Y14.5M TOLERANCES:

ANGLES  
FRACTIONS  
DECIMALS  
= ± 1°  
= ± 1/32  
= ± .02  
= ± .010

CURRENT DESIGN ACTIVITY:

CAGE CODE: 83324

SALES DRAWING NO.

RJ300()()L) SERIES

SHEET 1 OF 5

TABLE II MATERIALS

INSERT					
CODE	MATERIAL	SPECIFICATION	HEAT TREAT	FINISH WITHOUT INTERNAL THREAD LOCKING FEATURE	FINISH WITH INTERNAL THREAD LOCKING FEATURE
SA <6>	4130 STEEL	AMS-S-6758 CONDITION F	125 KSI UTS MIN	CAD PLATE PER AMS-QQ-P-416, TYPE II, CLASS 3	CAD PLATE PER AMS-QQ-P-416, TYPE II, CLASS 3
SB <6>	1117 STEEL	ASTM-A-108	NONE		
SF	17-4PH CRES	AMS 5643	COND H1025	PASSIVATE PER AMS2700	PASSIVATE PER AMS 2700 PLUS SOLID FILM LUBE
SM <6>	303 CRES	ASTM-A-582 OR AMS 5640	NONE		
SN	4340 STEEL ALTERNATE: 4140 STEEL	MIL-S-5000 OR AMS-S-5625	160-180 KSI UTS	CAD PLATE PER AMS-QQ-P-416, TYPE II, CLASS 3	CAD PLATE PER AMS-QQ-P-416, TYPE II, CLASS 3
SU <6>	A286 CRES	AMS 5731, AMS5732, AMS5737 OR AMS5734	83 HRB MIN <3>	PASSIVATE PER AMS2700	PASSIVATE PER AMS 2700 PLUS SOLID FILM LUBE PER AS5272
TA	6Al-4V TITANIUM	MIL-T-9047 CONDITION A OR AMS 4967	130 KSI UTS MIN	NONE	<7>
TB	6Al-4V TITANIUM	AMS 4967	160 KSI UTS MIN	NONE	<7>

TABLE III SPECIAL APPLICATION CODES

CODE	DESCRIPTION
EO254	EXTERNAL THREAD PER FED-STD-H28/2, CLASS 3A
EO301	FOR TITANIUM ONLY - ANODIC TREATMENT PER AMS 2488, TYPE 2
EO302	EXTERNAL THREAD PER AS8879, CLASS 3A
EO349	A286 MATERIAL HEAT TREATED TO 130 KSI MIN.

NOTES:

- <1> FOR MATERIAL HEAT TREAT AND FINISH CALLOUTS, SEE TABLE II.
- <2> THE EXTERNAL THREAD HAS A SPECIAL PITCH DIAMETER AND MINOR DIAMETER WHICH INSTALLS INTO AN AS8879 CLASS 3B, FED-STD-H28/2 CLASS 3B, OR NATIONAL CLASS 3 TAPPED HOLE, WITH LIGHT TO MODERATE INTERFERENCE. INSERT IS DESIGNED TO BE USED IN SOFT MATERIALS (ALUMINUM AND MAGNESIUM).
- <3> WHEN USED IN HARD BASED MATERIALS, OPTIONAL EXTERNAL THREAD CONFIGURATIONS CAN BE ORDERED (SEE TABLE III).
- <4> MATING LOCKRING IS NOT INCLUDED WITH INSERT, IT MUST BE ORDERED SEPARATELY.
- <5> FOR STANDARD LENGTHS AS SHOWN IN TABLE I, "C" OVERALL LENGTH AND "D" THREAD LENGTH APPLIES. FOR NON-STANDARD LENGTHS, "C" LENGTH IS IN 1/16 INCH INCREMENTS AND "E" DIMENSION APPLIES IN PLACE OF "D" DIMENSION.
- <6> NOTED CODES INDICATE STANDARD MATERIALS.
- <7> INTERNAL THREAD LOCKING FEATURE NOT AVAILABLE AT THIS TIME.

INTERIM DOCUMENT REVISION		
Rev.	Date	DAF#
C1	10/8/2018	117431

APPROVED DATE  
08/24/07

REV. LETTER AND DATE  
G 03/24/16

DAF NUMBER  
11384



ARCONIC

Arconic Fastening Systems

ROSAN PRODUCTS  
3018 W. LOMITA BLVD.  
TORRANCE, CA 90505-5103

TITLE:

INSERT - RING LOCKED,  
FINE INTERNAL AND EXTERNAL THREADS

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES &  
ASME Y14.5M TOLERANCES:

ANGLES  
FRACTIONS  
DECIMALS  
= ± 1°  
= ± 1/32  
= ± .02  
XX  
XXX = ± .010

CURRENT DESIGN ACTIVITY:

CAGE CODE: 83324

SALES DRAWING NO.

