

## MATERIALS

| MATERIAL<br>ROD & BAR | ORDERING<br>CODE | MATERIAL<br>SPECIFICATIONS                                                  | RoHS<br>COMPLIANT |
|-----------------------|------------------|-----------------------------------------------------------------------------|-------------------|
| Aluminum              | AL               | QQ-A-225/3, QQ-A225/6, AMS 4120, QQ-A-225/8, AMS 4117, QQ-A-200/9, AMS 4156 | YES               |
| Brass                 | B                | ASTM-B-16, ASTM-B927/B927M-09, ASTM B453                                    | YES               |
| Nylon                 | N                | LP-410A, D 4066                                                             | YES               |
| Phenolic – Paper      | PH               | MIL-P-79 Type PBE, MIL-I-24768/10                                           | YES               |
| Phenolic – Tube       | PH               | MIL-P-79 TYPE PGB, MIL-I-24768/11                                           | YES               |
| Phenolic – Linen      | PHL              | MIL-P-79 Type FBE, MIL-I-24768/13                                           | YES               |
| Steel                 | S                | ASTM -A108-07, ASTM-A108-13                                                 | YES               |
| Stainless Steel       | SS               | ASTM-A-581, A-582                                                           | YES               |
| Teflon                | TE               | ASTM-1710                                                                   | YES               |
| Delrin                | D                | ASTM-D-4181                                                                 | YES               |

\* Non RoHS Compliant Finish

## FINISH CODES

|    |                                                                                  |    |                                                                      |
|----|----------------------------------------------------------------------------------|----|----------------------------------------------------------------------|
| *1 | Cadmium (Commercial) (Special Order Only)                                        | 25 | Black Oxide, Brass MIL-F-495E                                        |
| *2 | Cadmium QQ-P-416F-Class 2<br>Type-1 (Clear Chromate) (Special Order Only)        | 26 | Black Oxide, Stainless Steel, Steel<br>MIL-DTL-13924D, Class 1 and 4 |
| *3 | Cadmium QQ-P-416F-Class 2<br>Type-2 (Yellow Chromate) (Special Order Only)       | 27 | Electro Tin Solder (60/40) MIL-F-14072D / M222                       |
| 4  | Chrome Over Nickel                                                               | 28 | Zinc Plate .0002 ASTM-B-633<br>(Yellow Chromate)                     |
| 5  | Nickel QQ-N-290A Class 1 Grade G                                                 | 29 | Brushed Finish – Handles Only                                        |
| *6 | Iridite #14 (Gold) MIL-DTL-5541F                                                 | 30 | Brushed Finish – Clear Lacquer – Handles Only                        |
| 7  | Iridite (Clear) MIL-DTL-5541F                                                    | 31 | Brushed Satin – Handles Only                                         |
| 8  | Chemical Film Per MIL-DTL-5541, Class 1A, Dyed Blue                              | 32 | Brushed Satin – Clear Anodize – Handles Only                         |
| *9 | Alodine 1200                                                                     | 33 | Brushed Satin – Black Anodize – Handles Only                         |
| 10 | Chrome QQ-C-320B Class 1 Type I (Bright Finish)                                  | 34 | Satin Finish – Clear Anodize                                         |
| 11 | Chrome QQ-C-320B Class 1 Type II (Satin Finish)                                  | 35 | Satin Finish – Black Anodize                                         |
| 12 | Zinc .0002 ASTM-B-633 (Clear Chromate)                                           | 36 | Anodize MIL-A-8625F Black High Luster                                |
| 13 | Bright Dip – Brass                                                               | 37 | Ductile Nickel                                                       |
| 14 | Bright Tin ASTM B545 over Copper Flash<br>Mil-C-14550B                           | 38 | Polished Nickel – Handles Only                                       |
| 15 | Hot Tin Dip MIL-T-10727C Type II                                                 | 39 | Caustic Etch and Lacquer                                             |
| 16 | Electro Tin ASTM B545-13 Class A, B or C                                         | 40 | Semi-Frost Anodize (Clear)                                           |
| 19 | Caustic Etch                                                                     | 41 | Semi-Frost Anodize (Black)                                           |
| 20 | Passivate MIL-F-14072F                                                           | 42 | Black Zinc                                                           |
| 21 | Anodize MIL-A-8625F – Type II Class 2<br>(Sulfuric) Chemical Seal (Dark Grey)    | 43 | Blue Zinc                                                            |
| 22 | Anodize MIL-A-8625F – Type II Class 1<br>(Sulfuric) Hot Water Seal (Clear)       | 44 | Electro Tin with Nickel Undercoat<br>Per Mil-T-10727C                |
| 23 | Anodize MIL-A-8625F – Type II Class 2<br>(Sulfuric) Chemical Seal (Yellow Green) | 45 | Passivate QQ-P-35C Type VI                                           |
| 24 | Anodize MIL-A-8625F – Type II Class 2<br>(Sulfuric) Chemical Seal (Black)        | 46 | Passivate ASTM A967 / A967M-13 Nitric 1                              |
|    |                                                                                  | 47 | Passivate ASTM A380 / A380M-13                                       |
|    |                                                                                  | 48 | Passivate AMS 2700E Method 1                                         |

