Guidelines for paper mills for the control of moisture content in recovered paper

1) Definition of Moisture Content: Reference to the EN 643 Standard.
   • The definition of moisture content is stated in EN 643, the European List of Standard Grades of Recovered Paper and Board:
     "Recovered paper and board will, in principle, be supplied with moisture of not more than the naturally occurring level. Where the moisture content is higher than 10% (of air dried weight), the additional weight in excess of 10% may be claimed back – with the method of testing and sampling to be agreed between buyer and seller”.

2) Control Procedure (see scheme)
   • Controls should be made systematically. For example: every day a number of loads should be examined and each month all the suppliers should have several loads examined.
   • Testing should be done at random (or for all loads). Loads to be controlled can be chosen at random every day or can be predefined but without early information. For example, "loads number 5, 10 and 15 of each working day are going to be tested”.
   • If a significant content of moisture is visually detected in a load, moisture measurement should be made, even if it was not planned.
   • The same number of bales, chosen at random, should be taken from each load.

3) Measurement
   Visual inspection can only lead to the acceptance of the material. No other decision can be motivated as this kind of procedure is not accurate to measure the moisture content level. Measurement should be done with objective procedures and devices.

3.1) For bales
   Measurement can be done via three methods:
   - By opening chosen bales. A sample should be taken out and dried;
   - By taking a sample of the bale by core-drilling devices. The sample should then be dried;
   - By technical measurement. There are several devices in the market to measure the moisture content of a bale. It is highly recommended to use the devices that are recognised by technical institutes.

3.2) For loose material
   First step: visual inspection
   Consists of an evaluation of the moisture content by visual inspection. The result of the visual inspection might lead to acceptance without extra inspection, a conditional acceptance, or refusal depending on a gravimetric inspection or technical measurement.

   Second step (if there is a need for an additional inspection): gravimetric method
   The gravimetric method or the technical measurement consists of evaluating the moisture content present in a sample. There is no standardised method in Europe at present specifically for recovered paper and recovered paper sampling. Nevertheless, it should be recommended to have an agreed method used in each mill in a systematic way. The sampling should be standardised as much as possible. The moisture content determination can be made by various methods, but the measurement methodology should be validated and reliable.
4) Effects of the Inspections Results
   • Under 10% of moisture content, the load is accepted;
   • Over 10% of moisture content and over maximum tolerance, the load is rejected;
   • If moisture content is over 10% and below maximum tolerance, the difference between the content measured and 10% will be discounted as percentage of the weight of the load and the cost of transport for ex-works purchasing.

5) Information to Suppliers
   • If a load is refused because of the too high moisture content, the decision should be communicated directly to the supplier;
   • Results should be communicated to suppliers on a regular basis.

6) Database
   • Moisture content of the loads is one of the main criteria when mills evaluate their suppliers;
   • Inspection results must be documented with the information about the load, the grade and the supplier. The result must be filed in order to help the suppliers evaluation.