

# TECHNICAL GLOSSARY

From Annealing across LMD-Filter™ up to White liquor.

## Annealing

Process in which metal is heated, retained at a suitable temperature, then cooled rapidly or slowly to reduce internal stress. As a result, the metal becomes softer and more workable, particularly in cold processes.

## APMP/P-RC™

*Alkaline Peroxide Mechanical Pulping/Preconditioning Refiner Chemical.*

APMP is a refining process preceded by multi-stage impregnation with alkaline peroxide bleach liquors. The wood chips are compressed and destructured prior to the addition of the bleach liquors. APMP systems can operate without a post bleach plant since bleaching takes place up front in the process. P-RC™ APMP is a technology that distributes chemicals between the impregnation steps in a small interstage bleach tower located between the primary and secondary refining stages.

## Approach flow system

Feeding system that provides stable feeding conditions for the paper/board machine.

## Black liquor

Mixture of spent cooking chemicals and dissolved wood material remaining after sulphate cooking. Black liquor is recovered during pulp washing, concentrated by evaporation, and burned in the recovery boiler to regenerate the cooking chemicals and also produce energy for the mill.

## Brownstock

The pulp obtained directly from the cooking process, before intercellular materials and cooking liquors have been removed.

## Calender

In paper, nonwovens, and textile production, machine with one or several rolls, which causes certain profile and surface properties in web materials (gloss, strength, roughness).

## Chemical pulp

A generic term which describes pulp produced by chemical (as opposed to mechanical) processes. These chemical processes include kraft (sulphate) and sulphite processes.

## Chemical recovery

In chemical pulping, the collection, recovery, and regeneration of cooking chemicals so that they can be utilized again in the process.

## Chipping

A process in a woodyard in which the debarked logs are converted into chips for pulping or refining processes. Chipping is typically done by horizontally or gravity-fed disc chippers.

## Coating

In paper production, process through which the surface of paper or board is closed by chemical substances or a color coat. This improves certain properties (e.g. the printability of paper) significantly and prepares the material for certain uses.

## CVD

*Chemical Vapor Deposition*

A coating process which generally uses a gas-phase precursor to deposit thin films on the surface of a substrate. Metal-organic precursors can be used to deposit corrosion resistant coatings on metals' surfaces.

## DD Washer

The Drum Displacer® (DD) Washer can be used in all fiberline process stages to separate the waste liquor that is generated during cooking and that contains dissolved wood and chemicals from the stock. It is a pressurized multistage washer which can include as many as four stages.

## Deinking

A process in which most of the ink, filler, and other extraneous material are removed from printed and/or unprinted recovered paper. The result is a pulp which can be used in the manufacture of new paper, including tissue, printing, writing, and office papers.

## Delignification

Removal of lignin from wood fibers. This is performed primarily in the cooking process and further carried out in the washing and bleaching process. In bleaching, ECF pulp mills use chlorine compounds (chlorine dioxide) for this process, although it can be achieved with oxygen, hydrogen peroxide, or ozone (which do not create organo-chlorines).

## Digester

A pressure vessel, typically cylindrical, used to treat wood chips or other cellulosic materials with chemicals under elevated pressure and temperature, so as to produce pulp for papermaking.

## ECF

*Elemental Chlorine-Free pulp*

Pulp bleached without the use of any elemental chlorine. However, chlorine compounds (e.g. chlorine dioxide) may be used in the bleaching process.

## EPC

*Engineer Procure Construct*

A project delivery where one supplier assumes total responsibility for product and project engineering, equipment and construction procurement, and on-site construction.

## Extrusion

A continuous process in which animal feed components are cooked under pressure in a combination of frictional and steam heat in order to expand the resulting product and convert it into feed granulate. This process is very common in the production of pet food, fish feed, and cereals.

## Fiberline

The machines and process systems involved in converting wood chips into pulp. Process steps can include cooking, washing, screening, knot separation, refining, and, if required, bleaching.

## Flash dryer

Thermal dryer in which pulp is carried pneumatically while the material is dried. In many cases, the drying is carried out in two stages.