## NOTES

Responsibility ends with customer inspection or 10 days after customer receives parts. No returns will be accepted without prior approval from factory in writing.

All parts are stocked in plain finish. Parts will be plated to customer specification.

The items in this catalog are designed and manufactured to be functional. Engineering evaluation and quality assurance evaluations should be accomplished with functionality as a prime criteria.

RAF reserves the right to change any specifications, tolerances and plating types, for any products listed in this REFERENCE MANUAL without prior notice, provided the function of the item is not changed.

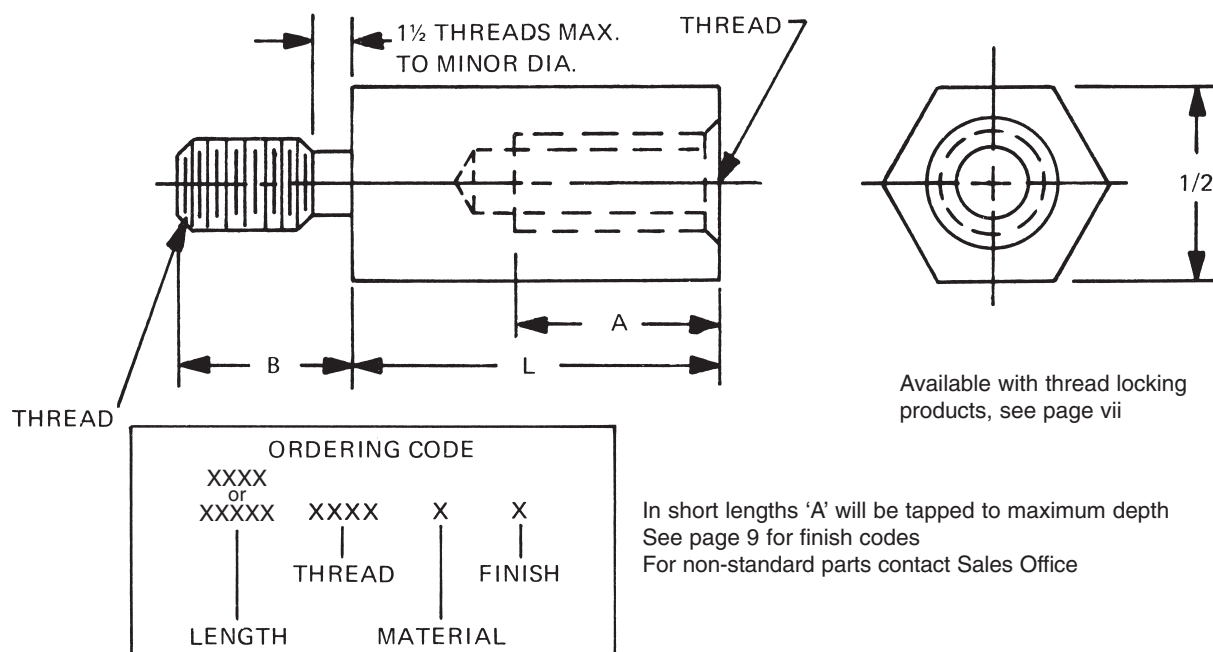
All custom (non-catalog) items are subject to an over shipment or under shipment of up to 10% of the order quantity. The price quotation from RAF will clearly identify these items.



