

Interior Design
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Lecture - 19
Interior Design: Materials - Paints

Namaste! Hello everyone! Welcome to my NPTEL course on Interior Design. Today, we will talk about materials and finishes, and we will focus on paints. The paint industry has a significant stake and plays a crucial role in interior design projects.

They create trends, follow media, and develop interesting color palettes, finishes, and textures. They contribute significantly to interior design projects by driving these trends and innovations in paints and finishes. As highlighted here, the keywords are materials and finishes. When we talk about the paint industry, it's primarily about finishes. What kinds of surface finishes can we apply to wall surfaces, metal surfaces, or timber surfaces? What are the different kinds of polishes, methods, and mechanisms to achieve interesting finishes and surface appearances?

In this regard, the paint industry is a major player in interior architecture and design projects. Going through this content, I will broadly discuss some interesting paint brands in India. I will also discuss the paint industry using Asian Paints as a case study. I have some experience interacting with Asian Paints while working in Gujarat and later. At IIT Roorkee, we sometimes organize workshops in collaboration with Asian Paints.

And since I have some experience of working with them, I have put this case study here. And it will give a glimpse and an idea about other, you know, paint brands also. So there may be different nomenclature. There may be different ranges. The color palette and variety may be different, but at least helping through Asian paints, one could get the overall understanding of paint industry and its role in the discipline of interior design.

So hence, I am discussing that case at length over here. And there are some references also which you could follow later and have an in-depth understanding. So if we talk about the top 10 brands in India which facilitate paints and finishes, we see brands like Asian Paints, Berger, there is Kansai Nerolac Paints, there is Indigo, there is Dulux. So

there are lots of these brands which you might have noticed during advertisements and some kinds of Media campaigns or when you go on shops and they all have very different ways of advertising and creating a market presence for them.

So I am discussing Asian paints because I also like their media presence and the outreach that they have created. very interesting advertisements that we see and also the kind of this plethora of products, which we will see towards the end of the presentation, like some fan decks, color swatches, the kinds of interesting booklets and, you know, very, very creative, graphical and very vibrant designs that they have created so that is the overall reason also why I am talking about this paint one is of course their content and other is also their outreach and marketing so that way and Anybody particularly interested in this kind of area like colors, paints, finishes, you could also approach any of these brands for internships, etc. It will give you a lot of industry exposure.

So when we talk about the market share of top paint companies in India and discuss the financial year 2020, we see some statistics like what you see on the screen. So if you look at Asian Paints, it has a huge stake over there. And then there are other paint companies as well. And they keep improving their products. They keep innovating and revising their palettes.

And based on market trends, background research, and what people on the ground see as fashion or color trends, And also what, you know, in films, web series, and other media campaigns—what kinds of colors and finishes are being demonstrated and which are getting good responses. So there is this whole gamut of background research and market research. After which the paint industry, you know, comes up with its own product catalogs and then runs this entire market. And interior designers work closely with these kinds of product ranges and industry partners because interior design plays a significant role in the interesting use of these colors and finishes.

So these are some of the brands we are talking about, and they have their presence in the market and have been operating for quite a while. So when we talk about the case of Asian Paints, it gives us some idea of the different kinds of products they have and the ranges they have developed. So we would like to see that. So basically, they have these kinds of finishes and textures listed over here. So there are exterior textures that

are very exquisite, and they create an interesting vocabulary for your interior design projects by creating unique wall surfaces and textures.

Now, there is a template where we see all these textures, but there is also a huge possibility of customizing these finishes and textures. So even that is possible. So, they have this range called Apex Duracast Textures. And it's a very interesting range. And within these textures, they have different kinds of subcategories.

So, like trowel-applied finishes. There are roller-applied finishes. Then there are finishes that are achieved by spray gun. And then, of course... There may be a little permutation and combination of these.

There may be customization depending on your client's taste, budget, and, as a designer, your inclination and what you bring to the table during the customization of finishes and design. And there is site support for exterior textures. So the team can come to the site and give support for creating interesting textures, especially where there is a high level of customization and some kind of technical support is needed from outside. So just getting a basic understanding of how these exterior textures are created and That is what we will try to understand.

Of course, if you go on-site and try your own hands-on experience, that would give you a much better understanding. But I'm trying to give an overview and paint a picture over here. So the first thing is why exterior textures are required and what their role and significance are. So basically, they give a very distinct and unique look to your projects. And these exterior textures ensure the best possible material usage.