RJ300()()L) SERIES

SHEET 2 OF 5

MANUFACTURE OF THE PROPRIETARY PARTS SHOWN HERE  
WITHOUT WRITTEN CONSENT IS ABSOLUTELY PROHIBITED

THIS DRAWING EMBODIES A CONFIDENTIAL, PROPRIETARY DESIGN & ALL DESIGN, MANUFACTURING  
PRODUCTION, USE & SALE RIGHTS REGARDING SAME ARE EXPRESSLY RESERVED.

MANUFACTURE OF THE PROPRIETARY PARTS SHOWN HERE  
WITHOUT WRITTEN CONSENT IS ABSOLUTELY PROHIBITED

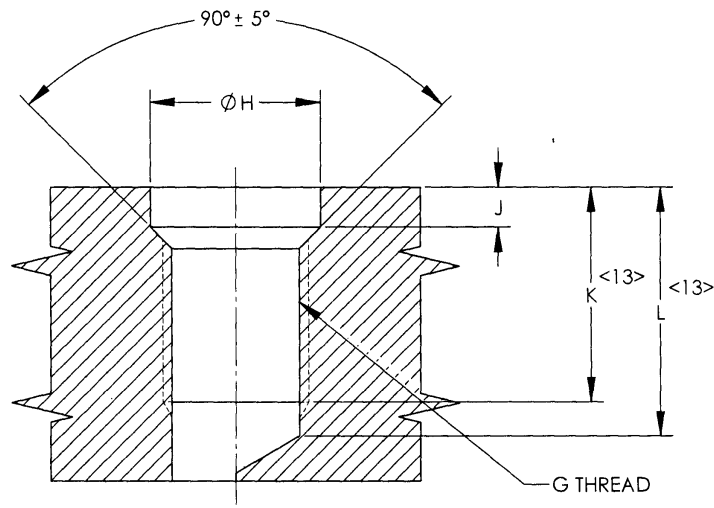


TABLE IV HOLE PREPARATION

INSERT PART NUMBER REF	G THREAD CLASS 3B <11>	ØH +.003 -.000 <8>		J +.030 -.000	K MIN. FULL THREAD DEPTH <12>	L MIN. DRILL DEPTH <12>	
		AL	MAG			PLUG TAG +	BOTTOM TAP
RJ302( )4	.1900-32UNJF	.250	.258	.094	.285	.426	.363
RJ303( )5	.2160-28UNJF	.281	.291	.109	.345	.506	.434
RJ304( )6	.2500-28UNJF	.328	.337	.109	.415	.576	.504
RJ305( )7	.3125-24UNJF	.375	.381	.141	.475	.663	.579
RJ306( )8	.3750-24UNJF	.437	.448	.156	.535	.723	.639
RJ306( )9	.3750-24UNJF	.437	.448	.156	.580	.786	.702
RJ306( )11	.3750-24UNJF	.437	.448	.156	.723	.911	.827
RJ307( )9	.4375-20UNJF	.484	.495	.172	.595	.820	.720
RJ307( )13	.4375-20UNJF	.484	.495	.172	.845	1.070	.970
RJ308( )10	.5000-20UNJF	.593	.601	.172	.655	.880	.780
RJ308( )15	.5000-20UNJF	.593	.601	.172	.968	1.193	1.093
RJ309( )11	.6250-18UNJF	.734	.747	.188	.725	.975	.864
RJ309( )14	.6250-18UNJF	.734	.747	.188	.913	1.163	1.052
RJ309( )17	.6250-18UNJF	.734	.747	.188	1.100	1.350	1.239
RJ310( )12	.7500-16UNJF	.875	.888	.203	.785	1.066	.941
RJ311( )14	.8750-14UNJF	1.000	1.015	.203	.915	1.236	1.094
RJ312( )16	1.0000-14UNJF	1.125	1.139	.203	1.035	1.356	1.214
RJ312( )16F	1.000-12UNJF	1.125	1.139	.203	1.035	1.410	1.243
RJ313( )18	1.1250-12UNJF	1.281	1.298	.219	1.155	1.530	1.363
RJ314( )20	1.250-12UNJF	1.406	1.427	.219	1.285	1.660	1.493
RJ315( )22F	1.3750-12UNJF	1.562	1.579	.219	1.415	1.790	1.623
RJ315( )22	1.3750-12UNJF	1.562	1.579	.219	1.415	1.790	1.623

THIS DRAWING EMBODIES A CONFIDENTIAL, PROPRIETARY DESIGN & ALL DESIGN, MANUFACTURING  
PRODUCTION, USE & SALE RIGHTS REGARDING SAME ARE EXPRESSLY RESERVED.