RAF ELECTRONIC  
HARDWARE

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# 1/2 HEX MALE-FEMALE STANDOFFS



| LENGTH | PART NO. |
|--------|----------|
| 7/32   | 4669A    |
| 1/4    | 4669     |
| 9/32   | 4669T    |
| 5/16   | 4670     |
| 11/32  | 4670T    |
| 3/8    | 4671     |
| 13/32  | 4671T    |
| 7/16   | 4672     |
| 15/32  | 4672T    |
| 1/2    | 4673     |
| 17/32  | 4673T    |
| 9/16   | 4674     |
| 19/32  | 4674T    |
| 5/8    | 4675     |
| 21/32  | 4675T    |
| 11/16  | 4676     |
| 23/32  | 4676T    |
| 3/4    | 4677     |
| 25/32  | 4677T    |
| 13/16  | 4678     |
| 27/32  | 4678T    |
| 7/8    | 4679     |
| 29/32  | 4679T    |

| LENGTH  | PART NO. |
|---------|----------|
| 15/16   | 4680     |
| 31/32   | 4680T    |
| 1"      | 4681     |
| 1-1/16  | 4682     |
| 1-1/8   | 4683     |
| 1-3/16  | 4684     |
| 1-1/4   | 4685     |
| 1-5/16  | 4686     |
| 1-3/8   | 4687     |
| 1-7/16  | 4688     |
| 1-1/2   | 4689     |
| 1-9/16  | 4690     |
| 1-5/8   | 4691     |
| 1-11/16 | 4692     |

| LENGTH  | PART NO. |
|---------|----------|
| 1-3/4   | 4693     |
| 1-13/16 | 4694     |
| 1-7/8   | 4695     |
| 1-15/16 | 4696     |
| 2"      | 4697     |
| 2-1/8   | 4698     |
| 2-1/4   | 4699     |
| 2-3/8   | 4700     |
| 2-1/2   | 4701     |
| 2-5/8   | 4702     |
| 2-3/4   | 4703     |
| 2-7/8   | 4704     |
| 3"      | 4705     |
| 3-1/4   | 4706     |
| 3-1/2   | 4707     |
| 3-3/4   | 4708     |
| 4"      | 4709     |
| 4-1/4   | 4710     |
| 4-1/2   | 4711     |
| 4-3/4   | 4712     |
| 5"      | 4713     |
| 5-1/4   | 4714     |
| 5-1/2   | 4715     |
| 5-3/4   | 4716     |

| LENGTH | PART NO. |
|--------|----------|
| 6"     | 4717     |
| 6-1/4  | 4718     |
| 6-1/2  | 4719     |
| 6-3/4  | 4720     |
| 7"     | 4721     |
| 7-1/4  | 4722     |
| 7-1/2  | 4723     |
| 7-3/4  | 4724     |
| 8"     | 4725     |

| THREAD LENGTH CODE |     |     |
|--------------------|-----|-----|
| THREAD             | A   | B   |
| 10-32              | 1/2 | 3/8 |
| 12-24              | 1/2 | 3/8 |
| 1/4-20             | 5/8 | 1/2 |
| 5/16-18            | 5/8 | 1/2 |

| THREAD  | CODE |
|---------|------|
| 10-32   | 1032 |
| 12-24   | 1224 |
| 1/4-20  | 2520 |
| 5/16-18 | 3118 |

| MATERIAL        | CODE | RoHS |
|-----------------|------|------|
| Aluminum        | AL   | YES  |
| Brass           | B    | YES  |
| Stainless Steel | SS   | YES  |
| Steel           | S    | YES  |
| Nylon           | N    | YES  |



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