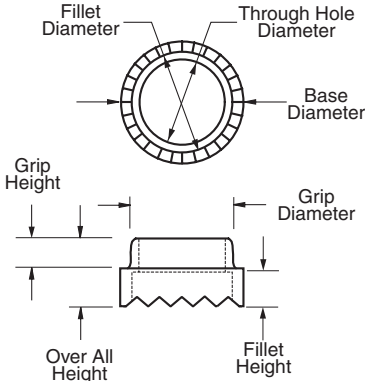


# FERRULE *Specifications*

Ferrules serve multiple purposes in stud welding. First, the ferrule helps to shield the arc from the operator. Second, it minimizes the atmosphere that the flux must purge. Third, the ferrule forms the molten metal into the fillet. Finally, the fillet vents allow weld gases to escape.

Ferrules are disposable items. As disposable items they are mass manufactured quickly and inexpensively. Ferrules are cast in a mold out of a low grade moldable ceramic. They are taken out of the mold and are dried. Because of this manufacturing method, ferrule tolerances can be greater than machining or other manufacturing processes. Therefore, it is not recommended to fixture off of a ferrule when exact location is required.

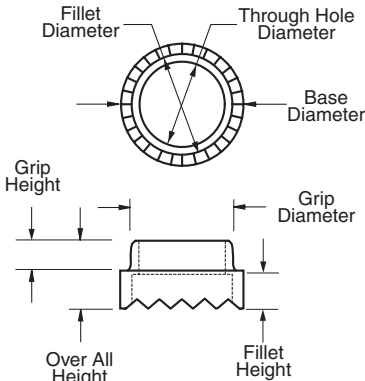
## Full Diameter Ferrules



Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±0.010	±0.015	±0.015	±0.015	+0.015/-0.000	+0.015/-0.000
25F	.255	.380	.455	.390	.125	.330	.125
31F	.317	.445	.578	.390	.156	.406	.125
37F	.385	.505	.640	.390	.156	.468	.141
43F	.442	.585	.703	.422	.188	.546	.156
50F	.505	.650	.795	.438	.188	.603	.172
62F	.635	.785	1.040	.516	.188	.745	.250
75F	.800	1.030	1.232	.656	.188	.937 +0.020/-0.000	.315
87F	.906	1.210	1.430	.732	.188	1.052	.390
1F	1.030	1.406	1.620	.770	.188	1.220	.390
M10F	.410	.495	.650	.395	.150	.455	.135

*F Ferrules, sometimes referred to as flat ferrules are used any time the weld base is a nominal diameter. Used on FT, NT, FB, SB, TP, HA, SC Style studs*

## Pitch Diameter Ferrules



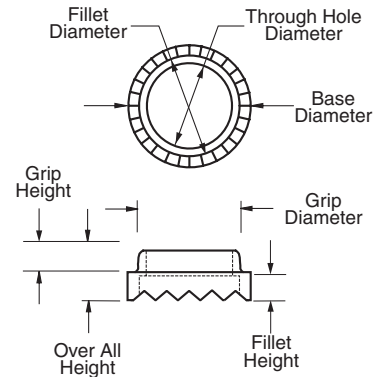
Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±0.010	±0.015	±0.015	±0.015	+0.015/-0.000	+0.015/-0.000
25P	.222	.380	.455	.250	.125	.290	.110
31P	.280	.445	.535	.250	.125	.360	.125
37P	.340	.505	.595	.264	.125	.406	.125
43P	.395	.585	.675	.329	.156	.468	.142
50P	.462	.650	.740	.362	.156	.550	.172
62P	.580	.785	.905	.433	.156	.685	.172
75P	.695	1.030	1.150	.526	.187	.813	.250
87P	.815	1.210	1.330	.593	.187	.960	.250
1P	.955	1.410	1.525	.660	.190	1.105	.355

*P Ferrules are used when the weld base is equal to the pitch diameter of the fastener. Typically only used on PD Style studs.*

## Low Profile Ferrules

Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±0.010	±0.015	±0.015	±0.015	+0.015/-0.000	+0.015/-0.000
25L	.255	.380	.455	.250	.125	.330	.125
31L	.317	.445	.595	.250	.125	.406	.125
37L	.395	.505	.640	.273	.120	.468	.115

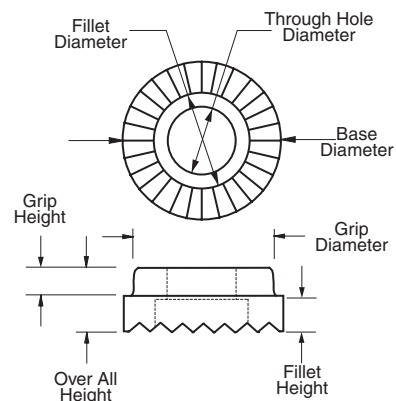
L Ferrules are used when the stud length is too short for a standard F type ferrule.



