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Here are a few types of kraft paper and how they might meet your business needs. A. UNBLEACHED KRAFT PAPERS Virgin Natural Kraft Paper Virgin natural kraft paper is clean, durable and affordable. This type of paper is most often used for heavy-duty applications where high tear resistance and superior bursting strength are critical. It can be printed on as well, making it perfect for branding, protective layering and other instances where it needs to be strong and bear certain markings or logos. Virgin kraft can contain up to 5% recycled materials. Virgin natural kraft paper can be used for wrapping, book covers, paint masking, carrier sheets, stationery products, floor protection liners, and pallet interleaving, to name a few applications. Layers of the paper are used to make corrugated boxes. Recycled Kraft Paper Recycled kraft paper is not as strong as natural virgin kraft, but it is a very eco-friendly option and costs less than its non-recycled counterpart. Compared to natural kraft, recycled kraft has a lower tear and bursting strength and breaks down more easily when exposed to friction or moisture. It is more economical and offers many beneficial qualities. This type of paper is used for bundling and stuffing, including as newspaper bottom wrap, garment underlay paper, textile wrappers, interleave, internal carton packaging, void filler or damage, dust covers, floor protection liners, carrier sheets, paint masking, and box/tray liners. Black Kraft Paper With its deep color, black kraft is one of the most popular papers. You've seen black kraft paper used as backing for photo frames, and it's a very popular choice for a variety of craft applications. Colored Kraft Paper Also, a favorite among crafters, colored kraft paper is seen in everything from elementary school supplies to scrapbooks, to bulletin boards. This is more often recognized as "crafter's construction" paper. Printed Kraft Paper Because it is so versatile, custom printed kraft paper is used in many industries for branded wrapping, packaging, and in-store displays. Delis use this paper for wrapping sandwiches in paper bearing their logo, while many fashion manufacturers ship their garments with printed kraft paper sleeves or sheets between individual articles. Steel Interleaving Kraft Paper Part of the stainless-steel milling process involved cold-rolling on interleaving kraft paper. This gives the steel its signature shine. Absorbent Kraft Paper Absorbent kraft paper is used in a wide variety of applications where exposure to moisture is present. You'll find this type of kraft paper in building construction and furniture. Absorbent kraft paper features high wet strength, high porosity, and can be used as filter media and laboratory filter paper. Other application includes special bags for plantation of saplings. Spinning Kraft Paper Some papers can be made flexible enough for use in weaving. Spun kraft paper can be used in wicker furniture, cloth making, rugs, and even yarn. When waxed, spun kraft paper can even be used in matches! Electrotechnical Kraft Paper With our love of electronics, we wouldn't get far without electrotechnical kraft paper. Designed to be non-conductive by unique cleaning process for removal of impurities and charged ions from the pulp, electrotechnical kraft is used for insulating cables and electrical components. Super Calendered Kraft Paper / Release Base Paper This dense paper is designed to hold up to silicone coatings where a label-release is also required. It can also be cut very precisely using a die. Sack Kraft paper A sack paper is a porous paper made in kraft paper plants from any combination of fibers. This paper features high elasticity and high tear resistance and is designed for packaging products that need strength and durability. Sack kraft paper strikes the perfect balance between strength and porosity, making it ideal for valve sacks for commodities like cement and other powdered materials. To impart sack kraft with barrier properties, it is provided PE coating. Foaming Kraft paper Foaming kraft is designed to release smoothly and easily from the object it covers and is used in applications with polyester and polyether foams. MG foaming kraft paper is mainly used in the polyurethane industry for excellent performance in leading foam lines where the glossy surface of MG kraft paper offers excellent chemical resistance. The density of the foaming kraft paper is high and the porosity low which prevents penetration of the chemicals. The glazed side prevents too much chemical penetration and makes it easier to remove the paper from the dry foam. B. BLEACHED KRAFT PAPERS The bleaching process renders the paper weaker than unbleached kraft, and it also has a higher price tag. This type of paper is more common for wrapping packages that demand a higher "value look" than packages wrapped in dark, non-bleached, or recycled paper. What are the Paper Grades for Bleached Kraft Paper? Bleached kraft paper comes in four distinct grades. They are listed below. Machine Glazed (MG) Glazed paper has a high gloss on one side for added opacity, printability and runnability. Smooth Finished (SF) This provides a softer finish which is needed for print applications have a better print quality, convertibility, and printability. Machine Finished (MF) This is a highly refined type of kraft and it is most commonly seen in commercial applications, such as carrier bags, product wrapping, laminated products, and protective paper coverings. Clay Coated Kraft (CCK) A bleached sheet coated with clay coating to improve opacity and increase smoothness and printability. Clay coated kraft paper, because of its dimensional stability and lay-flat benefits, is used in the graphic art industry. CCK is frequently coated with silicone on one side and used as a release liner. Here are some of bleached kraft paper applications: Shopping/Retail Bags & Carrier Kraft Paper Retail shopping bags offer one of the best strength-to-weight ratios available in paper packaging, and they can come in white, printed, machine glazed, grease resistant, or even ribbed. These bags are often PE coated for moisture