

# Effect of Geopathic Stress on Concrete Blocks

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**Abstract:** *This paper deals with the experimental study of Effect of Geopathic Stress on Concrete Blocks. Geopathic Stress can be detected by various dowsing techniques and its intensity could be measured by an instrument called "NAAV meter". Geopathic Stress is related to underground flowing water emitting electromagnetic radiations which are harmful for human beings residing in that stress zone and might be for structures also, which is prime part of our investigation under paper title "EFFECT OF GEOPATHIC STRESS ON CONCRETE BLOCKS". It has been found that Geopathic Stress affects the properties of soil like moisture content, specific gravity, plastic limit, liquid limit and density. We have casted concrete blocks of M20, M25 and M30 grade and tested for strength for 7, 14 and 28 days. We have found that concrete blocks casted in Geopathic Stress Zone gives less strength as compared to Non-Geopathic Stress Zone.*

**Keywords:** Geopathic Stress, Non Geopathic Stress, Naav Meter, Concrete Blocks

## 1. Introduction

The word 'Geopathic' is derived from two Greek words: geo, meaning 'of the earth' and pathos, meaning 'suffering' or 'disease'. The literal meaning of the word geopathic is suffering or disease from the earth. Geopathic stress is the general term used for energies emanating from the earth which may cause ill health in human beings.

In case of running water, normally 200-300 ft. (60-90 meters) underground, an electromagnetic field is created in opposite direction to its flow by friction which then creates strong unhealthy vibration. The effect of these higher vibrations has been called by many names such as black streams, cancer rays, negative green rays, Hartmann and Curry line and even ley lines. However, over the years now it is called Geopathic Stress (GS).

## 2. Geopathic Energy

The earth has a natural magnetic field. As the earth rotates, it acts as if it has a big magnet at its center, creating electric currents in the molten metals found within the earth's core. Through this activity, a magnetic field is produced. Human beings, animals and plants have evolved and are accustomed to living with this magnetic field as a backdrop. Indeed, it is thought that many mammals and animals use the energy of the magnetic field for migration and navigation purposes. The magnetic field is dynamic, constantly changing with the natural variations of the earth's rotation, i.e. the seasons and weather conditions. Electromagnetic radiation is also part of man's environment. The electromagnetic spectrum is vast and includes sunlight, radio waves and microwaves.

Geopathic and electromagnetic energies cannot be seen and, as yet, their effects on humans are not adequately explained in scientific terms. There is little doubt about the positive effects that electromagnetic radiation has had on human health. We know, for example, that a major benefit of sunlight is photosynthesis; it assists in the production of vitamin D and without electromagnetic radiation we would

not have the benefit of x-rays and electricity. However, these energies can also have a detrimental effect on our health. As "they hold no boundaries, they can pass through windows, doors, walls and body tissues". The risks from overexposure to x-rays and sunlight are now well known and individuals are advised on protective measures. However, it is not just sunlight and x-rays that can cause deterioration in health. The human body can act as a receiver for electromagnetic waves. Amidst much skepticism and debate, research studies have demonstrated that constant exposure to electrical emissions has a negative effect on human health. It has been reported that living close to power lines can cause or exacerbate headaches, depression, allergies, anxiety, irritability and may even lead to fetal difficulties, increased tumor growth or cancer (National Radiological Protection Board 1992). Electricity that has such a negative effect on the body is referred to as electromagnetic pollution. Electromagnetic pollution does not just come from living close to power lines; the average person is exposed to this type of pollution every day through television sets, microwaves and computers. When the body is already stressed by the effects of electromagnetic pollution, it is also more susceptible to geopathic stress. Geopathic stress occurs as a result of disturbances in the earth's magnetic field. These can occur either through natural disturbances such as geological faults and underground water, or through manmade disturbances.

Examples of man-made disturbances include underground transport systems, mining, public utilities and ley lines. Ley lines are usually recognized as a man-made phenomenon. Ley lines occur where sacred stones (stones that have been energetically charged) are laid in a straight line. Like electromagnetic pollution, there is much skepticism from the scientists as to whether or not geopathic stress actually causes illness. However, it is thought that it can undermine the body's natural defenses. The body is affected both through its subtle energy system and its own electrical system.