There is also the benefit of a premium look. There is a very unique aesthetic quality and an interesting vocabulary that your projects can gain after applying these textures and surface finishes. Also, if you look from the perspective of the clients, Sometimes there may be problems during construction, such as undulations or uneven surfaces. These could be hidden by using these exterior textures.

Another important point is the benefit to the consumer: added protection from weather-related adversities, which these finishes and textures provide. Because usually, there is a certain thickness of the texture—for interiors, let's say 10 to 12 mm. And if you create additional textures or some kind of film thickness, it adds further protection. It

sometimes also adds to insulation. It depends on how your texture and finishes are designed.

So, there are lots of benefits both for the architects, interior designers, and designers, as well as the clientele who are going to use these kinds of finishes and create these interesting palettes for their projects. So, how is an exterior texture basically selected? Now, that could be done on the basis of the quality of the binder. So, technically speaking, there would be some specifications if you read, you know, on the packet or box of an exterior texture or paint. And it would be mentioned whether there is an acrylic binder, a semi-acrylic binder, or a cement-based binder.

And all these three have, you know, different properties, different usages, and also pros and cons, especially when we talk about the budget and economic capacity of the clientele also. So, it depends on what is selected out of these three. So, if we talk about acrylic binder, that is the best quality of binder, and you know it gives a premium look to your project. In the case of Asian Paints, there is this range known as Apex, which has this acrylic binder. And it offers the best protection because, you know, it has high binder quality and also gives a very good texture life.

And therefore, the maintenance is less, and the cost of ownership is overall lowest in the case of acrylic binders. Now, when we talk about the semi-acrylic binder, basically it's low quality, and it's not very good for adhesion, and it's basically synthetic. And it could be seen as a cheaper alternative because, you know, if there are budget constraints, etc. But it does lead to compromising on the overall quality of the project. And the life of the texture and the finish that is eventually achieved is lower.

And therefore, the maintenance and other costs will increase at some point. And then we have cement-based binders where we use cement, like in cement paint, and that is used for adhesion. And its pricing varies with quality and the percentage used—the content of cement in this binder. And these tend to crack and do not offer much protection, and they require a lot of water curing. So before application, the surface must be water-cured.

So it is also time-consuming and not the best option, in my personal opinion, for creating unique interior design projects. But yes, a lot will depend on your discussions with your clientele—what their budget is. And then, one could take initiative and

responsibility in trying to make them understand that the initial cost may be higher for better binders. But then you do not have to keep maintaining them. And eventually, that is better than other kinds of binders.

So that is a possibility. Also, exterior textures could be selected based on film thickness. So there is a high-thickness film, a medium-thickness film, and then there are discontinuous films. And depending on the kind of texture and finish you want—whether there are bold and prominent motifs or very chic, subtle, and impressionistic designs—not very bold motifs. It could be a sort of impressionistic design that you want, not very bold motifs.

And whether it's a very continuous film or there is some kind of very raw, rustic, customized, handmade, discontinuous film and a pattern that one would want to achieve. Those kinds of options are available. And depending on the overall nature of your project, the client's taste, and the customized designs brought to the table. All of these possibilities can be explored.

So when we talk about high-thickness films, the thickness ranges from 1.5 mm to almost 3 mm. And because it is a high thickness, bold patterns can be achieved in this kind of film. And it provides very strong protection. So, basically, you have high thickness and...

It provides insulation, protects against adversities, and can be used as a bold language or vocabulary in your interior spaces. Mostly, these are trowel-applied, and it's not very difficult to create these kinds of patterns with simple hand tools like a trowel. And when we talk about medium-thickness films, the range is 0.5 mm to 1.5 mm, and they could offer a range of very understated or sophisticated patterns that may not be very prominent or bold. So, they may not require a very thick base material to create those kinds of bold patterns with depth or high thickness. And this could be applied with a trowel, roller, spray, or any other method, depending on the design's finesse, the desired level of detail, and the pattern being created on a wall or any other surface.

And then there is this discontinuous films. They offer very, very interesting, customized and unique patterns because there is a lot of variation and the film is very discontinuous. And they are normally applied through a spray and basically how much pressure is put on the spray, how close or far it is from the surface, all those details and technical

aspects. they will come handy while you know creating these continuous films and creating unique customized patterns applying through this kind of a spray mechanism. So, if we talk about the range of Apex Duracast textures that are provided by Asian Paints which is the brand that is in focus for today's lecture and about which we are talking.