protection. Folding Boxes Solid bleached kraft paper is used in clay-coated folding boxes for frozen foods, butter, ice cream, cosmetics and cartons for milk, juices and other liquid and oily foods. You can also find it used for plates, dishes, trays and cups. Laminated Kraft Paper Laminated kraft papers offer high strength and excellent consistency. This paper features high dimensional stability, high stiffness, and runnability. Hygiene Release Liners & Release Base Papers This type of kraft paper is used in feminine care and light adult incontinence markets. You'll also find it in baby products such as diapers. Medical Grade Bleached Kraft Paper Medical-grade bleached kraft paper must adhere to FDA standards for sterilization. That's because these papers are used in wound covers and medical adhesives. Paper Sacks Sack kraft paper features high elasticity and high tear resistance and is designed for packaging that need strength and durability. The several different types of kraft papers are used for sacks, including natural, wet-strength, bleached, and extensible. Sack kraft paper is ideal for commodities like cement and other powdered materials. If you need an extra moisture barrier, sack paper can have a PE coating. Sack kraft paper can also be used for packing commodities, including food products such as rice, sugar and potatoes. The kraft pulping process is one of the most important chemical pulping methods used in the paper industry. It was invented by Carl F. Dahl in the 1870s and has since become the dominant method for producing pulp from wood chips or other lignocellulosic materials. In this article, we provide a comprehensive overview of the kraft pulping process, its properties, and its impact on the environment and the paper industry.The kraft pulping process involves cooking wood chips or other lignocellulosic materials in an alkaline solution of sodium hydroxide and sodium sulfide (known as "white liquor") under high temperature and pressure in a large vessel called a digester. The cooking process breaks down the lignin in the wood and separates the cellulose fibers from the other components of the wood. After cooking, the resulting pulp is washed and screened to remove any remaining impurities, and then it is usually bleached to improve its brightness and color.The chemical reactions that occur during the kraft pulping process are complex and involve the breakdown of lignin and the separation of cellulose fibers from other wood components. The alkaline solution of sodium hydroxide and sodium sulfide reacts with the lignin to form soluble compounds, which are removed from the pulp during the washing and screening process. The remaining cellulose fibers are then used to produce paper products.Kraft pulp is known for its strength, brightness, and porosity, which make it well-suited for many paper products. It is also more durable than other types of pulp, which makes it suitable for products that require high strength and toughness, such as packaging materials. Additionally, kraft pulp has a higher yield than other types of pulp, which means that less wood is needed to produce the same amount of pulp.The efficiency of the kraft pulping process and the properties of the resulting pulp can be affected by several process variables, including temperature, pressure, and liquor composition. For example, higher temperatures and pressures can increase the yield of pulp, but they can also lead to higher energy and chemical costs. Similarly, variations in the composition of the white liquor can affect the quality and properties of the pulp.The kraft pulping process has potential environmental impacts, including the release of pollutants and the depletion of natural resources. The white liquor used in the process contains sulfides, which can react with air and water to produce harmful byproducts such as hydrogen sulfide and sulfur dioxide. Additionally, the process requires large amounts of energy and water, which can strain local resources and contribute to climate change.The pulp and paper industry has implemented several sustainable practices to reduce the environmental impacts of the kraft pulping process. For example, alternative raw materials such as non-wood fibers can be used to produce pulp, reducing the dependence on natural resources. Additionally, spent liquor from the process can be recycled and used to produce new white liquor, reducing waste and improving sustainability. Some pulp and paper mills also produce value-added products from pulp byproducts, such as biofuels and chemicals.Recent technological advancements in the kraft pulping process include the use of enzymes and other additives to improve pulp properties and reduce environmental impacts. For example, enzymes can be used to selectively remove lignin from pulp, reducing the need for harsh chemicals and improving the properties of the resulting pulp. Additionally, the use of renewable energy sources such as biomass and biogas can help reduce the carbon footprint of the process.The kraft pulping process is expected to continue to be an important method for producing pulp in the paper industry. As demand for sustainable and environmentally friendly products increases, the industry will likely continue to implement new technologies and practices to reduce the environmental impacts of the process. Additionally, there is potential for new uses for pulp, such as in the production of biofuels, chemicals, and other products. The continued development of the kraft pulping process and its applications will be an important area of research and development in the pulp and paper industry.The kraft pulping process is a complex and important method for producing pulp from wood chips or other lignocellulosic materials. The process involves cooking the wood in an alkaline solution to break down the lignin and separate the cellulose fibers, which are used to produce paper products. The kraft pulping process is known for its strength, brightness, and porosity, and it has a high yield compared to other types of pulp. However, the process has potential environmental impacts, and the industry has implemented several sustainable practices to reduce its footprint. The continued development of the kraft pulping process and its applications will be an important area of research and development in the pulp and paper industry. 