LEGACY BALLAST is one of those things.

4mm Scale - 00 2mm Scale - N 4mm Scale-00 LB-4BB - Brownish Blend LB-2BB - Brownish Blend LB-4BB - Brownish Blend LB-2SE - Dark Grey Blend (Steam Era ~ dark mix) LB-4SE - Dark Grey Blend (Steam Era ~ dark mix) LB-4SE - Dark Grey Blend (Steam Era ~ dark mix) LB-4LG - Light Grey Blend (Softer Grey ~ Paler mix) LB-4LG - Light Grey Blend (Softer Grey ~ Paler mix) LB-2LG - Light Grey Blend (Softer Grey ~ Paler mix) Carefully blended Ballast for discerning Modellers arefully blended Ballast or discerning Modellers Carefully blended Ballast for discerning Modellers www.dccconcepts.com

quite put their fingers on when they try to say why.

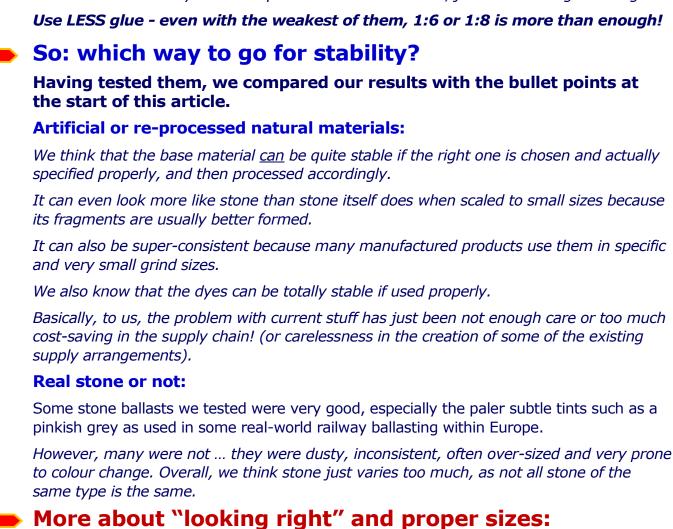
- Lack of consistency over time... bemoaning the fact that ballast bought today from the same brand is often not quite the same in one way or another. Finally of course - how to lay ballast or fix it down without making it a painful
- or hard-to-do process. Anyway... we'd talked about it many, many times... but this time it was different.
- scale branded offerings" was selling up... and one thing led to another...
- THE DECISION PROCESS: So.. the next question was how to proceed? Should we proceed?
- We do not like doing as others do, as there's no point in perpetuating problems or just making the same stuff under a new label, so we started off by looking at every

one of the conversation subjects above and every variable in the supply chain. We wanted to check everything <u>before</u> even starting other steps. You may be interested in our results and conclusions... You may find them interesting, controversial or even "not in agreement with your opinion"

for the next modelling meet or club get together.

If nothing else, they may also give you food for thought - or a subject for a lively discussion

With real stone ballast: You'd think that something as hard as rock would be colour stable, wouldn't you—but from all of our testing, it is not consistent, with more or less variance depending on brand. Unless the stone is hard & consistent (& chemically stable) there will be a very good chance of colour variance - and the problem is that the harder stones are of course also hard to



This is more simple than you might think. All you need do is LOOK at the real world and compare to see what is in front of all of us each time we look at the

The basics: Prototype ballast size will vary a little in size between light rail, steam era and modern heavy diesel lines, but its in fractions of an inch - not so obvious stone-by-stone. In general, for the

prototypes we model, it has usually been targeted at around 2-5/8ths of an inch or 67mm.

Colour matters, consistency matters, reliable repeat sourcing matters: so the only

possible choice is processed materials rather than natural stone.

Here is the current range - followed by our "How to Ballast" recommendations. **Legacy Ballast** Carefully blended Ballast for discerning modellers

creating layouts in N and OO/HO scales

The Steam Era mixture: LB-4SE for 4mm scale or OO/HO

Although dark, it is not an unrelieved blackness. It is, once again, a complex blend

PS: This blend has one more special feature... a "special double colouring" that you can use that will change the final result to blend transitions to suit a specific area on your layout, or your preferences... we will cover that below!

Tip: For all our mixtures, we strongly suggest that you shake the bottle carefully before

As with the brown and grey mixes, consistency matters so grain size was checked with a vernier before packing. Because of the nature of heavily used areas around steam,

based on lots of checking and it now closely matches our research.

we added slightly more fines to this mix as well.

using so that the fines are properly distributed throughout.

This is a real value pack for clubs or team-build layouts or those with larger layouts who want total consistency in

The "Club Tub" is equivalent to 15 X 330cl single bottles

does look realistic when laid.

