

Term 术语	Definition 定义
Electrolytes 电解质	Molecules that develop a charge when placed in solution (<u>ions</u>) 【溶于溶液并能电离出电荷的化合物】
Emulsion 乳液	Small droplets of liquid suspended in another liquid, usually with a stabilizing chemical 【液体以小液滴的形式分散于另一种液体而得到的稳定体系，通常需要一种稳定剂的帮助（译者注：固体微粒分散于液体中形成的稳定体系也属于乳液）】
Entrained air 束缚空气	Bubbles that are of intermediate size so that they are carried along with the fibers in a flowing stream of papermaking stock 【尺寸小到一定程度因而在流动的纸料中被纤维吸附夹带的气泡】
Enzyme 酶	A protein that has the ability to direct or catalyze a chemical reaction 【对一定的化学反应起引导或催化作用的蛋白质】
Extractives 抽提物	Low-molecular-mass materials in wood, including pitch 【木材中的低分子质量物质，包括树脂】
Fastness 色牢度	Resistance of a dyed material (e.g. paper) toward either light or fluids 【纸张等染色后的材料其颜色能经受光照或液体破坏的程度】
Feathering 羽化现象, 渗开现象	The tendency of ink to spread out in an irregular pattern due to wicking and/or an insufficient level of sizing agents in paper 【油墨在纸张上以不规则线条状态散开的现象，通常是因为纸张具有毛细渗透作用，或纸张的施胶度不足】
Felt filling 毛毯堵塞	Undesirable accumulation of particulate matter within the void spaces of press felts 【压榨毛毯的空隙由于沉积了细小的颗粒物而被堵塞的不良现象】
Fines 细小纤维	Solid particles, often derived from wood, small enough to pass through either a forming fabric, a 200-mesh screen, or a 76 um hole 【能通过成形网或 200 目筛网或 76μm 小孔的固体粒子，一般指来自木材的细小纤维（译者注：fines 一般指的是 fiber fines）】
Fillers 填料	Inorganic solid particles, usually in the size range of 0.2 to 5 micro-meters, and often comprised of CaCO ₃ , clay, or titania 【大小通常在 0.2 到 5 微米范围内的无机固体粒子，常见的有碳酸钙、瓷土、二氧化钛等】

<p>First-pass retention 单程留着率</p>	<p>The difference between headbox and tray water consistency, all divided by the headbox consistency 【流浆箱内纸料的浓度与白水盘内白水的浓度之差，再除以流浆箱内纸料的浓度所得的值。译者注：该方法是单程留着率最简化的计算方法】</p>
<p>Fixative 固色剂</p>	<p>An additive having the tendency to help retain <u>dye</u> material on fiber surfaces, usually because of a strong positive charge 【一类有助于染料附着在纤维表面的添加剂，一般是因为它具有强阳电性（译者注：fixative，又作 fixing agent，在湿部化学中还有一个比固色剂更为人知的用途是作为纸浆的前处理剂控制其中阴离子垃圾的含量，以提高后续助剂如助留剂、施胶剂、增强剂的作用效果，它们一般是高电荷密度、低分子质量的阳离子聚合物，此时译作固着剂、定着剂等】</p>
<p>Flocculation 絮凝</p>	<p>A tendency for fibers to collect together in bunches in the presence of flow, and especially in the presence of retention aids; the same word also refers to the action of high-mass polymers in forming bridges between suspended colloidal particles, causing strong, relatively irreversible agglomeration. 【指浆料流送过程纤维集聚成团的现象，特别是添加了助留剂之后；这个词也指使用高分子质量的聚合物，使悬浮的胶体粒子之间产生桥联作用，引起强韧且相对不可逆的聚集（译者注：“不可逆”指絮体经受高剪切作用再撤销高剪切作用的情况下絮体不能恢复至原有聚集形态的现象）】</p>
<p>Fluorescent 荧光的, 荧光性的</p>	<p>A property of some materials to absorb light of a lower wavelength, convert some of the energy to heat, and emit light of a longer wavelength 【某些物质具有的一种光学特性：它们能吸收波长相对较短的光，将光能的一部分转换为热能，同时发出波长更长的光】</p>
<p>Fluorescent whitening agent 荧光增白剂</p>	<p>A dye material that absorbs ultraviolet light and re-emits light in the blue region 【一种吸收紫外线后能激发出蓝色区域可见光的染料】</p>
<p>Formation 匀度</p>	<p>In common speech, the word most often means "uniformity of paper" on a scale of 0.5 to 20 mm. 【一般指纸张的均匀度，主要考虑 0.5-20mm 尺度的絮体在纸张中分布的均匀性】</p>
<p>Fortified rosin size 强化松香胶</p>	<p>A major component of most rosin size products, produced by reacting the levopimeric acid component of rosin with maleic anhydride 【强化松香胶，是目前松香施胶剂产品的主流，其主要成分强化松香由松香中的左旋海松酸与马来酸酐反应而得】</p>