### 3. Research Work

We have conducted laboratory and field tests on concrete blocks in Geopathic Stress identified zone in our college and express way. We have compared the results of above tests with Non-Geopathic zone. Hence we can find the adverse effect of Geopathic Stress on Concrete Structures.

#### 3.1 Identification of Geopathic Stress Zone by Dowsing Method Using L Rod Technique & NAAV Meter



Figure 1: Detection of Geopathic Stress by L-rods & intensity measured by NAAV meter

We have identified the Geopathic Stress Zone by dowsing technique known as L Rod Dowsing. The place where this L-rod gets deflected or gets in cross position indicates the boundary of the electromagnetic radiation coming vertically to the surface of the earth and it defines one width line of the underground flow. The L rod get deflected in Geopathic Stress Zone and its intensity is measured with NAAV meter.

#### 3.2 Identification of Non-Geopathic Stress Zone By Dowsing Method Using L Rod Technique & NAAV Meter

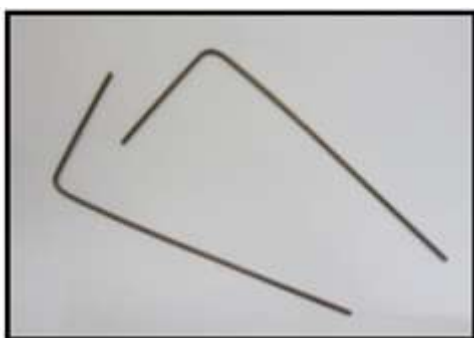


Figure 2: Detection of Non-Geopathic Stress by L-rods & intensity measured by NAAV meter

We have identified the Non Geopathic Stress Zone by L rod dowsing technique. The place where this L rod doesn't deflect at all is treated as Non Geopathic Stress Zone and at the same time the reading is noted on Naav Meter.

### 3.3 Testing of Material

#### 3.3.1 Fineness Modulus Of Coarse Aggregates

Table 1: Fineness Modulus for Coarse Aggregates

Fineness Modulus				
For Coarse Aggregates (Total Wt.=2000gms)				
Sr. No	Size of Sieves	Mass retained on each sieve (gm)	Cumulative mass retained on each sieve (gm)	Cumulative % retained
1	37.5mm	0	0	0
2	26.5mm	0	0	0
3	22.4mm	35	35	1.75
4	19mm	431	466	23.3
5	13.2mm	1352	1818	90.9
6	12mm	126	1944	97.2
7	9.5mm	39	1983	99.15
8	Receiver	17	2000	100

Fineness modulus= total of cumulative % retained/100 =3.123

#### 3.3.2 Fineness Modulus for Fine Aggregates

Table 2: Fineness Modulus for Fine Aggregates

Fineness Modulus				
For Fine Aggregates (Total Wt.=1000gms)				
Sr. No.	Size of Sieves	Mass retained on each sieve (gm)	Cumulative mass retained on each sieve (gm)	Cumulative % retained
1	10mm	6	6	0.6
2	4.75mm	62	68	6.8
3	2.36mm	70	138	13.8
4	1.18mm	157	295	29.5
5	600μ	147	442	44.2
6	300μ	256	698	69.8
7	150μ	238	936	93.6
8	Receiver	64	1000	100

Fineness modulus= total of cumulative % retained/100=2.59

### 3.4 Mix Design

#### Manual Mix Design done of M20 Grade

Cement= 323.47 kg/m<sup>3</sup>  
 Fine Aggregates = 631.746 kg/m<sup>3</sup>  
 Coarse Aggregates = 1244.66 kg/m<sup>3</sup>  
 Water Content = 186 lit/m

#### Manual Mix Design done of M25 Grade

Cement= 354.28 kg/m<sup>3</sup>  
 Fine Aggregates = 605 kg/m<sup>3</sup>  
 Coarse Aggregates = 1246.29 kg/m<sup>3</sup>  
 Water Content = 186 lit/m

#### Manual Mix Design done of M30 Grade

Cement= 383.50 kg/m<sup>3</sup>  
 Fine Aggregates = 582.49 kg/m<sup>3</sup>  
 Coarse Aggregates = 1251.46 kg/m<sup>3</sup>  
 Water Content = 186 lit/m

### 3.5 Hand mixed Cubes Casted on Geopathic Stress Zone As well As Non-Geopathic Stress Zone

We have casted cubes of M20, M25 and M30 grade by hand mixing as a primary investigation of this project and kept on Geopathic Stress Zone for curing in a tank and then tested for 7, 14 and 28 days.

