

TYPES OF BRISTLE MATERIALS

Natural bristle materials

Goat Hair

Goat hair is a very soft yet fine natural material with properties that make it excellent for use in fine polishing and cleaning. It is non conductive.

Horse Hair

Horse hair is soft, resilient and long lasting. excellent for sweeping polished surfaces. Horse hair works well for dusting, flux removal and general cleanup. It is non conductive.

Hog Bristle

Natural Hog Bristle is resilient and is the stiffest natural material available. A Hog Bristle brush will provide the best possible cleanup. It works well when dealing with sticky, crusty materials or viscous fluids. It is non conductive.

Synthetic bristle materials

Nylon

Nylon is the toughest and most durable synthetic material available. Nylon bristles discourage bacterial growth and resist most acids. It is non-shedding, and is excellent for cleaning and scrubbing applications with its strong abrasion resistance properties. It does not scratch most surfaces.

Wire Materials

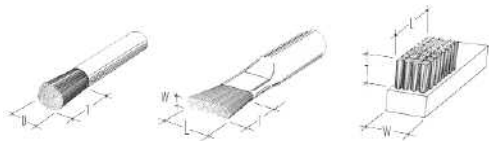
Brass

Brass is a softer wire than stainless steel, yet ideal for uses that include burnishing, polishing, non-sparking static removal and some deburring and material removal. Wire diameters range from extremely soft to stiff.

Stainless Steel

Stainless Steel is a highly corrosion-resistant wire to be used where contamination or rust is a problem. Stainless Steel bristle range from extremely soft to stiff. The fine, .003" diameter, wire is excellent for burnishing without removing the base material. Rust-proof and very strong, Stainless Steel is used to prevent harmful ferrous deposits on brushed parts. It is non-shedding.

BRUSH DIMENSIONS



D=Diameter **L**=Bristle Length **T**=Bristle Trim **W**=Bristle Width

All metal, plastic, and wood handle brushes can be used in ESD sensitive environments as long as the brush remains saturated in liquid. It is recommended that the brush be tested on the required application to confirm ESD compatibility.

All Insulative brushes are made of all non-shedding material that is perfect for use in cleaning very small areas that ESD and Cleanroom functions demand.

BRUSH DESIGN CONSIDERATIONS

The most critical aspects of the ESD brush are the fiber, the core or handle material, and grounding. Surface resistivity of the brush materials largely determines the electrostatic properties of the brush. Surface resistivity is a mathematical representation of a material's ability to resist the passage of electricity across its surface. The range of surface resistivity (in Ohms) is as follows:

10¹² - 10¹⁶ Insulative materials
10⁵ - 10¹¹ Dissipative materials
10² - 10⁴ Conductive materials

These classifications (Conductive, Dissipative, Insulative) along with Anti-Static (static charge inhibitors) are used to segregate the brushes into useful groups in this catalog. The type of brush you will require depends on your application for the brush that is based in part upon the surface resistivity required for that application.

If the mounting location is not grounded, then a grounding strap or wire incorporating a 1 Meg Ohm resistor should be used between the brush and an electrical ground. Potentially severe bodily harm may result from the use of a conductive brush if a 1 Meg Ohm resistor is not used.

BRUSH CATEGORIES

Conductive Brushes

Conductive Brushes have a surface resistivity of 10² - 10⁴ and are perfect to use when you need to remove static buildup from the work surface. Conductive brushes will act as a conduit between the charged surface and the path to ground. Made with fully conductive materials that are active static eliminators, your choice becomes the style and size that best works for you. Please use these brushes with a wrist strap or other mechanism to provide a path to ground.

Anti-Static Brushes

Anti-Static brushes are made from low charging materials and natural materials that are near neutral on the triboelectric chart of static generation. They neither give nor take electrons and, therefore, remain essentially electrically neutral. There can, however, be a slight charge created. In extreme voltage sensitive applications, these brushes should be used only in a liquid environment.

Insulative Brushes

Insulative brushes have a surface resistivity of 10¹² - 10¹⁶ and are an inexpensive water resistant alternative to Anti-Static Brushes. They are best used in an environment where static is not critical to the task at hand or where the brush is submerged in liquid when in use.

**DOUBLE ENDED SERIES
(ANTI-STATIC)**



This Series has two sizes with two end styles (tapered and flat) to fit your needs. Fibers are mechanically clamped into the handle for maximum fiber retention so that no adhesives can leach out and contaminate surface being cleaned. Brushes are available with Horse Hair (HH) or Hog Bristle (CK) material. Handle material for 1005 is Stainless Steel, and the 1010 handle is Zink Plated Steel.

| Bristle material | Part # | Part # |
|----------------------------|--|--------------------------------|
| Hog Bristle | 1005CK | 1010CK |
| Horse Hair | 1005HH | 1010HH |
| Handle Length | 4 1/2" | 4 1/2" |
| Diameter | 3/16" | 3/8" |
| Bristle Trim Length | 1/4" - Tapered 1/2" - Flat | 3/16" - Tapered 1/4" - Flat |
| Turf Diamter | Oval | Oval |
| Use | Short end for haeavy duty scrubbing Chiseled end to reach and scrub tight corners | |

1 SERIES (ANTI-STATIC)



This Series is an inexpensive utility duster/cleaner. It is an excellent replacement for throw away acid brushes that can lose fibers. Mechanical fiber clamping construction of a Zinc Plated Steel handle holds the fiber in place with no adhesives to leach out and contaminate cleaning fluid supply.

