EC ENTERPRISES

Muzzle Thread, Shoulder & Wall-Thickness Quick Guide

A quick dimensional screen for common barrel-threading projects. Measure the barrel outside diameter at the intended finished thread location, select the proposed thread, and compare the values below.

Thread Quick Reference

Thread	Major Ø	Basic Root Ø*	Optional Undercut Ø*	Min. Barrel Ø for .050" Shoulder	Largest Bullet Ø @ .100" Wall
1/2-28 UNEF	.5000	.4562	.4512	.6000	.2512
1/2-36 UNS	.5000	.4659	.4609	.6000	.2609
9/16-24 UNEF	.5625	.5114	.5064	.6625	.3064
.578-28 UNS	.5780	.5342	.5292	.6780	.3292
5/8-24 UNEF	.6250	.5739	.5689	.7250	.3689
11/16-24 UNS	.6875	.6364	.6314	.7875	.4314
3/4-24 UNS	.7500	.6989	.6939	.8500	.4939
3/4-20 UNEF	.7500	.6887	.6837	.8500	.4837

*Calculated planning values. Use the smaller of the basic root or optional undercut as the smallest finished thread OD.

Largest Bullet Ø @ .100" Wall = Smallest Finished Thread OD − .200"

Two Quick Checks

RADIAL SHOULDER

(Barrel OD − Thread Major Diameter) / 2

Rifle reference: .050" minimum

RADIAL BARREL WALL

(Smallest Finished Thread OD − Standard Bullet Diameter) / 2

Rifle reference: .100" minimum

Using the last column: Compare the standard bullet diameter from Page 2 with the maximum bullet diameter listed for the proposed thread. If the bullet diameter exceeds the listed value, the combination does not maintain the .100" rifle radial-wall screening reference.

Handguns / pistol platforms are evaluated individually. The .100" rifle screening reference is not automatically applied to handgun barrels.

Customer planning screen only. EC must inspect the actual barrel and intended device before accepting work.

Common Cartridge / Standard Bullet Diameter Reference

Use the standard bullet diameter below as the planning value for the Page 3 radial-wall calculation. Cartridge names do not always equal actual bullet diameter.

Rifle / Rimfire A

Cartridge	Standard bullet Ø
17 Mach 2	.172
17 HMR	.172
17 Hornet	.172
17 Remington	.172
17 Remington Fireball	.172
17 WSM	.172
204 Ruger	.204
22 LR	.223
22 WMR	.224
22 Hornet	.224
218 Bee	.224
221 Fireball	.224
222 Remington	.224
223 Remington	.224
5.56 NATO	.224
224 Valkyrie	.224
22 ARC	.224
22-250 Remington	.224
220 Swift	.224
6mm ARC	.243
6mm Creedmoor	.243
243 Winchester	.243
243 WSSM	.243

Rifle / Rimfire B

Cartridge	Standard bullet Ø
6mm Remington	.243
240 Weatherby	.243
25-06 Remington	.257
250 Savage	.257
257 Roberts	.257
257 Weatherby	.257
6.5 Grendel	.264
6.5 Creedmoor	.264
260 Remington	.264
6.5 PRC	.264
6.5×55 Swedish	.264
264 Winchester Magnum	.264
270 Winchester	.277
270 WSM	.277
6.8 SPC	.277
6.8 Western	.277
7mm-08 Remington	.284
7mm Remington Magnum	.284
7mm PRC	.284
280 Remington	.284
28 Nosler	.284
300 AAC Blackout	.308
308 Winchester	.308
7.62 NATO	.308
30-06 Springfield	.308

Handgun / Pistol A

Cartridge	Standard bullet Ø
25 Automatic	.251
30 Super Carry	.312
32 Automatic	.312
32 S&W	.312
32 S&W Long	.312
32 H&R Magnum	.312
327 Federal Magnum	.312
30 Luger (7.65mm)	.309
380 Automatic	.355
9mm Luger / 9×19	.355
9mm Makarov	.365
9×21 IMI	.355
9×23 Winchester	.355
38 Super Automatic	.356
38 Automatic	.356
357 SIG	.355
38 Special	.357
357 Magnum	.357
357 Maximum	.357
350 Legend	.355
38 S&W	.361

Handgun / Pistol B

Cartridge	Standard bullet Ø
40 S&W	.400
10mm Automatic	.400
41 Remington Magnum	.410
44 Special	.429
44 Remington Magnum	.429
44 Russian	.429
44-40 Winchester	.427
45 Automatic	.451
45 Auto Rim	.451
45 GAP	.451
45 Colt	.452
454 Casull	.452
460 S&W Magnum	.452
45 Winchester Magnum	.451
455 Webley	.455
480 Ruger	.475
475 Linebaugh	.475
50 Action Express	.500
500 S&W Magnum	.500
5.7×28 FN	.224

Not listed?
Cartridge: _____

Standard bullet diameter: _____ in.

Rifle screening: Use the .100" radial-wall reference from Page 1. **Handgun / pistol:** Evaluated individually; the .100" rifle reference is not an automatic handgun acceptance criterion.

Planning values compiled from governed cartridge dimensional standards. Verify uncertain or unlisted cartridges with EC before relying on a value.

EC ENTERPRISES

Barrel Thread Screening Worksheet

Firearm / barrel _____

Caliber / cartridge _____

Desired thread _____

Intended device _____

1. RADIAL SHOULDER

A. Measure barrel OD at intended finished thread location:

A = _____ in.

B. From Page 1: Thread major diameter:

B = _____ in.

(Barrel OD − Thread Major Diameter) / 2

My radial shoulder: _____ in.

Rifle screening reference: .050" minimum radial shoulder

□ Meets reference □ Below reference □ EC review

2. RADIAL BARREL WALL

C. From Page 1: Smallest finished thread OD:

C = _____ in.

D. From Page 2: Standard bullet diameter:

D = _____ in.

(Smallest Finished Thread OD − Standard Bullet Diameter) / 2

My radial wall: _____ in.

Rifle screening reference: .100" minimum radial wall

□ Meets reference □ Below reference □ EC review

3. RESULTS

Check	Your Result	EC Rifle Screening Reference
Radial Shoulder	_____ in.	≥ .050 in.
Radial Wall	_____ in.	≥ .100 in.

Handgun / pistol platform? Record the measurements and calculation, but do not use the rifle .100" wall reference as an automatic acceptance/rejection criterion. EC evaluates handgun applications individually.

What Next?

Meets the rifle references?

Send EC the firearm/barrel, cartridge, desired thread, and intended device information for project review.

Below, uncertain, or handgun?

Stop at screening and ask EC to evaluate the application individually.

Planning reference only. This worksheet is a customer screening aid, not machining authorization or proof that a barrel/device combination is acceptable. EC inspection and project review control acceptance.