Similarly, we have casted cubes on Non-Geopathic Stress Zone and kept in a curing tank for 7, 14 and 28 days and the cubes were tested in CTM (Compression testing machine)

### 3.6 Test Results

#### 3.6.1 Results of M20 Grade

##### 3.6.1.1 Test Results of M20 after 7 days of Curing

M20 (7 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	180	180	340	330
Strength (N/mm <sup>2</sup> )	8	8	15.11	14.66
Average	8		14.885	

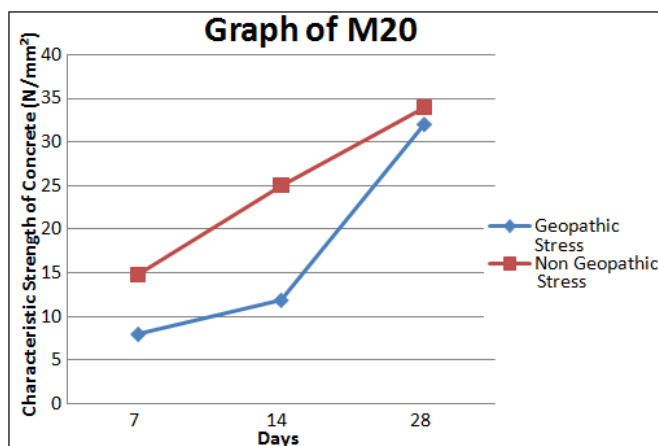
##### 3.6.1.2 Test Results of M20 after 14 days of Curing

M20 (14 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	260	275	555	570
Strength (N/mm <sup>2</sup> )	11.55	12.22	24.66	25.33
Average	11.885		24.995	

##### 3.6.1.3 Test Results of M20 after 28 days of Curing

M20 (28 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	710	275	815	710
Strength (N/mm <sup>2</sup> )	31.55	12.22	36.22	31.55
Average	31.995		33.885	

#### 3.6.1.4 Graph Showing Variation in Characteristic Strength of Concrete



**Figure 3:** Graph Showing Variation in Strength for 7, 14 and 28 days for Geopathic Stress Zone and Non Geopathic Stress Zone

#### 3.6.2 Results of M25 Grade

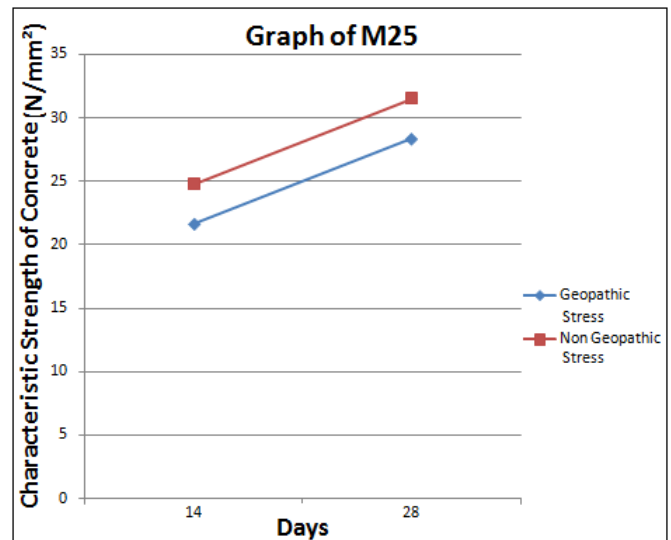
##### 3.6.2.1 Test Results of M25 after 14 days of Curing

M25 (14 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	475	500	550	565
Strength (N/mm <sup>2</sup> )	21.11	22.22	24.44	25.11
Average	21.665		24.775	

##### 3.6.2.2 Test Results of M25 after 28 days of Curing

M25 (28 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	720	560	690	730
Strength (N/mm <sup>2</sup> )	32	24.69	30.66	32.44
Average	28.3455		31.55	

#### 3.6.2.3 Graph Showing Variation in Characteristic Strength of Concrete



**Figure 4:** Graph Showing Variation in Strength for 7, 14 and 28 days for Geopathic Stress Zone and Non Geopathic Stress Zone

