



MODEL FOR INDUSTRIAL RESIN FLOOR RATING – HOYSALAS RATING FACTOR

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Abstract

Resin flooring is very important in Industrial Sector. Resin floor provides clean environment, good saesthetics,impervious to spillages of oil,lubricants etc and good abrasion resistance. This will enhance the life of the substrate as it is laid over it. Due to complexiety in laying Resin floors and its durability is dependent on many factors. Out of this is floor concrete. This paper is a first attempt to suggest a rating system for resin floors in relation to many other variables which affect the performance of resin floors. This paper is based on rating concepts of Industrial engineering and implemented in construction industry. Client plays a very important role out of all stake holders. Hence client is significant in our rating system

Keywords: Rating Factor, Resin Floor, Sustainability, Substrate

I. Introduction

Any construction project is linked with many stake holders from the stage of design till its completion. Client, Consultant, PMC, Contractor, Interior Agency, Resin Floor Manufacture, and Installer.

Each stake holder has a role to play and contribute their part in deliverance of best Resin floor to end user.

If the project is completed it will be handed over to client or end use. The Developer or owner of the building in the absence of client can rate the parameters.

The final finish of Resin Floor Topping is linked to the substrate condition, cutting of joints in time, finish, presence of damp proof membrane for slab on grade, grade of concrete, adhesive bond strength of substrate, residual moisture in substrate and levels of laid substrate.

II. Stake Holders in Rating

The stake holders will be Builder – Projects / User dept, Consultant & PMC, Contractors and Interior Contractors, Installer of Resin Floor Topping and Resin Floor Material Manufacturer.

The details of stake holders who will rate the parameters for acceptance of resin floor topping is as under.

Table1: Stake Holders

Table1: List of Stake Holders

SL	Stake Holders
1	Builder/Client- Projects/User Dept
2	Consultant/PMC
3	Contractor/Interior Contractor
4	Installer
5	Resin Floor Material Manufacturer

III. Rating Parameters

The very import point which arises now is the parameters to be considered in rating. Resin flooring is the final finish. This quality of Resin flooring depends on many factors not with in the control of Installer.



The floor concrete is finished by contractor as per design requirements provided by the structural consultants in line with User Requirements. Many challenges we face in projects with concrete floor such as cracks, porosity, dusting, delamination of top layer, level differences, no gradients towards drain in wet areas, hollowness, finish etc. Every single aspect will affect resin floor topping.

Installer will have more risk to provided proper resin floors with client expecting to repair floor and provided resin flooring laid at negligible thickness with proper levels. To some extent localized repairs can be undertaken by Installer. If the repair cost of floor concrete is significant then other stake holders of the project will intervene. Hence while selecting the factors careful consideration is given to cover all aspects which affect final resin floor finish and quality.

The factors considered is given in Table 2

Table 2: Rating factors

SN	Parameters of Rating
1	User Requirements of Floor Topping
2	Selection of Resin Floor Topping system
3	Substrate Evaluation for Resin Floor Requirements
4	Surface Preparation
5	Application of Resin Floor System and Safety
6	Sustainability and Quality of Resin Floor Topping

IV. Rating Scale

A twin rating scale is recommended to rating the 6 critical factors of Resin flooring finish {1}

First: Builder/Client -- projects & User Department. Will rate on a scale of 0 to 84. A. 50% of weightage is given to this stake holder, and they play vital role in acceptance or rejection of resin floor.

For other Stake holders: Consultant/PMC, Contractor/ Interior contractor/ Installer/ Resin Floor Material manufacturer will rate each factor on a scale of 0-21. The rating scale is designed in such a way, with stake holders rating each factor with maximum, the sum of all rating to arrive at Hoysalas Floor Rating will be 1000.

The above rating system designed in consultation with Professionals in the industry of Construction and Industrial Engineering.

Please find in Table 3 the Rating Scales

Table3: Rating Scale for Stake Holders

SL	Stake Holders	Rating Scale
1	Client- Projects/User Dept	1 to 84
2	Consultant/PMC	1 to 21
3	Contractor/Interior Contractor	1 to 21
4	Installer	1 to 21
5	Resin Floor Material Manufacturer	1 to 21



V. Hoysalas Rating Factor

Any rating system should combine all the ratings and arrive a one value which determines the acceptance or rejection of Resin floor.

For simplicity the author suggested Hoysalas Rating Factor is a number derived from Cube Root of summation of Total Rating provided by all stake holders against 6 parameters.

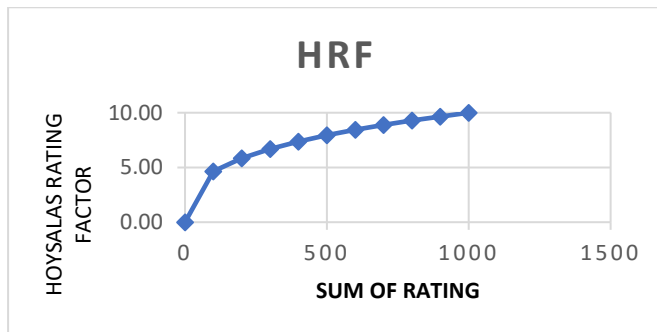
VI. Interpretation of HRF (Hoysalas Rating Factor)

The Hoysalas Rating Factor is a number between 0 to 10. The interpretation of Hoysalas Rating Factory is given below and is self-explanatory in Table 5

Table 5 Hoysalas Rating Factor Interpretation

HRF	Interpretation
<6	Poor Quality and Rejected. Floor to be Re-laid.
Above 6 and up to 7	Unsatisfied but can be acceptable if rectified or relayed
Above 7 and up to 8	Satisfactory and acceptable
Above 8 and up to 9	Very satisfactory and Acceptable
Above 9 and up to 9.4	Good
Above 9.4 and up to 9.8	Excellent
Above 9.8 and up to 10.	Out Standing

The relationship between the sum of total rating and Hoysalas rating factory is given below



VII. Conclusion

This paper is a first attempt to rate resin based industrial flooring in construction industry globally. This will provide a means to rate the resin flooring systems considering its dependency on various other factors. Care is taken based on authors basically being an Industrial Engineering and experience in construction line. Suggestions for improving the present research paper on Hoysalas Rating Factor always welcome

References

{1} Work Study by ILO by George Kanawati. 1992 Edition. Page 309 to 3011