Basically, this range of Apex Duracast textures It is a mixture of siliceous aggregates and in 100% acrylic copolymer based binder is what it has and it offers excellent protection and aesthetic appeal. So, these are some technical specifications and the company does a lot of scientific research and these kinds of technical details and specification highlighting while you know. putting forth this kind of a range in front of its users, also like designers and architects who have some sense of technical details because they have lots of discussions with these companies and they are a part of these kinds of background researches. So it's important to have also an idea about technical terminology.

And if you look at a certain catalog or have a discussion with a company or a vendor, what could be the possible discussions and what could be the possible interesting technical details? Also, they give a lot of durability. They give good binding and adhesion. They give toughness and they also protect the substrate. So if this is your surface and on that there is a, you know, DuraCast texture, the substrate will be protected.

So that kind of quality check and reliability is there because of the technical details, scientific research, and also the reliability of the brand. So, it is quite an interesting range that they have developed. So, if I talk about the range, they have like 21 unique patterns, and there are constant revisions and evolutions happening. There could be more as I speak right now while I am recording this lecture.

And there is always this freedom of choice of what top coat you would like to use. So above this texture, there is like this top coat which could be applied, and this would be even better—it would give more protection. It would be anti-algal or anti-fungal, and it will finish your look, which is very chic and also performs well. So they have these ranges like Apex Ultima Metallic, or there is this Royal Glitter, or there is this Royal Premium Emulsion.

So all of these possibilities are there. And within these texture ranges that have been developed, there are some trowel-applied, some which are spray-applied, and some which could be achieved through rollers. And they have tried to classify and create these baskets based on the thickness and the kind of texture or finish that could be achieved. So whether it would be trowel-applied or through a roller or through a spray.

So and like I said, customization is always possible. So these are some trowel applied finishes that we are going to, you know, sort of have an overview of how they are applied. So if you look at this one texture, which is from the Apex Duracast range, it's called rough tex, like, you know, rough texture or rough tex is what they call it. And if you look at the image here, It's like, you know, sort of a very raw, rustic and sort of very interesting finish, which we see on the screen.

And it's basically 2 to 2.5 mm thick and it can be applied directly onto the plaster. And because the film thickness is, you know, 2.5 mm, which is quite thick, it is very much possible to have bold patterns, which are very thicker, which have large particle sizes. And within that also, like how the application is done, what is the direction, all of that also impacts, you know, the kinds of impressions that can be created. So there could be like a vertical scratch, there could be a horizontal scratch, or there could be a slanting pattern. And there could be more, there could be a lot of customization, or there could be a permutation combination of all these two, three that are seen over here.

So, after the application of this thickness onto the plaster, then creating the patterns by, you know, creating these kinds of movements by the trowel, then there is this top coat and which could be Apex or Apex Ultima depending on you know, what range you pick up, what your budget is. And then it would further improve, as I told, you know, any sort of attack from algae or fungi. And the performance is enhanced. And usually we get this in 25 kg sacks or bags, as we say.

So, This is a very, very simple method. But yes, of course, the application part comes with some exposure to working on-site and some hands-on work. So, it's possible to get trained. There is also a certification program that many paint brands run, including Asian Paints.

And once you have that training and capacity building with them, you could get a certificate, and it could really help, especially the people who paint on-site—the

painters and their entire staff and fraternity. So, the application is quite simple. More or less, we discussed that on the previous slide itself. But just to elaborate a bit, the application of primer is not required in this kind of rough texture, which is achieved by trowel.

So, it could be applied directly onto the plastered surface. And the material should not be diluted, of course, because we need thick and bold patterns, and we need to have this base material and this thick film—almost 2.5 mm or even 3. So, it is applied basically in two stages. So first is where the material is deposited on the surface using a trowel or spatula.

So if you have some idea of working on the site, these are very basic hand tools. And like, you take this spatula and dump your material, and then there is this wooden trowel with which you can, you know, sort of create your surfaces and work towards getting these kinds of patterns. So texture is achieved by using this rectangular trowel, as I was telling you. And the film thickness has to be ensured to be at least 2 mm. And although it's written as 2.5 mm, it could also go up to 3 mm.

So, yes, the number and direction of strokes of the plastic trowel also decide, you know, the final finish. How many strokes, in what direction, and what is the kind of pattern that, you know, you are achieving. And then finally, this top coat, Apex or Apex Ultima, in this case, the particular brand that we are talking about. And again, the anti-algal and anti-fungal protection is achieved through this application. This is another texture, which is swirl tex, and it is slightly different from the one that we saw on the previous slides.