#### 3.6.3 Results of M30 Grade

##### 3.6.3.1 Test Results of M30 after 7 days of Curing

M30 (7 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	390	390	460	430
Strength (N/mm <sup>2</sup> )	17.33	17.33	21.44	19.11
Average	17.33		20.275	

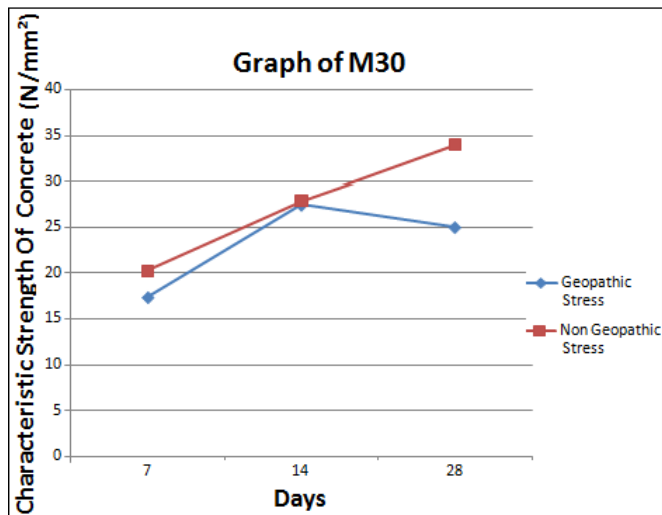
##### 3.6.3.2 Test Results of M30 after 14 days of Curing

M30 (14 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	610	625	630	625
Strength (N/mm <sup>2</sup> )	27.11	27.77	28	27.77
Average	27.44		27.885	

##### 3.6.3.3 Test Results of M30 after 28 days of Curing

M30 (28 days)				
	Geopathic Stress		Non-Geopathic Stress	
Load (kN)	635	490	755	770
Strength (N/mm <sup>2</sup> )	28.22	21.77	33.55	34.22
Average	24.995		33.885	

### 3.6.3.4 Graph Showing Variation in Characteristic Strength of Concrete



**Figure 5:** Graph Showing Variation in Strength for 7, 14 and 28 days for Geopathic Stress Zone and Non Geopathic Stress Zone

## 4. Conclusion

- This is the initial investigation on Concrete Blocks. The rigorous testing and investigation needs to be carried out and the theory based on this needs to be evaluated.
- The investigations are carried out in this area but no one has touched this part whether Geopathic Stress have any effect on Concrete Block. So here we are attempting to find out the relation between them.

## 5. Future Scope

Effect of Geopathic Stress can also be tested on Bricks, Beams, Columns and other structural elements and on humans also.

## References

- [1] "Use of Dowsing and Geo-Resistivity meter for detection of Geopathic Stress Zone" paper published in "IJMER" by N.P. Dharmadhikari, D.C. Meshram, S.D. Kulkarni, A.G. Kharat, R.R. Sorte, S.S. Pimplikar, Narang Girish Rajkumar, Deshmukh Dheeraj, C.B. Bangal
- [2] "Geopathic Stress Aspect for Sustainable Development of Built Environment" paper published in "International Journal of Scientific & Research Publication, Vol 2" by R.R. Sorate, A.G. Kharat, N. P. Dharmadhikari, S.S. Pimplikar, Girish Narang, Dheeraj Deshmukh, Sunita Bhagwat, Snehal Sorte.
- [3] "Effect of Geopathic Stress on Pavement Distresses" by B.H. Chafekar, G.P. Jarad, S.S. Pimplikar, N.P. Dharmadhikari, A.G. Kharat, R.R. Sorate
- [4] Hand Book of "Concrete Technology" by M.S. Shetty, Gambhir & Neville.
- [5] "Naav Meter : An instrument to measure Geopathic stress" by Dr.N.P.Dharmadhikari

- [6] "An Instrument for measurement of Geopathic Stress and searching underground water" by Dr.N.P.Dharmadhikari

## Author Profile



**Shruti S. Ambekar** presently pursuing Master's Degree in Structural Engineering from JSPM's Rajarshi Shahu College of Engineering, Tathawade in Savitribai Phule Pune University. She is presently working under the project topic "Effect of Geopathic Stress on Concrete Blocks".



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