LB-4LG-CT Light grey ballast 5 Litre Club Tub **LB-2BB-CT** Brown mix Ballast 5 Litre Club Tub **LB-2SE-CT** Steam era ballast 5 Litre Club Tub **LB-2LG-CT** Light grey ballast 5 Litre Club Tub Ballast is available for immediate delivery from our Australian and UK offices—but the Club Tubs are currently UK only. Customising the Steam Era mixture: It has been double-dyed to purposely introduce some colour versatility. **Very** dark ballast is always found around steam locomotives, especially where steam servicing happened, where coal was added, where locos stood frequently, etc... but it still had some degree of variance. For example, lightly used sheds may fare less badly, with weathering rinsing some of the muck away between uses... or perhaps steam sheds in preservation areas having less time spent with active locos, and less muck lying around. Of course, there are also places where one colour blends into another... such as the much darker places between the tracks where both diesel and steam locos stand be-

So that you can manage the overall look, we have introduced something quite

(5) Using a rough-cut mask (to protect area you do not want to lighten) held a couple of inches above the ballast. With the other hand spray the mixture at a distance of about 300mm onto the specific areas you want to lighten until they are quite damp. This distance is important so as not to disturb the ballast. Once that is done, get rid of the mask and spray a little <u>around</u> that area - just a bit. Do not disturb the area at all when doing this. It needs just a misting. (7) The loosened dye will partly bleach and partly absorb into the surrounding area to make the transition quite natural. Now wait! (8) When it looks about right, take another spray bottle with plain water mixed with a little alcohol, and spray the area to slow/stop the reaction - then let it all dry.

If you are now thinking twice about visiting a quarry with a small container, the power of persuasion and a large chequebook — or closing one eye when seeing your precious

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Well, that's it for now. Next time we thought we'd look at PowerBase and DCCconcepts track-bed together, as they are natural companions.

We'd like you to always look forward to our newsletters so if you have requests, criticisms or wish to comment, please feel free to do so. We may even include your contribution in the next one!

You can email us on web@DCCconcepts.com and our webmaster will make sure we all read it! Kind regards

thinking outside the square

subjects wander to likes and dislikes, what's good and what could be better. Ballast features often in these discussions for several reasons. but that's OK... this is a discussion and it's a hobby :-).

The INVESTIGATION: With artificial ballast: with them, triggering a change in colour. shells or fruit stones) will be quite strong.

Avoid those with chemical smells if you want reliable colour stability!

change when used. Finally—the real world has no deep history of grinding stone so small.

..and 2 kg of greyish brown - not too grey though...

You'd think "glue is just glue" but it's not really.

about it!

track. Of course... measuring it is also a good place to start!

Getting the size right:

measure a fairly large sample.

Our decision?

been given the "go".

er to provide a stable foundation.

The Grey mixture:

from many quarries.

LB-2LG for 2mm or N scale

LB-4LG for 4mm scale or OO/HO

Ballast colours on the prototype are not all the same, even for newer ballast which this colour represents. We've created a soft colour mix that includes some slightly browner greys plus the odd whiter "quartz-like" addition as this is also there in new ballast

Grain size is checked with a vernier before packing and very carefully graded with an appropriate quantity of mid and small

size additions so that it really does "look right" when laid.

dropped everywhere.

ground areas.

facilities.

LB-2SE for 2mm or N scale

If you did not grow up with steam, visited an active steam shed or have not researched widely in relation to the steam era, then it is hard to really appreciate just how dark, dirty and gloomy things were around steam locomotives and their

Coal is black and smaller bits of coal, muck and dust was

Oiling of steam locos used a "total loss" system so that oil

Ballast

of Legacy Ballast yet only 10 times the cost of a single bottle. **LB-4BB-CT** Brown mix Ballast 5 Litre Club Tub **LB-4SE-CT** Steam era ballast 5 Litre Club Tub

tween trains.

preference...

website here.

new with our "Steam Era" ballast.

A dual layer, user-adjustable colouring!

Ballast "Club Tubs":

their ballast supply—or really good value!

between shed and other tracks. "bed it in". When generally tidy, pick any last bits off sleepers and around rail sides or point-work. (3) Think about the overall area and its probable need for colour transitions. (4) Get hold of a fine-mist spray bottle (window cleaning type) and add a mix of diluted ammonia based bleach to it. Initially try a mix ratio of about 1:10 or 10%.

(9) Look at the result and repeat or adjust the bleach mix ratio if it's too much or perhaps not enough. Don't hesitate to experiment... that's how we learn. We think that the versatility of this approach really does work well. I

hope that you agree!

ballast handiwork change colour over time, click the ballast below! New delivery charges for UK customers: 48-hour small product - £2.00 48-hour parcel (under 2kg) - £3.00 24-hour **RUSH** surcharge - only £1 If you need **RUSH** delivery, just state this on your order! For parcels over 2kg, or being delivered outside the UK, we will apply the best value shipping fee available. We would be happy to give you a quote in advance if you request this.

Our AU Email address is sales@dccconcepts.com You will also find us 7 days a week, 24 hours a day at www.dccconcepts.com

Our Australian contact details are:

Telephone is (+61) 08 9437 2470.

Richard Tokuson and all of the staff at DCCconcepts

However, if you'd rather not receive future e-mails of this sort from us, please send an email to web@dccconcepts.com with the word STOP in the subject line.