## Fluid bed drying

Thermal process causing free-flowing products such as plastics, chemicals, etc., or sludges to float due to gas or air infeed and to dry by intensive material and heat transfer between the fluidizing gas and the product.

**Green liquor**

Aqueous solution of the smelt resulting from the burning of thickening waste liquor in the recovery boiler. Mainly consists of sodium carbonate and sodium sulphide.

**Lime kiln**

A long, slowly rotating kiln used to reburn lime mud (calcium carbonate) to form calcium oxide, which can be reused in recausticizing.

**LMD-Filter™**

The LMD-Filter™ is a lime mud precoat filter designed to achieve optimum dry solids with excellent washing efficiency for lime mud. The filter ensures efficient lime kiln operation at low heat consumption. LMD stands for Lime Mud Drying.

**Market pulp**

Pulp produced from wood and sold on the open market, as opposed to that which is produced for internal consumption by an integrated paper mill or affiliated mill.

**MDF**

*Medium Density Fiberboard*

Board made of mechanical pulp from the refiner process.

**Mechanical pulp**

A generic term describing pulp produced by a mechanical (as opposed to a chemical) process. Also known as „high-yield“ pulp as the processes utilize a higher proportion of the raw material (wood) than the chemical processes. Mechanical pulp is produced using either grinders or refiners. They are principally used in the production of newsprint, magazine papers, printing papers, specialty papers, tissue, towelling, paperboard, and wallboard.

**NBSK**

*Northern Bleached Softwood Kraft*

The industry's benchmark grade of pulp for pricing and inventory data. Produced primarily in Canada and the Nordic countries. Some NBSK is also produced in the Northwestern USA and Russia.

**Nonwovens**

Flat textile structure consisting of single fibers bound together by such processes as thermal bonding, solidification by water jet, chemical bonding or ultrasonic solidification. Nonwovens contrast with paper in that they lack the hydrogen bonds that give paper its strength.

**OSB**

*Oriented Strand Board*

Multilayer board with lengthwise-oriented chips.

**Pickling**

Process for chemical treatment of oxidized steel, applied to obtain a clean metallic surface. Here, the steel is dipped into a hot bath of diluted sulphuric or hydrochloric acid.

**PrimeRun**

The sheet stabilization system improves productivity by efficiently transporting the web from the Yankee to the reel. The active and passive stabilizers convey the web without deteriorating the paper properties and can remove dust from the sheet and local area.

**Recausticizing**

A process by which green liquor from sulphate pulping is converted to white liquor, thus allowing the cooking chemicals to be reused. In recausticizing, sodium carbonate of green liquor is converted to sodium hydroxide by using calcium oxide. Lime mud, which is formed in recausticizing reactions, is reburned in the lime kiln.

**Recovery boiler**

An important process step in the production of kraft pulp. A special boiler, where the black liquor from the cooking process is burned, after concentrating it in an evaporation process. The residual carbon is burned and the inorganic sodium salts are melted and recovered.

**Refiner**

Machine used to grind pulp between two discs. Refiners can operate at low consistency or at higher consistencies. At low consistencies, the material is fed to the refiner using a pump. At higher consistency levels, conveying devices are used. Other refiner types are used for breaking down wood chips into fibers.

**RTS™**

*Retention time, Temperature, Speed refining*

A TMP process, producing better quality mechanical pulp at lower energy consumption. Improved fiber properties are obtained by rapid heat treatment of the fibers at higher temperatures, while optical properties are preserved due to the low retention time. The process is operated at higher refiner disc speeds, most commonly 2,300 rpm.

**Stock pump**

Special centrifugal pump for water and fiber suspensions.

**TAD**

*Through-Air Drying*

Process for tissue drying with the paper web running over a perforated drum, where hot air is blown through the web.

**TMP**

*Thermo-Mechanical Pulping*

A refining process in which wood chips are refined in a pressurized refiner. The process can involve from one to three refining stages in the mainline; however, two stages are most common. The higher temperatures help soften the chips, which results in higher pulp strength compared to atmospherically refined pulps (RMP). TMP relies on mechanical energy rather than chemicals to convert wood into pulp. TMP pulps are most commonly used in newsprint and magazine papers.