0 ratings0% found this document useful (0 votes)223 viewsThe document summarizes the main chemical reactions that occur during the kraft pulping process. Key reactions include: 1. Breaking of bonds in the lignin macromolecule to facilitate disint...SaveSave Reactions in Kraft Pulping For Later0% found this document useful, undefined A Kraft pulp mill has many different streams and it is important to keep track of the energy and mass balances in order to optimize the process and reduce environmental problems. RISE has available models for this that can be used in various investigations and to simulate how new process solutions would affect the mill. ISE's theoretical reference full mill model serves as a base which can be adapted to real mills. It can be developed gradually to focus on current issues, e.g. adding NPE (Non-process elements) and energy balances. Process models are valuable tools for mills that are considering capacity increases, changes in operating strategy, or need to comply with stricter environmental regulations. Process simulations can be the basis for cost minimization or revenue maximization; they can also be used to assist during troubleshooting. With a comprehensive mill model, it is possible to study specific details while maintaining the broad overview of the whole process.Examples of models:The simplest models consist of water and pulp, Na/S and basic organic matter (COD/TOC). Most simulation models also include K, Cl and other non-process elements. Steam balance with power generation and secondary heat system can be included. An initial model can further be developed as the need changes. The models are built and used by RISE on behalf of the customer. Some examples of model applications include troubleshooting in case of scale formation, evaluation of different strategies for bleach plant closure, or introduction of biofuel in the lime kiln and its effects on the NPE balance. Assessment of implementing various biorefinery processes as well as dynamic simulation of the mill processes can be conducted.Model of your millA model of a mill is created from RISE's reference model modified to reflect a given mill at the desired detail level. The process starts with data collection and a sampling campaign in the mill; the necessary analyses could be made at RISE or in the mill's own laboratory. The collected data and the composition of process streams are used to create the model. In the validation phase, discussions with the mill improve the accuracy of the model; after that, the model is ready to be used for investigating current issues at the mill or to evaluate different scenarios. Should new questions arise in the future the existing model can be applied to these new issues in a short time frame. The chemical pulping process is an essential technique used in the papermaking industry. It involves the use of various chemicals to dissolve the lignin in wood and separate the fibers to produce pulp. The pulp obtained from this process is then used to produce a variety of paper products. Understanding the chemistry behind the chemical pulping process is crucial to improving the efficiency of the process and reducing its impact on the environment. In this article, we will delve deeper into the chemistry behind the chemical pulping process and its impact on the environment.Chemical pulping is a process of breaking down the lignin and separating the fibers from wood to produce pulp for papermaking. There are two main types of chemical pulping processes: kraft and sulfite. Kraft pulping is the most widely used method and involves the use of a mixture of sodium hydroxide and sodium sulfide to dissolve the lignin. Sulfite pulping, on the other hand, uses sulfurous acid to dissolve the lignin. Chemical pulping has its advantages and disadvantages. One of its main advantages is the ability to produce strong, high-quality pulp suitable for various paper products. However, the process requires a significant amount of energy, chemicals, and water, which can lead to environmental concerns. The byproducts generated during the process, such as black liquor, can also be hazardous to the environment if not handled properly.The chemical pulping process involves the use of several chemicals, including:Sodium hydroxide (NaOH)Sodium sulfide (Na2S)Sulfuric acid (H2SO4)Sulfurous acid (H2SO3)Chlorine (Cl2)Sodium hydroxide (NaOH): Used in kraft pulping, NaOH helps to break down the lignin in wood and separate the fibers to produce pulp.Sodium sulfide (Na2S): Also used in kraft pulping, Na2S helps to dissolve the lignin and prevent the formation of a sticky mass known as "smelt" that can clog the process.Sulfuric acid (H2SO4): Used in the sulfite pulping process, H2SO4 helps to dissolve the lignin and separate the fibers.Sulfurous acid (H2SO3): Also used in sulfite pulping, H2SO3 helps to break down the lignin and prevent the formation of lignin sulfonates that can interfere with the process.Chlorine (Cl2): Used in the bleaching process, chlorine helps to whiten the pulp and remove impurities.The chemicals used in the chemical pulping process can have a significant impact on the environment. The use of sodium hydroxide and sodium sulfide in kraft pulping, for example, can result in the generation of black liquor, which contains a high concentration of organic pollutants and can be hazardous to the environment if not treated properly. The use of chlorine in the bleaching process can also result in the generation of toxic compounds such as dioxins and furans, which can have a detrimental impact on the environment. Therefore, it is crucial to implement sustainable and environmentally friendly practices to minimize the impact of these chemicals on the environment.Overall, the chemical pulping process is essential for the production of high-quality pulp while minimizing the impact on the environment. By implementing sustainable and environmentally friendly practices, we can ensure the continued production of pulp and paper while protecting the environment for future generations.