

EFFECT OF LATEX-MODIFIED CONCRETE WITH PARTIAL REPLACEMENT OF FINE AGGREGATES WITH TANNERY SHEDDED WASTE

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Abstract - The term waste means there is no benefit for this particular production area. Tannery wastes are considered to be one of the world's largest industrial waste. As we all know, there is a huge production of leather that grows from day to day so there is a huge amount of waste coming out of these industries and causing serious environmental problems in the world. It has been found that leather waste is one of the good substitutes in the construction industry. If all these wastes are used in the field of construction by partial replacement of fine aggregates with flour cut into waste then there may be some reduction in the amount of waste coming out of industry. The fine aggregate decreases day by day due to an increase in construction, therefore the requirement for fine aggregates is greater. On the other hand, leather waste is abundant in the world, if correct replacement of fine aggregates is done with wood waste, then demand for a fine aggregate can be fulfilled. Concrete produced as a result of this replacement will have a reduced weight as the density of the leather waste is less than the concrete, so it will also lead to lightweight concrete. It has been reported that 0-20% substitution of fine aggregates with chewing waste decreases concrete density from 2419 kg / m³ to 1738 kg / m³. Styrene-butadiene rubber (SBR), synthetic rubber of general use, made of styrene and butadiene copolymer. SBR is a mixture of approximately 75% butadiene (CH₂ = CH-CH = CH₂) and 25% styrene (CH₂ = CH-C₆H₅).

Key Words: Concrete, Compressive strength, Leather waste, Styrene-butadiene rubber, Fine aggregate.

1. INTRODUCTION

River sand is considered to be one of the inevitable ingredients in construction. Due to the increase in construction activities there is demand for a fine aggregate. The price of the fine aggregate increases day by day. On the other hand, tanneries in India is mainly in Uttar Pradesh, Tamil Nadu, West Bengal and Punjab. There are about 900 tanneries in Tamil Nadu. It has been found that the amount of leather waste produced by these industries is about 49 million tonnes per year, and about 30% of Tamil Nadu, 22% of Uttar Pradesh and that of the city of Kanpur. Wastes produced by these industries are difficult to dispose of.

Tannery effluvia are characterized by a high content of dissolved, suspended organic and inorganic solids that lead to high oxygen consumption and potentially toxic metal salts and metal chromium ions. Disposal of wood waste, if not

treated properly, can cause serious damage to soil and water bodies. The high amount of salt contained in the waste water, for example, can increase soil salinity, reduce fertility and damage farming in large areas. Leather products also produce harmful gases, dust and a large amount of solid waste. The bitterness of the problem can be understood by the fact that these toxic waste water is discharged into natural water With / without courses including at least treatment in different parts of the world.

Under the Natural Rubber Crisis, during the World war I and II, artificial rubber research in Europe and the United States is the SBR. By 1929 the German chemists created synthetic elastomers by synthesizing a compound synthesis by colonizing them with two compounds. This series was known as Buna, Butadiene later, one of the copolymer and sodium, Polymerization catalyst. During World War II, its East Asian natural rubber supply in the United States was stopped, several synthetics were created, including a copolymer in Butadiene and Styrene. Increasing use of SBR emulsions in concrete has been increased. A concrete member of the SBR emulsion can be used as a binding mortar layer between the old and new concrete layers in a certain proportion with the narrow and flexural energy repair. Various materials (0%, 5%, 10% and 15% cement) have been evaluated on the mechanical properties of various materials, and it has been found that it gives maximum power by cement weight 10%.

1.1 Tannery Shedder Waste

Tannery waste was brought to Park Tanning Industries, 94, Jajmau, Wajidpur, Kanpur (U.P.). Tannery waste extracted from tannery waste will not be reduced if the fine is properly fined, but the fine will be reduced. These replacement will have reason to produce concrete weight loss and high power compared to conventional concrete. There is little power to absorb water as tannery waste.

1.2 SBR Latex

Styrene-Butadiene Rubber (SBR), a general purpose synthetic rubber, styrene and butadiene produced from a copolymer. SBR is about 25% of booth (CE₂ = CH-CH = CH₂) and 75% styrene (CH₂ = CH-C₆H₅) mixture. In most cases, these two compounds are emulsified in the form of an immolation process in which fluid spreads like a surface-

activated agent, or water dissolved substances, in the form of fluid (their single-unit molecules connected to the production of fluid, multi-unit molecules). The solution includes free-radical initiators of other materials, which started the polymerization process, and stabilizers, which prevent the reduction of final product.

