

Lignosulfonate phenolic resin -1

Lignin adhesives used in wood products once made by the Forintek more comprehensive review . For years, many experts have tried to develop lignin-based adhesives.

Lignin extracted from sawdust, the phenol (75g) and formalin (50mL) was added to a round bottom flask equipped with a reflux condenser, the other adding some sodium hydroxide (0.4g) as a catalyst at 80 to 90 reflux °C for 1h, adding lignin, and then in the 80 ~ 90 °C reflux 3h, to obtain lignin phenolic resin adhesive, it is made of plywood and measuring performance. The results show that when the lignin phenol ratio is less than 80:20, this glue dry strength and wet strength can meet international standards of similar products, phenolic resins can be used as a substitute.

Sulfates of researchers have proposed a method of lignin demethylation, formation of the catechol structure of the lignin, the reaction of phenol stronger activity than a base catalyzed reaction with formaldehyde can be better, in order to achieve a de-methyl substituted phenols and lignin completely satisfied with the wood adhesives. The methods are: a equipped with a thermometer, mechanical stirrer, reflux condenser, 2L four-necked round bottom flask, into 1000g sulfate containing 50% lignin, lignin, adding the equivalent of 4% to 5% of sulfur at 225 ~ 235 °C reaction was stirred 30min, and then rapidly cooled to room temperature, diluted with water, with a sulfation, extracted with ethyl acetate, after centrifugation into an aqueous phase and an organic phase, the organic phase was separated, the solvent was distilled off, and then at room temperature vacuum drying 24h, pulverized brown powder that was demethylated lignin, the methoxy group content of 5%, the yield was 97%. The measure, prepared by demethylation of lignin phenol production cost by 50%. Can also be obtained more satisfactory phenolic resin.