

Spark Arrestors – Policy of Use

In view of the hazard posed by sparks and cinders from steam engines, all solid fuelled engines in steam at public events run by the Society must be fitted with some form of spark arrestor. The Duty Manager is responsible for checking that this policy is complied with at all public events, both at the Glebelands Site and at other public venues.

Design Guidelines

Designs vary widely, with three commonly used options. Chimney top deflectors and arrestors (Types 1 & 2) are the easiest to build, fit and use but can make a mess of the top of the firebox. The internal gauze mesh system (Type 3) looks a lot better and is more effective. However, it can impair airflow and cleaning can be fiddly.

Type 1 is a deflector rather than arrestor, comprising a simple plate mounted horizontally about an inch above the chimney top. This usually sits in the top of the chimney and directs the sparks either to the side, or back down over the smokebox. This type is not ideal as there is still a danger to people at the sides of the engine.

Type 2 comprises a gauze mesh (tea-strainers work quite well) mounted above the chimney. The blast comes up out of the chimney and the gauze traps any larger particles that could go a distance before cooling.



Type 2 - External Mesh Arrestor

Type 3 uses an internal gauze mesh which surrounds the blast pipe and the petticoat. The gauze breaks up larger particles without allowing the smaller ones to block up the device, so the gauge of gauze used for this type is important. For locomotives, a stainless mesh of around 15 thou and 14 wires to the inch seems to work well without reducing airflow significantly (the mesh from a stainless steel kitchen sieve works well with smaller engines).



Type 3 – Internal Mesh Arrestor