

## Projectile Types & Applications

The projectile cleans by being compressed against the internal surface of the hose, tube or pipe. This pressure is achieved as the projectile is approximately 20% to 30% larger than the internal diameter of the hose, tube or pipe. For instance, a 2" (50mm) projectile is recommended for a 1-1/2" (38mm) hose.

Individual circumstances may require a smaller or larger projectile. If the projectile is too large it will not leave the nozzle, and if it is too small it will not clean effectively. The enormous variety in the types of couplings available today could also mean in some circumstances that the recommended size is inappropriate. When cleaning assemblies, a reduction in projectile size may be appropriate, as all recommendations are based on the most commonly used coupling sizes.

All Ultra Clean projectiles are made from virgin materials with a specific cell structure and density. This ensures a quality product that is capable of achieving most ISO-4406-99 and ISO-4405 cleanliness levels when our assembly procedures are followed. Ultra Clean never uses rebonded, scrap or recycled materials in our Ultra Clean Projectile offerings like some other manufacturers.

### Ultra Clean

Universal application for use with hose, tube, pipe and assemblies. Removes fine particles of loose contamination and can also be used for product purging.



### Tube

For use with all types of tubing or pipes - and strongly recommended for stainless steel - with mild to medium amounts of contamination, surface rust or scale build-up. Removes mandrel lubricants, grease and oil after the bending process.



### Abrasive

For use with tubes or pipes to loosen mild to medium amounts of contamination, surface rust or scale build-up.

Always follow-up with an Ultra Clean projectile to clear away loosened contaminants and verify cleanliness.

Can be used multiple times.



### Ultra-Scrub

For use on straight lengths of tube or pipe to loosen medium to high amounts of contamination, surface rust or scale build-up.

Always follow-up with an Ultra Clean projectile to clear away loosened contaminants and verify cleanliness.

Can be used multiple times.



### Ultra Clean 100mm-150mm

Ultra Clean Projectiles 100mm and larger are provided with a laminated backer to prevent air permeation. The laminated backer should be loaded into the nozzle last so that the air is pushing against it.



### Bulk Projectiles

Ultra Clean Technologies also offers Ultra Clean & Tube style projectiles packaged in bulk quantities. The bulk projectile program complements the Bench Mount Launchers for use in a production type atmosphere.



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## Fluid Flushing or Projectile Cleaning? *The Pros and Cons*

### Fluid Flushing:

#### Pros:

- Capable of achieving ISO 4406 & 4405 Cleanliness levels if procedures are followed and the system is properly maintained.

#### Cons:

- Initial investment is costly
- Time consuming to hook up and unhook assemblies from the flush tank
- Cycle time of solvent flush has to be so many seconds or minutes depending on hose size and length.
- The hose has to have the solvent removed after the flushing operation which takes time and energy.
- Cost to purchase the solvent and dispose of used solvent can be costly.
- Maintenance on flushing system and changing of filters.
- Health hazards to employees who do the flushing job.
- Space for the equipment.
- Can only be used in a cleaning cell.

### Projectile Cleaning:

#### Pros:

- Inexpensive initial investment.
- 10 to 15 seconds total cleaning time per assembly.
- Capable of achieving ISO-4406 & 4405 cleanliness levels.
- Can be used in a cleaning cell or at the job site.
- No chemicals or hazardous waste to dispose of.
- No employee health issues.

#### Cons:

- A projectile can be left inside of a hose or tube if a UC-PVS is not incorporated into the launching system.