**White liquor**

A strongly alkaline solution used in the cooking (digesting) process. Mainly consists of sodium hydroxide and sodium sulphide. ■

# FINANCIAL GLOSSARY

From ATX across EBIT(D)A up to WBI.

## ATX

*Austrian Traded Index*

Price index calculated by the Vienna Stock Exchange, containing the most actively traded shares on the Vienna Stock Exchange. The ATX comprises approximately 20 shares, weighted in the Index according to market capitalization and free float.

## ATX Prime

Price index calculated by the Vienna Stock Exchange and containing all the shares of the ATX Prime Market segment.

## Authorized capital

Authorization by resolution of the Shareholders' Meeting allowing the Managing Board to increase the share capital by a maximum of 50% within five years by issuing new shares.

## Chart

Graph showing the daily, weekly, or monthly prices for a particular share for a certain period.

## Continuous trading

Continuous handling of all orders where price and quantity requested match up. Transactions can be concluded at any time during the opening hours of the Stock Exchange.

## Corporate Governance Code

The Corporate Governance Code represents a set of rules for the responsible management and control of a company.

## Dividend

That part of a company's profits paid out to the shareholders. The amount of the dividend is proposed by the Managing Board of a company and approved in a resolution by the Shareholders' Meeting.

## EBIT(D)A

*Earnings before Interest, Taxes (Depreciation), and Amortization of goodwill*

This earnings measure is of particular interest in cases where companies have large amounts of fixed assets which are subject to heavy depreciation charges or in the case where a company has a large amount of acquired intangible assets on its books and is thus subject to large amortization. EBITDA is a good measure of comparing companies within industries.

## EBIT

*Earnings before Interest and Taxes*

The EBIT is part of the profit and loss accounts; also often called "operating profit."

## Ex-dividend

The price of the share is lowered by the amount of the dividend paid a few days before the day a dividend is paid out.

## Free float

Portion of a company's shares that is held by a large number of private and institutional investors.

## IFRS

*International Financial Reporting Standards*

IFRS are international accounting standards drawn up by the International Accounting Standards Board (IASB). Complying with IFRS should enable investors and other relevant stakeholders to better compare annual accounts presented by companies from different countries.

## IPO

*Initial Public Offering*

Admission of a company to list its shares on the Stock Exchange by selling company shares to the public.

## Investor Relations

Interface between the company and the financial community. An Investor Relations department should regularly provide transparent, comprehensive, and up-to-date information on developments within the company to shareholders, financial analysts, and investors.

## ISIN

*International Securities Identification Number*

Individual identification number of a security, enabling computerized international registration of a security.

## Market capitalization

Market price of a listed company. This is calculated by multiplying the current share price by the number of company shares.

## MEUR

Million Euros

## Net liquidity

Cash and cash equivalents minus interest-bearing financial liabilities.

## No par value share

Share with no par value, referring to a certain interest in the company without stating a fixed amount.

## Par value

Face value of a security. This is the amount the shareholder has contributed to the nominal share capital of the company. The par value gives no indication of the actual value of the share.

## Prime market

Market segment of the Vienna Stock Exchange which contains stocks that are admitted to listing on the Official Market or Semi-Official Market and meet special additional listing criteria.

## Road show

The management of a listed company presents the company's activities, strategies, and long-term prospects to national and international institutional investors and retail shareholders.

## Share

Certificate that represents a certain stake in the nominal capital of a stock company.

## Shareholders' Meeting

Body of a stock company which usually meets at least once a year and takes resolutions on important company matters according to company law.

## Share capital increase

Increase in the nominal capital of a stock company. Equity capital is paid into the company.

## SPO

*Secondary Public Offering*

Selling of further shares of a company that is already publicly listed.

## Stock Option Program

A company grants options to a defined group of executives for the purchase of shares of the company, which may be exercised at an agreed price after agreed performance criteria are met.

## Volatility

Measure of the average fluctuation of a share price over a certain period. In statistics, the volatility is equal to the standard deviation.

## WBI

*Wiener Börse Index*

*(Vienna Stock Exchange Index)*

The WBI contains all shares listed on the Official Market and the Semi-Official Market. The WBI, as overall index, reflects the development of the Austrian stock market as a whole. ■