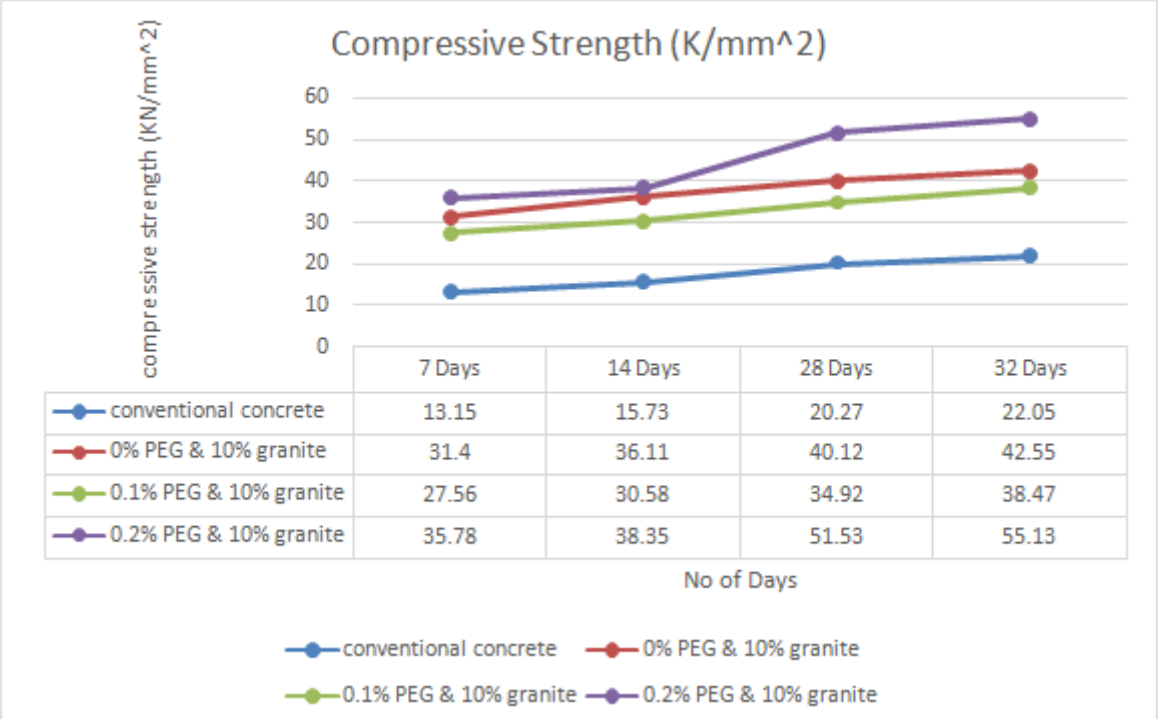
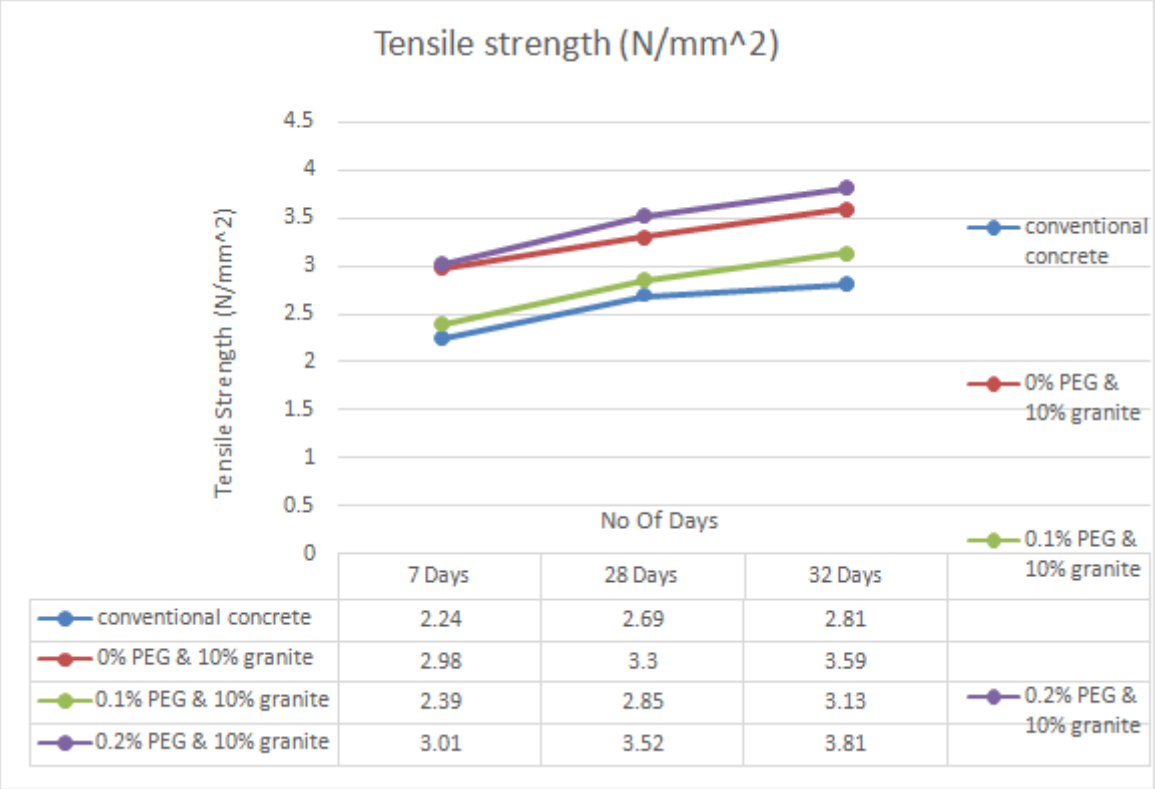