Freeness 游离度	The ease with which paper stock releases water during a standard test by gravity 【依据标准方法测得的纸料在重力作用下滤水的容易程度】
Fugitive sizing 施胶消失	A tendency of certain paper samples to temporarily lose their water-resistant properties. 【某些纸张表现的暂时失去耐水性能的现象。译者注：更确切地，“施胶消失”一般指某些纸张的施胶度先有所下降最后完全消失的现象】
Furnish 纸料	A mixture of cellulosic fibers, optional fillers, and water from which paper is made 【由纤维素纤维、填料（也可能不加）、水构成的用于抄纸的混合物】
Guar gum 瓜尔胶	A natural polymer that has been used as a dry-strength additive, often as a cationic derivative 【一种被用作干强剂的天然高分子，通常需经过阳离子衍生化改性】
Hardness 硬度	The concentration of alkaline-earth ions, mainly Ca^{2+} and Mg^{2+} in water, which can contribute to deposits, hurt rosin sizing, and help certain dyes adsorb 【主要指 Ca^{2+} 和 Mg^{2+} 等碱土金属离子在水中的浓度，这些离子会促进沉积物的形成，影响松香施胶，但也会有助于某些染料的吸附】
Hard sizing 重施胶	Strong resistance of paper to penetration by water or other fluid, over a long time 【指纸张能长久地抗拒水或其他液体的渗透，即纸张的施胶度很高】
HST (Hercules Sizing Test) 赫克力士施胶度测试	A widely used test of resistance to penetration of an acidic water solution through paper. Results are given as the seconds required for reflectance of the un-exposed side of the sheet to decrease to 80% of its initial value. 【一种广泛用于测试纸张抗拒酸性水溶液渗透的方法，测定时使纸张接触一种绿色测试液，未接触测试液的一面施以光照，以未接触测试液一面的反射率降至起始反射率的 80% 时所需的时间表示憎水性即施胶度的大小。注：译者自主加入了一些描述以使过程更为清晰】
Hydrogen bond 氢键	A medium-strength, directional attraction between oxygen atoms (and some others) with hydrogen atoms bonded to other oxygens 【氧原子与氢原子之间存在的一种具有方向性的、强度中等的吸引力，其中氢原子需是与另一个氧原子共价结合的。氟、氯、氮等电负性大的其他原子和氢之间也存在这种作用力。注：译者自主加入了“氟、氯、氮”等表述】
Hydrophobic	Water-hating

疏水性的	【憎水性的，不亲水的】
Hydrophile 亲水性物质	Something that loves the water phase, often due to the presence of oxygen atoms or charged chemical groups 【对水相具有亲和力的物质，往往是因为该物质带有多个氧原子或带电基团】
Inorganic 无机的	Not mainly comprised of carbon, hydrogen, and oxygen 【主要不是由碳、氢、氧组成的】
Interfering substance 干扰物质	Something in the aqueous mixture that interferes with the function of papermaking additives such as retention aids, sizing agents, strength agents, etc. 【存在于水相混合体中会给助留剂、施胶剂、增强剂等造纸助剂的使用效果带来负面影响的干扰物质】
Internal bond 内部结合 内在结合强度	A measure of the energy required to delaminate paper (failure in plane of the sheet) 【一种强度，需测试纸张产生层间分离所需的能量（测试时纸张的破损发生在纸张平面内）】
Internal sizing 内部施胶	Addition of hydrophobizing materials (sizing agents) at the wet end of a paper machine 【指在纸机湿部添加疏水性的物质（施胶剂）】
Kaolin 高岭土	Another word for clay, a platy aluminum silicate mineral that is used as a white filler 【瓷土的另一种说法，一类用作白色填料的片状硅酸铝矿物】
Lignin 木质素	Three-dimensional, natural phenolic resin that binds fibers together in wood 【三维（交联）结构的天然酚类物质，其主要作用是将木材中的纤维粘结在一起】