And it is somewhat less thick than the previous one, so 1.5 to 2 mm. And here also, it can be directly applied onto the plaster. We could get some softer patterns and sophisticated looks here compared to the previous one. And here also, we could get, you know, different kinds of patterns: vertical scratch, horizontal scratch, slanting, swirl, circular, or a permutation combination of these. And then again, top coat and also the availability, as we were discussing, in the market, 25 kg sacks, where we get these textured finishes.

And the application is similar to what we saw in the case of rough texture. The final stage or the finishing stage is slightly different because the direction of the trowel that

would ultimately decide, you know, what is the pattern that you have to create, how subtle, how understated and all those. And then finally, the top coat, as we have been discussing. So it's fairly easy and not very different from what we saw in the case of rough tex. This is another one which is known as cross-tex and we can see these criss-cross lines over here.

And yes, like I keep saying, there can be customizations within criss-cross lines and cross-tex also. Depends how we are applying. And this is also like 1.5 to 2 mm thickness, could be applied directly onto the plaster. And basically, it has a more prominent groove. And here it can also be applied the same way we have been talking about through vertical scratching, horizontal, slanting, swirl, circular.

There could be like, you know, this plus minus pattern or there could be crisscross linings and hence the crisscross pattern that is achieved through that. And again, the top core for better performance and it's easily available in the market. Application again here, some difference in the finishing stage will be there, but otherwise more or less we are discussing the similar application as of now. This is Dholpur tex Now, if many of you, some of you almost like many people would be knowing there is this Dholpur stone and there is some

Resemblance to the color and texture of the Dholpur stone, and here there could be a possibility of the brick pattern trying to replicate Dholpur stone. Then there are also possibilities of other kinds of patterns which can be achieved. So, like one you saw on the previous slide and one is this. So basically, it's possible to create different kinds of patterns, whether it's style or brick or almost looking like stone, as we see over here, inspired by the Dholpur stone, and then creating that texture out of it. And this is 1 to 1.5 mm, so slightly thinner. And here we do apply directly onto the plaster, but there are two coats.

That is a slight difference. And it's a very classic and timeless look. And sometimes, if one is not able to afford the Dholpur stone—basically, it's found in Rajasthan— It's possible to create a look which is similar to Dholpur stone, and that's why a lot of clients will ask for these kinds of looks, finishes, and aesthetic appeals. And it gives a very distinct and premium, upmarket finish to your wall surfaces. It is quite versatile, and there could be many patterns that could be achieved in this kind of texture—brick pattern, stone pattern, or some kind of very customized patterns.

And again, the top coat is applied, and it's available in the market easily. So, like I was telling, it is a two-coat texture application. On the prepared surface, first, an initial coat of 0.5 mm is applied by a simple trowel, and for a brick pattern, it's Quite easy. A masking tape could be used. And, you know, with the help of those sorts of guidelines, a brick or tile pattern could be created once the base coat is set.

And then there is the second coat, which is applied over it, and it is approximately one mm thick. And that's also done with a trowel. And then the suitable design is made, and the tape is removed. For the stone pattern, the second coat is applied over the base coat again with a trowel or a spatula, and it looks more like stone, whereas the previous one resembled tile or brick. And here, the important thing is that after drying overnight, the top coat of Apex or Apex Ultima is required, and it gives a very desired shade, very close to how a stone looks.

And there are many possibilities for getting different kinds of random patterns, along with customization. And then there are roller-applied finishes. So far, we have discussed the trowel-applied finishes. There is also the application of a roller, which gives a refined and sophisticated finish. So this is one solution where a fine texture gives what you see on the screen.

It's again a 0.5 to 1 mm thick coat, and it is applied onto the plaster. But here, coating with an exterior primer is required. And it gives very sophisticated finishes. There is a wide range of finishes possible through this texture. And, of course, there is the need for a top coat, as we have been discussing, for the most optimized performance and protection against algae and fungi.

And, of course, it's available easily in 25 kg bags. And like you see on the screen, these are very popular products rollers that are available in the market and the application is simple. So, first of all, you know, surface needs to be coated with one coat of exterior primer, like we were discussing that this needs a primer and it has to be 100% dilution so that the primer can be put easily without any kinds of lumps, etc., And for applying, you know, texture like this and getting a desired finish, it's always recommended to have a very good quality roller such as a honeycomb roller, which is available in the market.

