INCINERATOR DESIGN EVALUATION

J. Cobb

Industrial Leasing LTD

A/I 71272

EPA Region 5 Records Ctr.
291827

1. 300 = Rated capacity (lb/hr)

2. 6 = Type of waste

3. 14,000 = Heat content of waste (BTU/lb)

4. 4,200,000 = ①×③; Total heat release (BTU/hr)

5. _____ = Burning rate (lb/FT^2-hr) From table 1, TR-140-2

6. .40 = Total burning area (FT^2)

_____ = ①/⑤; Required burning area -- must be equal to or ~~greater~~ less than ⑥.

7. 194 = Volume of primary chamber (FT^3)

8. 103 = Volume of secondary chamber (FT^3)

9. 297 = Total volume (FT^3)

10. 14,141.4 = ④/⑦; Heat release of primary chamber (BTU/FT^3-hr) must be 50,000 BTU/FT^3-hr or less

11. _____ = Area of flame port FT^2

12. _____ = Products of combustion - furnace volumes (FT^3/SEC-lb) from Table V, TR-140-2

13. _____ = ①×⑫; Gas volume flow @ 1400° F (CFS)

14. _____ = ⑬/⑪; Velocity of gases in flame port @ 1400° F (FT/SEC) must be less than 35 FPS

15. _____ = Minimum area of settling chamber (FT^2)

16. _____ = Horizontal distance traveled in settling chamber (FT)

17. _____ = ⑬/⑮; Velocity of gases in settling chamber (FT/SEC) must be 9 fps or less

18. _____ = ⑯/⑰; Retention time (SEC) must be 0.25 SEC or greater

0.03 grains/scf 100 lb/hr

0.06 grains/scf 140 lb/hr

0 1 4 2 0 0 0 1 0 4

19. 4.968 = Stack area provided. Check against table III, TR-140-2

20. _____ = (4)/ 2 M; Stack area needed

21. _____ = Barometric damper area provided

22. _____ = (21)/(20); Ratio of barometric damper area to stack area. Check with Table II, TR-140-2.

23. 40 = Stack height. Check against table III, TR-140-2.

Auxiliary burner requirements

Type 2 waste 1500 BTU/lb
Type 3 waste 3000 BTU/lb

Permit granted on the basis stack test reports filed with permit application at 300 lb/hr

Title: Atmospheric Emission Evaluation
United Corporation
Wire Reclaimer Incinerator Model 1000R2
Prepared by
Valentine, Fisher & Tomlinson
Consulting Engineers
520 Lloyd Building
Seattle, Washington 98101
(206) 623-0717

October 7, 1971
0.03 gr/scf 1.26 lb/hr 100 pounds/hr
0.06 gr/scf 2.65 lb/hr 140 pounds/hr

(over)

Source Test Report

United wire Reclaimer Incinerator
Model 1000H

by
SAN Bernardino County
Air Pollution Control District
172 West Third street
San Bernardino, California
Telephone TUrner 9-0111
Ext. 376-456-549

Robert J. Hilovsky Air Pollution Control Engr.
Apr 26, 1971

Engineering Evaluation Report #71-16

Process Weight 300 lb/hr

Particulate Matter .038 gr/SCF

Combustion Contaminants .132 gr/scf @ 12% CO_2

Dust and Fumes 0.38 lb/hr

CO_2 3.0 % by Vol

NOx as NO_2 61 ppm

[illegible]

Condition 10 was added because the principle insu[illegible]
are high in chlorine content.
polyvinyl chloride (CH_2:CHCl), is 56.8% chlorine
neoprene 40.1% chlorine
Teflon — fluorine