

18. Housekeeping – A Housekeeper’s Chores in the Shop? (Foreign object damage = FOD)

From our true-stories department: When a potential customer recently sent its experts to tour a hopeful supplier’s facility before placing an order, almost everything they saw was perfect: the knowledgeable staff, the equipment, the technology. So was the price. But the contract still was not awarded. The reason: poor housekeeping.

Housekeeping, or the maintenance of a house, is poor if the place is untidy, with cobwebs in the corners and dirt on the floor. Poor housekeeping is when something drops on the floor and instead of getting the broom, you leave it there for people to step on and tread it into the ground. Housekeeping, good or bad, is an optical impression that hits the visitor the minute he enters the house.

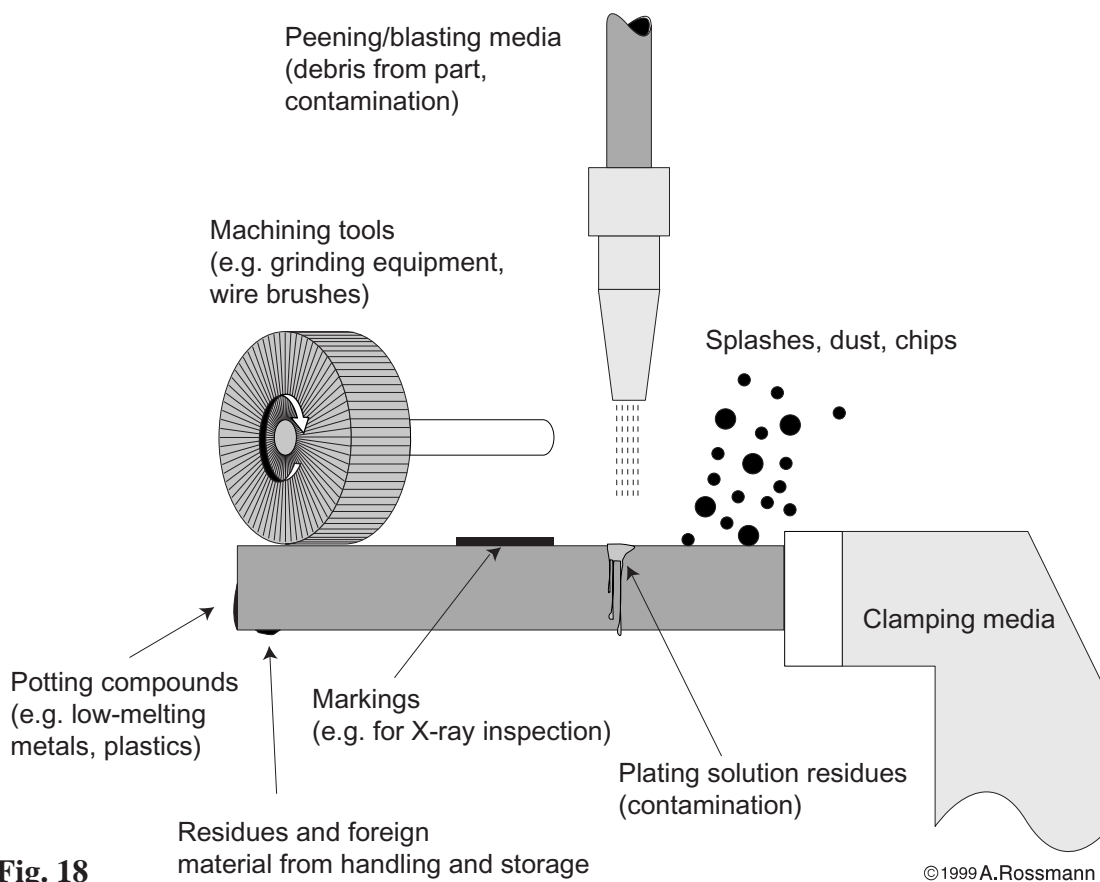
The way I see the problem:

Off-hand, you might think that the quality of our products does not actually suffer if dust or chips occasionally collect on parts during manufacture, not so long as you dust them off before you ship them. But how wrong can you get! Such apparently harmless negligence may even threaten the airworthiness of our products. Dust and chips are foreign materials that in heat treatment may eat into the surface of parts (diffuse into it, as the metallurgists say) or even cause localized melting, the melting point dropping in these areas. In these tiny spots, the material may soften like butter or embrittle like glass. When contaminated parts are dipped in plating solutions, reactions and corrosion may ensue. Then when cracking starts at these weak spots, we are in for the worst kind of trouble. So on the shop floor, we should act the fussy housekeeper, even if at home we’re unable to strike up a friendship with the vacuum cleaner.

Things to remember:

- Make sure that outward appearances are not offensive - e.g. cigarette butts and other discarded material in shipping crates.
- Completely remove dust and chips from parts prior to heat treatment (including coating and brazing) or etching or plating operations.
- If you are doing dusty jobs (like descaling heat treatment fixtures or cleaning furnaces), do them so that components under manufacture cannot be contaminated.
- When you see specks on component surfaces and they refuse to go away when you scratch over them with a fingernail, alert the quality people. This may be serious trouble.

Foreign material on component surfaces may be dangerous in a million ways. So one should know how foreign matter contaminates components.



Foreign material or contamination can settle on and damage finished component surfaces in many different ways. Awareness of the risks involved will help us keep components and their environment clean.