

A REVIEW OF A FRP CONCRETE STRENGTHENING: A MODERN APPROACH

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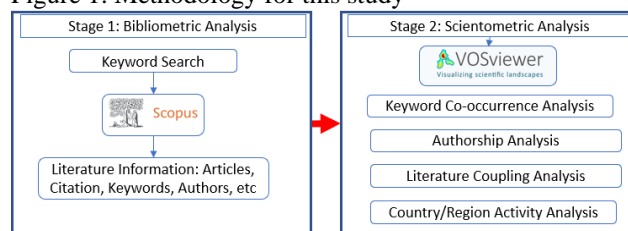
1. ABSTRACT

Fiber Reinforcement Polymers (FRPs) has been widely used in strengthening of concrete structures. The potential interest on FRPs have been risen remarkably worldwide due to many reasons such as cost effectiveness and easy usage. Therefore, this study conducts a scientometric review of global research published between 2000 and 2023 on FRP concrete strengthening. This study collected vast bibliometric data from Scopus data base and conducted a scientometric review on concrete strengthening using FRPs. Scientometric analysis is used to determine the current state of research by analyzing bibliometric data and identify related publication areas, sources with most publications, frequently used keywords, top contributed authors and countries that have made the greatest contribution to the filed using FRP concrete strengthening. Moreover, most active research areas are discussed in this study. The scientometric review will enable to identify the most trending research areas in this area and scholars form diverse countries to exchange novel ideas and knowledge and experience. This study will allow to build new collaborations and joint ventures who are working in this research area in in different regions.

2. METHODOLOGY

To achieve the research objectives of this paper, academic publications within the field were identified. The list of publications was obtained using Scopus database. Given the difficulty of searching each related article, a delimitation of the research boundary is frequently necessary [1]. An overview of methodology of this study can be found in figure 1. Scopus was used to compile the bibliometric data for the current analysis on FRP Concrete Strengthening. The bibliometric data search in the Scopus database was conducted in November 2022. In this study, a scientometrics analysis method was proposed to review the previous research results. Analyses from various perspectives were implemented, including a number of publications analysis, literature coupling analysis, keyword co-occurrence analysis, authorship analysis, and countries/regions activities analysis. In this study, an open-source software VOSviewer [2], was employed for network modeling and visualization.

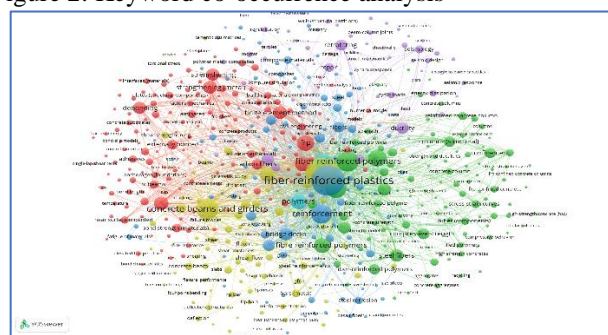
Figure 1. Methodology for this study



3. RESULTS AND DISCUSSION

The visualization of the keyword's network was chosen to demonstrate the results of the bibliometric analysis of the literature. The distance between two items reflects the strength of the relation between the items [3],[4]. Minimum occurrence was set as 50 and 567 out of 28443 keywords has met the threshold. Figure 2 Shows the network of co-occurring keywords. fiber reinforced plastics, reinforced concrete and concrete beams and girders had the top co-occurrence 6338, 6161 and 2874 respectively.

Figure 2: Keyword co-occurrence analysis



4. REFERENCES

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