INTERIM DOCUMENT REVISION		
Rev.	Date	DAF#
C1	10/8/2018	117431

APPROVED DATE  
08/24/07

REV. LETTER AND DATE  
C1 03/24/16

DAF NUMBER  
113841



ARCONIC

Arconic Fastening Systems

ROSAN PRODUCTS  
3018 W. LOMITA BLVD.  
TORRANCE, CA 90505-5103

TITLE:

INSERT - RING LOCKED,  
FINE INTERNAL AND EXTERNAL THREADS

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES &  
ASME Y14.5M TOLERANCES:

ANGLES  
FRACTIONS  
DECIMALS  
= ± 1°  
= ± 1/32  
= ± .02  
= ± .010

CURRENT DESIGN ACTIVITY:

CAGE CODE: 83324

SALES DRAWING NO.

RJ300( ) ( )L) SERIES

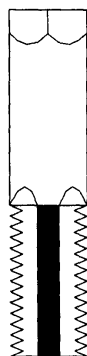
MANUFACTURE OF THE PROPRIETARY PARTS SHOWN HERE  
WITHOUT WRITTEN CONSENT IS ABSOLUTELY PROHIBITED

NOTES: (CONTINUED)

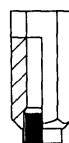
- <8> "H" DIAMETER AND MINOR DIAMETER OF THREAD TO BE CONCENTRIC WITHIN .003 FIM.
9. WHEN PARENT MATERIAL SURFACE IS NOT FLAT OR NORMAL TO AXIS OF HOLE, PROVIDE A SPOTFACE FOR PROPER LOCKRING ENTRY.
- <10> THREAD AS SHOWN PER AS8879 IS PREFERRED. ALTERNATE THREAD PER FED-STD-H28/2 CLASS 3B OR NATIONAL CLASS 3 IS APPLICABLE WHEN SPECIFIED BY DESIGN ACTIVITY. IF IT IS FELT THAT TORQUE IS EXCESIVE, A TAP WITH A HIGHER PITCH DIAMETER MAY BE USED.
11. REMOVE ALL BURRS AND SHARP EDGES.
- <12> "K" MINIMUM FULL THREAD DEPTH AND "L" MINIMUM DRILL DEPTH ARE APPLICABLE FOR STANDARD INSERT LENGHT SHOWN ONLY. FOR NON-STANDARD LENGTHS (SEE PART NUMBER CODING), "K" AND "L" MUST CHANGE ACCORDINGLY.



STEP DRILL



TAP



WRENCH



LOCKRING DRIVE TOOL

THIS DRAWING EMBODIES A CONFIDENTIAL, PROPRIETARY DESIGN & ALL DESIGN, MANUFACTURING  
PRODUCTION, USE & SALE RIGHTS REGARDING SAME ARE EXPRESSLY RESERVED.

INTERIM DOCUMENT REVISION		
Rev.	Date	DAF#
C1	10/8/2018	117431

APPROVED DATE  
08/24/07

REV. LETTER AND DATE  
~~C~~ 03/24/16

DAF NUMBER  
113841



**ARCONIC**

Arconic Fastening Systems

ROSAN PRODUCTS  
3018 W. LOMITA BLVD.  
TORRANCE, CA 90505-5103

TITLE:

**INSERT - RING LOCKED,  
FINE INTERNAL AND EXTERNAL THREADS**

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES &  
ASME Y14.5M TOLERANCES:

ANGLES = ± 1°  
FRACTIONS = ± 1/32  
DECIMALS .XX = ± .02  
XXX = ± .010

CURRENT DESIGN ACTIVITY:

**CAGE CODE: 83324**

**SALES DRAWING NO.**

**RJ300( )(L) SERIES**

SHEET 4 OF 5

MANUFACTURE OF THE PROPRIETARY PARTS SHOWN HERE  
WITHOUT WRITTEN CONSENT IS ABSOLUTELY PROHIBITED

THIS DRAWING EMBODIES A CONFIDENTIAL, PROPRIETARY DESIGN & ALL DESIGN, MANUFACTURING  
PRODUCTION, USE & SALE RIGHTS REGARDING SAME ARE EXPRESSLY RESERVED.