8. Graph Representation of Compressive Strength

Split Tensile Strength

Mix Designation	*Tensile Strength*	*Tensile Strength*	*Tensile Strength*
	7 DAYS (PC)	**28 DAYS (PC)**	**32 DAYS (PC)**
M20 **Conventional Concrete**	2.24	2.69	2.81
M20 **0% PEG & 10% Granit**	2.98	3.30	3.59
M20 **0.1% PEG & 10% Granite**	2.39	2.85	3.13
M20 **0.2% PEG & 10% Granit**	3.01	3.52	3.81

9. Graphical Representation of Tensile Strength



	7 Days	28 Days	32 Days
conventional concrete	2.24	2.69	2.81
0% PEG & 10% granite	2.98	3.3	3.59
0.1% PEG & 10% granite	2.39	2.85	3.13
0.2% PEG & 10% granite	3.01	3.52	3.81

10. Literature Review

Wen-Chen Jau stated that "self-curing concrete is provided to absorb water from moisture from air to achieve better hydration of cement in concrete. It solves the problem when the degree of cement hydration is lowered due to no curing or improper curing by using a self-curing agent like poly-acrylic acid which has strong capability of absorbing moisture from the atmosphere and providing water required for curing concrete".

Tarun R. Naik in 2014 stated that Most of the concrete that is produced and placed each year all over the world already does self-cure to some extent. Some of it is not intended to have anything done to its exterior surface, except perhaps surface finishing. Yet the concrete's ability to serve its intended purpose is not significantly reduced.—Curing is the maintaining of a satisfactory moisture content and temperature in concrete during its early stages so that desired properties (of concrete) may develop. Curing is essential in the production of concrete that will have the desired properties. The strength and durability of concrete will be fully developed only if it is cured. No action to this end is required, however, when ambient conditions of moisture, humidity, and temperature are sufficiently favorable to curing. Otherwise, specified curing measures shall start as soon as required. Most of the concrete in the world is placed in quantities that are of sufficient thickness such that most of the material will remain in satisfactory conditions of temperature and moisture during its early stages. Also, there are cases in which concrete has been greatly assisted in moving toward a self-curing status either inadvertently or deliberately through actions taken in the selection and use of materials. To achieve good cure, excessive evaporation of water from a freshly cast concrete surface should be prevented. Failure to do this will lead to the degree of cement hydration being lowered and the concrete developing unsatisfactory properties. However, it is not always possible to cure concrete without the need for applying external curing methods. Most paving mixtures contain adequate mixing water to hydrate the cement if the moisture is not allowed to evaporate. It should be possible to develop oil, polymer, or other compound that would rise to the finished concrete surface and effectively seal the surface against evaporation new developments in curing of concrete are on the horizon as well. In the next century, mechanization of the placement, maintenance, and removal of curing mats and covers will advance as performance-based specifications quantify curing for acceptance and payment.

11. Conclusion

1. The optimum dosage of PEG4000 for maximum Compressive strength was found to be 0.1% for grades of concrete.
2. As percentage of PEG4000 increased slump increased for M20 grade of concrete.
3. Strength of self-curing concrete is better than with conventional concrete.
4. Self-curing concrete is the answer to many problems faced due to lack of proper curing.
5. Wrapped curing is less efficient than Membrane curing and Self-Curing it can be applied to simple as well as complex shapes.
6. It is concluded from above study that method of curing has considerable effect on the compressive strength of SCC.
7. Self-curing offers a compressive strength significantly greater than uncured or dry cured SCC.

8. The experimental study shows that the use of water soluble Polyethylene Glycols is possible as a self-curing agent.

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