## Collar Ferrules

Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±0.010	±0.015	±0.015	±0.015	+0.015/-0.000	+0.015/-0.000
25C	.240	.780	.860	.250	.125	.300	.118
31C	.290	.785	.875	.250	.125	.360	.125
37C	.340	.785	.875	.250	.125	.437	.125
50C	.462	1.030	1.203	.281	.156	.593	.150
62C	.568	1.190	1.312	.375	.156	.689	.156
M10C	.375	1.030	1.203	.281	.156	.420	.150

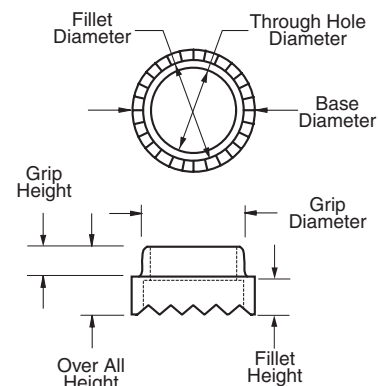
C Ferrules are typically used when welding CL (Collar) Style Studs. The large diameter of the ferrule allows the collar of the stud to clear the ferrule grip and foot.



## Reduced Fillet Ferrules

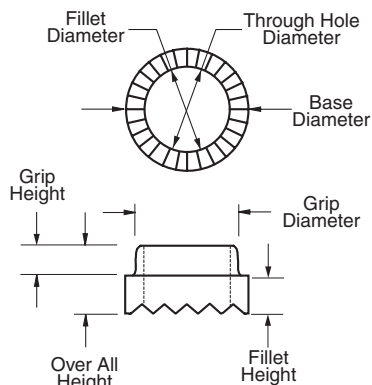
Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±0.010	±0.015	±0.015	±0.015	+0.015/-0.000	+0.015/-0.000
31RF	.325	.444	.576	.389	.156	.379	.130
37RF	.385	.505	.644	.440	.156	.420	.156
50RF	.515	.650	.795	.470	.188	.570	.175

Reduced fillet ferrules are used when the fillet needs to be smaller than a standard F ferrule can provide. Note: This style ferrule is generally not recommended because the welding parameters have a narrower range to achieve acceptable results. This type of ferrule makes welding more difficult.



# FERRULE Specifications

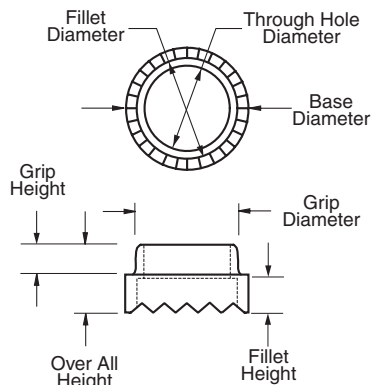
## Thru Bore Ferrules



Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
	+0.015/-0.000	±.010	±.015	±.015	±.015	+0.015/-0.000	+0.015/-0.000
25T	.255	.380	.455	.390	.125	.255	N/A
31T	.317	.445	.578	.390	.156	.317	N/A
37T	.385	.505	.640	.390	.156	.385	N/A
43T	.442	.585	.703	.422	.188	.442	N/A
50T	.505	.650	.795	.438	.188	.505	N/A
62T	.635	.785	1.040	.516	.188	.635	N/A
75T	.800	1.030	1.232	.656	.188	.800	N/A
87T	.906	1.210	1.430	.732	.188	.906	N/A
1T	1.030	1.406	1.620	.770	.188	1.030	N/A

T Ferrules are generally only used on RB (reduced base) style studs.

## Reduced Base Ferrule



Ferrule Part Number	Through Hole Diameter	Grip Diameter	Base Diameter	Over All Height	Grip Height	Fillet Diameter	Fillet Height
37 RB	.317	.505	.595	.250	.125	.406	.125
43 RB	.380	.585	.675	.250	.125	.468	.141
50 RB	.442	.650	.740	.281	.156	.546	.150
62 RB	.505	.785	.875	.281	.156	.603	.160
75 RB	.635	.921	1.030	.375	.187	.770	.250

Reduced Base Ferrules are generally only used on RB (reduced base) style studs. See the Reduced Base Stud section of this catalog to determine whether to use a T or a RB style ferrule.

Custom Ferrules can be manufactured for specialized applications. Consult your Image Representative or the Factory.