And it is possible to dilute the material, you know, up to a maximum of 10% so that the workability is not compromised. That's what the maximum is allowed. And then the roller is, you know, moved in different directions and you could get the desired finish. And also, you know, this normal range, which is sort of provided or which is sort of sketched as a do-it-yourself also in, you know, several kits. There is always the possibility of customization, which I personally like.

So, I have been talking about it quite a bit. With, you know, interesting inputs, we can customize all these finishes and create very interesting textures and finishes. And we will go with the top coat again and it will provide the overall protection to the surface. This is fine texture and this is another kind of solution that you see on the screen which could be achieved. And this is another one which has certain, you know, sort of motifs and which are achieved through some stencils.

So if you go to a paint company or you go to the market, you would see lots of stencils over there. It's possible to have that. And especially for kids, you know, if you're creating some interesting interior design projects, which need lots of vibrant primary colors and some kinds of motifs, these kinds of stencils and textures and finishes, they help a lot in creating a very vibrant environment for the kids. And of course all ages, depends what is your taste, doesn't have to be only kids.

So this is another kind of pattern or a texture that we see over here. This is again fine text and these are this, this is a range and these different possibilities can be seen over here. And then we have these spray applied finishes. Yeah, so like the spray gun that I was talking about and there is this pebble text as, you know, one of the outcomes or one of the ranges that the Apex Duracast textures has developed. Within that, there is this bubble finish.

We see like sort of bubbles on the wall surface. So that's one finish that we see. This is a sort of understated and more subtle bubble finish that could be achieved. So, here basically the premium acrylic based product that offers symmetry and consistency of finish that is applied on a surface coated with exterior primer. So, here also we have exterior primer.

And there is a high degree of flexibility in terms of what pattern you could achieve. So, it could be in your hands to control the distribution of bubbles, density, and the sizes

you want to achieve. So, it totally depends on your taste and what kind of finish you want. And the finish is hugely dependent on the skill and how it is applied. So again, what is the material type?

How much is it diluted? And what is the pressure with which the spray gun is being operated? What is the diameter of the nozzle or the size of the tip? And the distance from the wall surface or any other surface where the spray application is happening. And it is available in 30 kg pails in the market.

And the application is fairly simple. So, the surface first needs to be coated. Then there is this exterior primer at 100 percent dilution. And there has to be air-assisted spraying. So that is very important.

Skill is important in this case. And the material can be diluted by a maximum of 5 percent if needed. So if your nozzle size is such or if you're not able to spray it properly, there may be some dilution in that case. And there is also this hopper gun apparatus, which is available in the market, that could make the finish more professional and can make things easier while spraying and achieving proper pressure. So those kinds of apparatus and tools are available in the market.

And different variations are possible, as we discussed in the previous slide, depending on how one is applying. There is always this top coat after overnight drying, which will give you the perfect finish and a very nice texture. So these are some of the sketches, some of the tools that you see over here, and this is basically A very illustrated summary of some of the applications that we were discussing during the previous slide. So this is a PebbleTech system, specifically, which is being illustrated here. And it's a very simple step-by-step mechanism, which I also talked about on the previous slide.

So maybe this will give you more graphical information, and it would be easier to comprehend. So within PebbleTech, there is also a head-cut finish, and it depends on what your client likes and what your mutual tastes are. So it could be something like that, which is not bulbous and roundish, but more like flattish or head-cut. And this is a variation of PebbleTech itself. And it's also quite easily achievable by pressing and flattening the bubbles that have been created.

And some time has to be given for the surface to dry up. And then there is, of course, the top coat and one has to really take care by while designing these kinds of finishes.

And just to summarize everything that we were discussing, there's this snapshot of the DuraCast range. And I've just put a question mark because you could call it something other than the snapshot, but it's a very interesting phrase, like how to really understand in an overview manner. So there is this sort of...

Your texture finish, how it is applied, which is the kind of binder which is used over here, what is the film thickness and then what are the kinds of finishes that can be achieved. So these kinds of, you know, tables, charts and inventories, they really help us sort of understanding things, summarizing them well and then having this clarity, you know, what is applied through travel, what is applied through spray. So this is a very interesting manner of summarizing things and some kinds of summaries and tables and charts like this could be a part of your assignments and your exam as well. So it would be nice to go through them. And how to get a great finish, that's quite important, even though we know the technical specifications, even though we have the product.

So, yes, it's very, very important to have skills. It's important to have some kind of a technical expertise or some kind of a technical help if it is required. It is important to have inspection at the site before, you know, starting the work. What is the condition? Are there any leakages?