| Bristle material | Part # |
|--------------------------|---|
| Hog Bristle | 1CK |
| Horse Hair | 1HH |
| Handle Length | 4 1/2" |
| Diameter | 3/8" |
| Bristle Trim Len. | 3/4" |
| Tuft Dia. (Oval) | 7/16" |
| Use | Rework or cleanup; use dry or with fluids |

**ALUMINUM HANDLE SERIES
(ANTI-STATIC)**



The 11A and 33A Series has Aluminum handle and comes with one or three rows of bristles. These brushes are great for fine detailing and fitting into tight areas. The fibers are hand laced for better fiber retention and durability.

| Bristle material | Part # |
|--------------------------|----------------------|
| Hog Bristle | 11CKA |
| Handle Length | 6 7/16" |
| Handle Width | 1/8" |
| Bristle Trim Len. | 7/16" |
| Bristle Length | 1 3/16" |
| Bristle Width | 3/16" |
| Use | Fine detail cleaning |

**WOOD SCRATCH BRUSHES
(ANTI-STATIC)**



The 11P, 14, and 15 Series brushes are the same style Plywood handles, with one, two or three rows of bristles, hand laced with stainless steel wire for maximum fiber retention and long use. The 11P has a small face width. The 14 Series has a slightly wider Plywood handle. The 46 Series is a large scrubber brush to be used when wide areas are cleaned.

| Bristle material | Part # | Part # | Part # |
|--------------------------|----------------------|--------------------------------|-------------------------------|
| Hog Bristle | 11CKP | 14CK | 15CK |
| Horse Hair | | 14HH | 15HH |
| Stainless Steel | 11SSP | | 15SS |
| Brass | | | 15B |
| Handle Length | 7 3/4" | 7 3/4" | 7 3/4" |
| Handle Width | 7/16" | 7/16" | 7/16" |
| Bristle Trim Len. | 7/16" | 7/16" | 7/16" |
| Bristle Length | 1 3/8" | 1 3/8" | 1 3/8" |
| Bristle Width | 1/8" | 1/4" | 1/4" |
| Use | Fine detail cleaning | Slightly wider for tough spots | Detail cleaning and scrubbing |

**ALUMINUM HANDLE SERIES
(CONDUCTIVE)**



The 11A, 22A and 33A Series brushes are the same style aluminum handles, with one, two or three rows of bristles. Bristle material is soft Stainless Steel (SS) or soft Brass (B). These brushes are great for fine detailing and fitting into tight areas. The fiber are hand laced for better fiber retention and durability.

| Bristle material | Part # |
|--------------------------|----------------------|
| Brass | |
| Stainless Steel | 11SSA |
| Handle Length | 6 7/16" |
| Handle Width | 1/8" |
| Bristle Trim Len. | 7/16" |
| Bristle Length | 1 3/16" |
| Bristle Width | 3/16" |
| Bristle Rows | 1 |
| Use | Fine detail cleaning |

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**WOOD SCRATCH BRUSHES
(ANTI-STATIC)**



The 30 Series is a small, inexpensive, three row "scratch" or "toothbrush" style brush made of rugged and static-neutral Plywood. The 36 Series is a four row "scratch" brush on a larger handle. Horse Hair versions are great cleaners/dusters. Hog Bristle versions work great where a stiffer brush is needed.

| Bristle material | Part # | Part # |
|--------------------------|--------------------------|--|
| Hog Bristle | 30CK | 36CK |
| Horse Hair | 30HH | |
| Stainless Steel | 30SS | |
| Brass | 30B | |
| Handle Length | 7 3/4" | 8 3/8" |
| Handle Width | 7/16" | 1 1/16" |
| Bristle Trim Len. | 7/16" | 3/4" |
| Bristle Length | 1 3/8" | 2 1/8" |
| Bristle Width | 1/4" | 7/8" |
| Use | Board rework and cleanup | Board rework and cleanup. Gen. utility |

SST SERIES (ANTI-STATIC)



| Bristle material | Part # |
|--------------------------|--------------------------------|
| Hog Bristle | SST10CK |
| Horse Hair | SST10HH |
| Handle Length | 4 3/4" |
| Diameter | 5/16" |
| Bristle Trim Len. | 3/8" |
| Turf Dia. (Oval) | 3/8" |
| Use | Fluid applicator & general use |

This series includes four handy sizes to fit most benchwork needs. All are made with Stainless Steel handles. All have strong mechanical fiber clamping for maximum fiber retention and no adhesives that can leach out and contaminate surface areas.

ACID BRUSHES



Disposable brushes for applying acid, glue, or coatings. Very popular when one time usage is necessary. Tin ferrule handle with 6" overall length for all the AB series.

- 3/8" Diameter Horse Hair/Tin Handle Acid Brush
AB4(package of 12) **AB4G**(package of 144)
- 1/2" Diameter Horse Hair/Tin Handle Acid Brush
AB5(package of 12) **AB5G**(package of 144)

THROWAWAY PAINT/CHIP BRUSHES



Bristle trim length: 1"

| | Part # | Part # |
|------|--------------|--------------|
| | TA605 | TA610 |
| Size | 1/2" | 1" |

The brushes shown in this catalog are stocked. Gordon Brush has many additional types available - contact us for details. To check what is available from Gordon Brush please go to www.gordonbrush.com