

PREVENTIVE ENGINEERING

- 284 A Baghouse Test Program for Oxygen Lanced Open Hearth Fume Control. R. A. Herrick.
J. Air Poll. Control Assn. 13, 28-32 (Jan. 1963).

The findings of the study indicate that the iron oxide fumes generated by an oxygen lanced open hearth furnace are collected very efficiently by glass cloth filter bags of any of the usual fabric weaves, with no visible dust plume ever seen at the test unit outlet. The dust-fabric combination returns to an intermediate rather than low pressure drop after the bag cleaning cycle, but the slow rise in pressure drop as the dust cake is built up tends to offset this disadvantage. The level of the pressure drop after cleaning is most affected by the physical intensity of the cleaning operation, although the weave of the glass fabric bags does have an effect on this value. The operation of the valves which isolated the test unit from the furnace was found to be very important, for a slight amount of leakage can be detrimental to a collapse-type cleaning method. Condensation of the furnace gases on the filter bags can cause a buildup of water soluble salts which increase the resistance of the bags. Therefore, steps should be taken to eliminate condensation possibilities. Based on these tests, there should be no major difficulties which would prevent the satisfactory operation of a baghouse type dust collector on an oxygen lanced open hearth furnace. Representative filter drag values indicate that a baghouse sized for 2 cfm per square foot could have a pressure drop of 5 inches of water or less.

-- Author's summary

- 285 The Beneficiation of Raw Materials in the Steel Industry and Its Effect Upon Air Pollution Control. J. M. Uys and J. W. Kirkpatrick. J. Air Poll. Control Assn. 13, 20-27, 32 (Jan. 1963)

The use of beneficiated burdens in blast furnaces has increased during recent years and is expected to accelerate in the near future. Burden beneficiation is practiced through improving the physical nature of the material and through increasing the iron content of the charge. This has led to improved furnace performance, "slips" have been reduced, dust rates, slag volumes, and coke rates have been decreased, and production rates increased. All these factors materially reduced possibilities of air pollution by the steel industry. -- Authors' summary

- 286 A Review of Certain Design Standards for Dust Exhaust Systems. J. F. Knudsen.
Am. Ind. Hyg. Assn. J. 23, 503-508 (Nov.-Dec. 1962).

For large-scale materials-handling dust control systems design criteria are not yet standardized. Airflow induced by falling material, adequate enclosures to insure collection of only airborne dust and to avoid "vacuum-cleaning", and ease of maintenance are important considerations. -- Author's abstract.

- 287 Fume and Dust Collection in the Mining Industry. H. W. Lange.
Ind. Water & Wastes 7, 60-62 (May-June 1962).

Based upon the experience of the mining industry, the author presents the basic applications of the 4 major means of stack gas cleaning: baghouse or filters, electrical precipitators, washers and scrubbers, and centrifugal collectors. -- Public Health Eng. Abstracts.

- 288 Industrial Hygiene Design in Raw Materials Handling Systems. W. V. Andresen.
Am. Ind. Hyg. Assn. J. 23, 509-513 (Nov.-Dec. 1962).

Operations leading to problems of dust exposures during materials handling are mentioned. The problems and methods of control are presented with emphasis on closed-systems and ventilation. Illustrative examples are included. -- Author's abstract.