Latex was in liquid form and the name of Berger Home Shield Company is a well-known company which used to manufacture paints. Used latex plus styrene, polymers and butadiene are mainly used for repairs and water proofing

2. ARTICLE REVIEW ON THE EFFECTS OF LATEX MODIFIED CONCRETE WITH PARTIAL REPLACEMENT OF FINE AGGREGATE WITH TANNERY SHREDDED WASTE

• Satish Kumar Vaat and al [1]: "Tannery use of waste as a fine property in concrete" uses and tanks that tannery waste can be used effectively in the construction field.

1. Removal of tannery waste can be done safely without any pollution in the environment.
2. Reduce construction costs
3. Increase in tannery waste from 0% to 20% in concrete, concrete concentration 2419 kg / m³ to 1738 kg / m³.
4. Tannery waste can reduce the use of river sand in concrete concrete and light weight concrete results.

Normal concrete mix for concrete 15% replacement of concrete power is increased by 24% Tannery waste.

• Rajaram. J. et. al (2009) [2]: "Preparation, characterization and application of skin section" Polymer composites (LPPC) "and finally polymers like NBR, SBR, NORPANE, and polymers compose specifications of polymer composites and provide mechanical properties.

1. Concrete material made with these materials showed effective use of this material.
2. Includes advanced leather polymer composites using leather waste.

• Nitishpur Al [3]: Use "Conclusion as recycled in the Waste as Ingredients in Concrete Mix " and complete or partially replacer as well as scrap finished materials like leather waste and construction debris and PVC scrap as well as run a full or partial replacer of concrete aggregate.

1. It has the appropriate application in the construction industry.
2. Good replacement for concrete
3. Waste usage of waste materials in the form of light weight concrete.

4. There is a significant increase in compressor strength and flexural strength of concrete when fined

The overall skin was replaced by leather waste and other construction debris.

• Ozgunay H. Et al (2007) [4]: "Leather Industry Wastes Characterization" has been studied and concluded that can be disposed of leather waste by analyzing chemical waste.

1. The only skin shaving and buffing waste is associated with infection with Chrome infections waste, the only skin production is not used as a major magnet material.
2. Tannery waste usually consists of trivalent chromium. On the other hand, about 90% of camouflage / skins the world is still treated with chrome because other tanning materials have failed to give skin a high olive pain stability and other useful features that chrome provides.

• Folic RJ.et. al [5]: Research " research on polymer modified concrete"

1. He examined concretes by fixing the mix of 2.5%, 5% and 7.5% polymer (latex) compounds from cement. The results of the test showed that the reduction of water absorption with the growth of polymers - the proportion of cement. Although it was in the case of capillary water absorption, such a positive change is important because it affects concrete stability growth.

• P. C. Saumona [6]: "Textile and leather ETP sludge made a paper on cement replacement" and concluded that:

1. Tannery waste can be used as well as in fine quantities.

• Copilanat al [6]: "Performance Analysis of SBR Latex with Cement Concrete Mill concluded that:

1. By adding SBR latex, there has been an increase in concrete effectiveness as polymer material increased.
2. SBR-Latex presence proved to be effective in reducing the penetration of water in concrete. However, for cement rich mixture, SBR-Latex supplements should be arranged so that there is strong effectiveness to avoid excessive flowing concrete, there should be limited limitations in the effect of the Plasticizing of SBR latex.
3. Compression power on 15% SBR Latex content for secretion maximum increase of 20.95%. However, the maximum increase of Flexural strength is 36.35%.
4. The test results show that for the cement concrete mix, the best material for SBR Latex is 15% from the weight of cement
5. Due to the increase of compressor and flexural strength by SBR alkalinity, thickness is required the shade should be comparatively less than the normal mixture of the same traffic conditions. Again the structure of SBR lathes can be more economical.

3. CONCLUSIONS

SBR Latex increases concrete efficiency and reduces permeability.

1. 10% replacement of SRB Latex cement increases infectious strength and flexural strength.
2. Tannery Shredded Waste reduces waste due to frequent density of the concentration so that the accessibility is decreasing Light weight concrete
3. Tannery waste has less power to conserve waste so that they are not easily muted.
4. Lots of tannery shredded waste in nature so its use will be economic and environment friendly concrete.
5. After reading all the reviews we have seen that there is no done on Tannery Shredded Waste and SBR Latex together.

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BIOGRAPHIES



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