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Open drum washer mat sampling technique

1. Scope

This practice provides a means to collect pulp mat and liquor samples from open drum washers.

2. Significance

Samples collected according to this practice are used to determine drum washer operating parameters, such as, the consistency of the pulp mat (1), and the dissolved solids or chemical oxygen demand (COD) content of the liquor.

3. Definitions

3.1 Consistency is the amount of oven dry fiber, expressed as a percent of total sample weight. Consistency is determined by TAPPI T 240 "Consistency (Concentration) of Pulp Suspensions."

3.2 Dissolved solids are the washable, or soluble solids contained in the liquor portion of the sample. This does not include bound or fixed sodium adsorbed by the pulp. Dissolved solids are determined by TAPPI T 650 "Solids Content of Black Liquor" (2).

3.3 COD is determined by a recognized industry standard (e.g., ASTM D1252 - 06 "Standard Test Methods for Chemical Oxygen Demand (Dichromate Oxygen Demand) of Water" or PAPTEC Standard H.3 (2006) "Chemical Oxygen Demand" (3,4).

3.4 The term "liquor" refers to the water plus soluble solids.

4. Apparatus

4.1 A wooden paddle or scraper, approximately 125-150 mm (5-6 in.) wide with a tapered lip, (see Figure 1), used to lift/scrape the pulp mat off the drum face.

4.2 Containers for liquor samples.

4.2.1 Sealable plastic bags for the mat samples.

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4.2.2 Plastic screw-cap containers, 50–200-mL minimum, for the liquor and low consistency stock samples.

5. Safety precautions

CAUTION. Collecting samples from brown stock washers involves handling hot, caustic pulp and liquor. Appropriate protective clothing and safety equipment should be used. There is a potential for severe burns. Operators collecting samples are to do so in such a fashion as to not place body parts (hands, arms) inside the hood of the brownstock washer. Breaking the plane of an opening into a confined space with any part of your body may be considered to be a violation of OSHA Confined Space Entry standards.

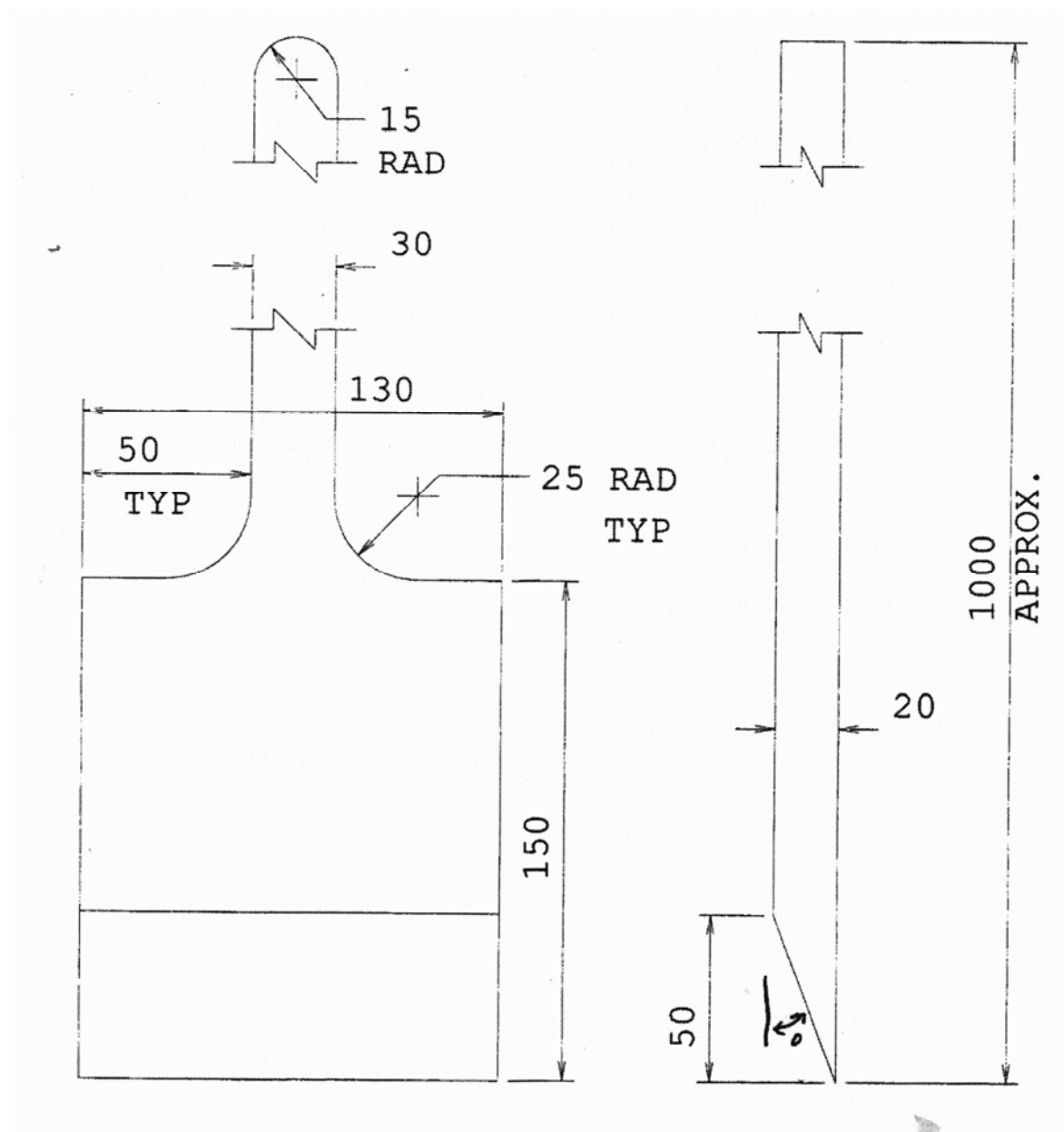


Fig. 1. Suggested paddle design (dimensions are in millimeters).