

Chemical analysis of leather

A thorough sample preparation is essential

Various chemical analyses for leather during processing

During the processing of leather various chemical analyses must to be conducted. The most important are: Identifying of substances soluble in dichloromethane according to DIN EN ISO 4048 (often termed the identification of the fat content), the identification of the chromium oxide content according to DIN 53309, the determination of the ph-value according to DIN EN ISO 4045, the determination of the pentachlorophenol content according to DIN 53313, as well as the determination of the chromium (VI) content according to DIN 53314. All these methods of analysis require a sample preparation which is described by DIN EN ISO 4044.

Comminution with the FRITSCH Cutting Mill PULVERISETTE 15

Initially, the leather sample is dried, respectively acclimatized. Afterwards it is comminuted with a Cutting Mill. We recommend the **PULVERISETTE 15**, a Cutting Mill with a sieve with a perforation of 2 mm or 4 mm. During the comminution a warming of the sample has to be avoided, therefore prior to the comminution, the leather sample should be cut manually in adequate chunks.



Fig. 1: FRITSCH Cutting Mill PULVERISETTE 15

Further processing

Now the sample can be processed for additional analysis. The determination of the substances soluble in dichloromethane (fat content) is performed via Soxhlet-Extraction, (for example with Soxtherm of C.Gerhardt, Laboratory Instruments in Königswinter). Also with the Soxhlet-Extraction, the analysis of the pentachlorophenol content is determined. As a solvent, acetone is used. After the evaporation of the acetone, the residue is assimilated in n-hexane, cleaned over a column, and after suitable further processing, analysed with GC-ECD.



Fig. 2: Leather sample after processing with the FRITSCH Cutting Mill PULVERISETTE 15

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