TABLE V INSTALLATION TOOLING

INSERT PART NUMBER REF	STEP DRILL PART NUMBER <13>		BASIC TAP SIZE <14> REF	WRENCH PART NUMBER	LOCKRING DRIVE TOOL PART NUMBER	REMOVAL DRILL SIZE <15> REF
	ALUMINIUM	MAGNESIUM				
RJ302( )4	RCDC16-159	RCDC16-159	.1900-32UNF	R1102W	R102D	7/32
RJ303( )5	RCDC18-180	RCDC18-180	.2160-28UNF	R1103W	R103D	1/4
RJ304( )6	RCDC21-213	RCDC21-213	.2500-28UNF	R1104W	R104D	19/64
RJ305( )7	RCDC24-272	RCDC24-272	.3125-24UNF	R1105W	R205D	F
RJ306( )8	RCDC28-332	RCDC28-332	.3750-24UNF	R1106W	R206D	5/16
RJ306( )9	RCDC28-332	RCDC28-332	.3750-24UNF	R1106W	R206D	5/16
RJ306( )11	RCDC28-332	RCDC28-332	.3750-24UNF	R1106W	R206D	5/16
RJ307( )9	RCDC31-386	RCDC31-386	.4375-20UNF	R1107W	R207D	U
RJ307( )13	RCDC31-386	RCDC31-386	.4375-20UNF	R1107W	R207D	U
RJ308( )10	RCDC38-453	RCDC38-453	.5000-20UNF	R1108W	R208D	29/64
RJ308( )15	RCDC38-453	RCDC38-453	.5000-20UNF	R1108W	R208D	29/64
RJ309( )11	RCDC47-569	RCDC47-569	.6250-18UNF	R1110W	R209D	9/16
RJ309( )14	RCDC47-569	RCDC47-569	.6250-18UNF	R1110W	R209D	9/16
RJ309( )17	RCDC47-569	RCDC47-569	.6250-18UNF	R1110W	R209D	9/16
RJ310( )12	RCDC56-687	RCDC56-687	.7500-16UNF	R1111W	R210D	11/16
RJ311( )14	RCDC64-802	RCDC64-802	.8750-14UNF	R1112W	R211D	25/32
RJ312( )16	RCDC72-927	RCDC72-927	1.0000-14UNF	R1113W	R212D	57/64
RJ312( )16F	RCDC72-922	RCDC72-922	1.0000-12UNF	R1113W	R212D	57/64
RJ313( )18	RCDC82-1043	RCDC82-1043	1.1250-12UNF	R1114W	R213D	11/32
RJ314( )20	RCDC90-1165	RCDC90-1165	1.2500-12UNF	R1115W	R214D	1 11/64
RJ315( )22F	RCDC100-1289	RCDC100-1289	1.3750-12UNF	R1116W	R315D	19/32
RJ315( )22	RCDC100-1289	RCDC100-1289	1.3750-12UNF	R1116W	R215D	19/32

NOTES: (CONTINUED)

- <13> STEP DRILLS ARE DESIGNED FOR THRU HOLE DRILLING. WHEN USED TO DRILL A BLIND HOLE, IT MAY BE NECESSARY TO GRIND THE DRILL TO SUIT THE DEPTH REQUIRED.
- <14> TAPS ARE NOT SUPPLIED BY ALCOA. FOR SPECIFIC THREAD INFORMATION, REFER TO HOLE PREPARATION ON SHEET 3 OF 5.
- <15> REMOVAL DRILLS ARE NOT SUPPLIED BY ALCOA.

INTERIM DOCUMENT REVISION		
Rev.	Date	DAF#
C1	10/8/2018	117431

APPROVED DATE  
08/24/07

REV. LETTER AND DATE  
C 03/24/16

DAF NUMBER  
113841



ARCONIC

Arconic Fastening Systems

ROSAN PRODUCTS  
3018 W. LOMITA BLVD.  
TORRANCE, CA 90505-5103

TITLE:

INSERT - RING LOCKED,  
FINE INTERNAL AND EXTERNAL THREADS

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES &  
ASME Y14.5M TOLERANCES:

ANGLES  
FRACTIONS  
DECIMALS  
= ± 1°  
= ± 1/32  
.XX = ± .02  
.XXX = ± .010

CURRENT DESIGN ACTIVITY:

CAGE CODE: 83324

SALES DRAWING NO.

RJ300( ) ( )L) SERIES

SHEET 5 OF 5