Is the site old or new, you know? Is there too much dampness or seepage? And, you know, are the surfaces clean? Are they undulated? So all of that is very, very important.

So first, the site has to be seen. And then, yeah. There are possibilities of designing what kind of film thicknesses, what kinds of patterns, and what kind of designs one would want to have. And of course, then the top coat is important, as we have been discussing. Whatever our design is, whatever the thickness of the film is, this top coat would be very important to take care of the overall finish and the surface.

So Asian Paints really supports your projects, and other brands also do. But we are discussing this one particular brand. So they have lots of color swatches that you would get on demand. They allow for sampling. They allow for interesting color creation.

They give a lot of technical support. Your queries get answered. And also just to understand, you know, what kind of texture would have what kind of... Coverage in terms of, you know, the area, the square feet per kg. And what is the material cost?

Again, the rupees per square feet. This is very important to understand how, you know, what are the market prices and how things work. So, basically, depending upon what your thickness of the film is, your... material coverage and material cost would differ and what is the kind of finish that you have tried to achieve, it will differ a lot. So, from a rough texture which is like 15 to 20 rupees per square feet to a pebble text 5 to 7 per square feet, it will be a wide range.

Now, More the thickness, more the coverage, more the bold patterns, more the customization, more the time invested, there could be, you know, higher cost compared to more sort of uniform and mechanized finish that you could get. So those kinds of variations and ranges are available. And it's very important to be, you know, cautious about the site conditions and to really understand what is the climate, which region, what are the different kinds of available materials and resources at your disposal and what are the market trends and how much is the cost of, you know, for your Karigar and labor. So, it's important to also keep a track of all these and do a little market survey.

And yes, one has to check the availability of trained applicators because if the skill is not there, then the desired result will be nowhere close to what is anticipated. So it's very important. And hence, steps like certification, capacity building, and prior experience are essential. These help a lot. So, these are some catalogs, tools, and technical data that are visually presented through different media.

These are at our disposal, and we can navigate through this plethora of available products and ranges. And this is like a sort of summary that decorative paints are applied on interior walls; for exterior walls, the finish will be different. For wood finishes, it will be different; for enamels, it will be different. So for wood, we usually have PU, melamine, and UV, and these are quite expensive and require a lot of skill. Right now, I'm giving an overview, but discussing all of these in today's lecture is difficult to accommodate. But depending on whether it's an interior wall, exterior wall, wood finish, or metal finish, there will be different ranges of products available that you could apply to achieve the desired result. So these are some products offered by Asian Paints, and these are different names you will see in their company profile.

We were talking about Apex and Apex Ultima, and then there is this entire range of Royal, as well as Utsav, Tractor, and so on. So these different kinds of ranges are possible. And there are also different color tools that the company has developed. They

have these innovations. They have tools like Color Express, which helps us understand different shades and various kinds of color applications.

And they also deliver the requested shade within 72 hours. These are the kinds of products, and you know, catalogs and tools I was talking about, which make it very handy for somebody to understand the entire color palette and different kinds of swatches available. It could help us in sampling, and also, you know, we get technical assistance over and above all these kinds of tools. So they also have a visualization service. They have, you know, color centers in a few cities.

One could really go there to those centers and see how the color is made. You could actually create your own color palette over there. There is also, you know, virtual presence. So there is Color Spectra online. There is also Color Visualizer.

There are some software applications available online. You could just upload your drawings and images, and then you can pick and drag to see how your built space or interior space looks like. So all of those possibilities are there. So visualization helps really understand what sort of color would go well, depending on the size of the room and the taste of the client, etc. So all of these possibilities, we see different tools, different software applications, visualizers, and very easy and convenient methods of understanding color application.

Also, books, magazines, and journals like this, which accommodate color trends and market surveys. Also, some kind of prediction of what is going to happen as a trend. You know, they do that color next. Also, I like this very fascinating research. What could be the trends for the future?

Depending on what is happening in the market, in the media. There's another tool, which is Color Spectra Pro. It's for professionals that also helps understand different kinds of color families and distinct colors within each family. It's a very, very huge set of colors. This is the store that I was talking about.

They provide this color consultancy. It's like a retail store where one could just go and get the experience of the world of colors. And then shade tools and swatches like this. So we have been seeing a lot about colors today. So I would just like to quote, you know, the very famous Kandinsky.

Color is a power that directly influences the soul. So, as I said, the paint industry and colors play a very profound role in interior design projects and interior architecture projects. So, we will summarize this week next time. And these are some references. Thank you very much.