

PTE Evaluation

Equipment:

One (1) shot blasting booth that uses steel shot and has a nozzle diameter of 1/4 inch and an air gauge pressure of 60 lbs per square inch.

(Note: There are tables located in the background documentation of AP-42, Chapter 13.2-6 for *Abrasive Blasting* to determine the capacity for an abrasive blasting operation if you know the nozzle diameter and the air gauge pressure.)

Calculations:

Table 13.2.6-1. PARTICULATE EMISSION FACTORS FOR ABRASIVE BLASTING

SOURCE	PM ₁₀	PM	EMISSION FACTOR RATING
Sand blasting of mild steel panels (SCC 3-09-002-02) Controlled	1.3 (lb/1000 lb abrasive)	9.1 (lb/1000lb abrasive)	E

AP-42 Emission Factors(Chapter 13.2.6.3)

Total PM emissions from abrasive blasting using shot are 10% of total PM emissions from abrasive blasting with sand.

$$\text{Total PM} = (10\%)(91 \text{ lb PM/lb abrasive}) = 9.1 \text{ lb/1000 lb}$$

$$\text{PM}_{10} = (10\%)(13 \text{ lb PM}_{10}/\text{lb abrasive}) = 1.3 \text{ lb/1000 lb}$$

PTE for (PM)

Shot Blasting Booth

$$(312 \text{ lb abrasive/hr})(9.1 \text{ lb/1000 lb})(8760 \text{ hr/yr})/(2000 \text{ lb/ton})$$

$$= 12.44 \text{ tpy PM}$$

Total = 12.44 tpy PM Uncontrolled

PTE for (PM₁₀):

Shot Blasting Booth

$$(312 \text{ lb abrasive/hr})(1.3 \text{ lb/1000 lb})(8760 \text{ hr/yr})/(2000 \text{ lb/ton})$$

$$= 1.78 \text{ tpy PM}$$

Total = 1.78 tpy PM₁₀ Uncontrolled