12 (B) Ballast How it all started... We often chat with our customers about layout construction, and inevitably the

Colour change problems when installed - a common one. Real stone or substitutes... what's good and what's not - and why. Things not looking "quite right" ... another common one that most cannot Size issues - almost universally, a feeling that supposed HO and OO ballast is just too big & a need to mix or blend OO/HO & N ballast to get it looking right. A follow-on discussion also intimated that the last of the UK ballast suppliers had ceased to make it within UK and that the primary source of another of the "finer

Colour could and should be totally stable, but we found that some of them do not take out all of the active chemicals when they are made. That means the glue you use to fix them reacts You can easily tell which brands may have this problem. Just open the pack and sniff.

The smell will be stronger from a plastic tub than a plastic bag, but the smell will be there... The volatile chemicals and any residual oils within the base material (they are mostly nut

grind to scale-size ballast lumps, especially for HO/OO or N scale... so they are rarely used. Softer stone is easier to grind but it is porous and more often than not, contains unstable or soluble materials within its structure because it is soft... and that will be a cause of colour And - something known well to all those who quarry the stone - colour in real stone depends a lot on a consistent "mother lode" within the quarry and no ballast makers buy enough to have the "clout" to control their own patch, so again it is unlikely to ever happen.

Few if any places have the inclination or skills to do so and even fewer will charge reasonably to make a few kilos of something they usually sell by the truckload. Think **And then - there is the glue!** (and the application method you choose).

Its not in our control once modellers get to the gluing stage but it makes a biq difference. Lower cost glues are always a little more acidic and have a different balance of materials, and our tests show that how its mixed and applied make quite a difference, too. Rather than add more here about that, I'll go into detail later as we describe a method that I have shared on forums for years to help modellers - but for now, just one more "glue thought".

Of course, there is always a degree of "fines" or smaller stones within the mix. It is important too that it is irregular or "sharp" so that the stones can lock against each oth-Once its laid... the appearance also changes over time: Over time ballast settles so the top surface ends up with a variety of stone sizes evident as smaller and larger stones work between each other, becoming a well-linked bed of material. THIS is why a simple "grading" and presenting a product based on that is not good enough... we need the size mix to better represent the final state of the real thing! So, apart from analyzing the real thing, we also did the obvious and took the trouble to

Consistent sizing to a proper size and ensuring that there is a correct proportion of finer grains in the mix so it actually "looks right" matters a lot. So before proceeding, we needed a reliable source that could grade accurately - and that source had experience in perfect processing of the material chosen. We have found the right materials and the high quality source that we wanted... so it has Remember what we said about consistency? We should so what we advise - so we are now the proud owners of many tonnes of it... so we can guarantee that it'll always be the same, every time you buy some! We have released it under our DCCconcepts "Legacy" brand.

The Brown mixture:

LB-2BB for 2mm or N scale

LB-4BB for 4mm scale or **OO/HO**

This colour represents ballast that has been laid for some time and subject to the brake dust, rust, weather and other influences that are inevitably deposited as trains

Again, it is a subtle blend of colour that closely matches

our prototype research and is appropriate for many places around the world. This is a very appropriate base for running line ballast anywhere and across a wide period.

As always, grain size is checked with a vernier before packing and very carefully graded with an appropriate quantity of mid and small size additions so that it really

was used before it was then just dripped away, often mixed with steam and hot, mucky water. Washing out of locos took all of the ash and clinker away, washing it into the environment... and of course smog, soot, and the grungy particles in the smoke were constantly "airbrushed" onto the buildings and anything else in the area... especially the Accordingly, the predominant colours of this ballast are quite dark, just as the real world was... so, our Steam Era ballast represents ballast that has been laid for some time and subject to the muck, brake dust, rust, weather and other "industrial effluences" that were inevitably deposited as trains pass.

The core colouring is a dark version of the brown ballast, with a "dead" brown with much more black in the tint. This layer is pressure applied and totally indelible. We then added a semi-permanent second colour layer that will not change unless you take special steps to wash and dilute it... softening and changing the black to suit your We hope that you will experiment and develop your own approach to using it, but here is how we worked with it in development. It goes something like this: (1) Lay the ballast but with no glue yet! Our ballasting method is shown on our For the tests we used both Brown + Steam Era and Grey + Steam Era. Steam Era round the shed, with a little added to the brown/Grey ballast where needed such as between tracks where locos stand, and in transition Brown/Grey through the stations with the transitions as above. (2) Tidy up the ballast. Neaten edges and tap the rails with a teaspoon, or similar, to

Once its dry and you are happy, it is time for us to give the area one last tidy-up .. and then it will be time to glue the ballast down. As mentioned, all is clear when you follow the procedure on our website. Thinking outside the square. This plate shows you dark "Steam Era" ballast on top, with our brown ballast at the bottom. In the middle? Its DCCconcepts "Steam Era ballast" that has been bleached just as we explained above. Just imagine the subtle possibilities around the shed, station or goods yard... all achieved with a standard spray bottle and a little bleach!



We will also explore some of the less obvious benefits of PowerBase,

including how well power pickup is improved when it's installed... and making it possible to simply modify a "ready-to-run" brake van to do its job and properly stretch a loose-coupled train on a downhill run.

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