

Waterslide Decals

Waterslide decals consist of a sheet of paper with a layer of water soluble glue on top and a decal – a thin sheet of plastic/ink – on top of the glue. When the paper is dampened the glue dissolves and the decal can be slid off onto a model. When dry the glue holds it to the model.

There is usually a clear layer known as the carrier film as part of the decal to hold the letters of a word together. There are important differences between sheets of decals from different suppliers.

1. Decals with the ink printed above the carrier film. These are usually printed on ALPS printers, a particular type of home computer printer that can print a solid white ink so can produce a full range of colours. Home produced decals from an inkjet printer also have the ink on top. The ink is delicate and easily rubbed off, so before doing anything with these sheets you should give the whole sheet a coat or two of spray acrylic varnish to protect the ink. In the case of home produced decals you also want to seal them against the water when applying them, which can make the colours run. Use a water based acrylic varnish not a solvent based varnish as the latter can remove some of the ink. It is safer to use several light coats; you may want to test your varnish first on a spare decal. Decals produced in small volumes are often this type, for example from Cambridge Custom Transfers.

2. Overall Carrier or Spot Carrier. Most modern decal sheets only have carrier film where needed – for example over the digits of a running number – with plain paper between different decals. Other sheets have carrier over the whole area, and you need to cut close to the lettering to avoid having large amounts of clear carrier on your model. If you hold a sheet up so light reflects off it you can readily see whether there are gaps between the decals. Many of the Modelmaster decals have an overall carrier film, as do all decals with the ink on top.

Surface Preparation

The surface should be clean of dirt and grease; clean with Isopropyl Alcohol or similar.

More important though is the surface finish. Ideally it should be gloss, at worst satin finish. Do not apply decals to a matt finish – they will not adhere well and the carrier will show up as silver because of air trapped underneath.

It is easiest if you can paint the wagon gloss to start, I usually use Halford's spray cans – there are equivalents for most railway colours. If the surface is matt coat with gloss varnish first, my preference is Pledge Multi-Surface Polish (it is an acrylic varnish), it is cheap and brushes on easily without brush marks. It is very thin, you may need 2 or 3 coats. They keep changing the name and packaging of it, so you may find it under some other name.

Cutting out the Decals

It is best to find a photo to work out just what decals you need to apply and where. If you are doing several wagons look for different photos – markings and their positions often varied considerably between nominally identical wagons.

I cut out all the decals for one side at a time using a scalpel. My favourite blade is a

number 15, a small curved blade, but any sharp knife will do. If using scissors cut so the scissor blade is on the outside of the decal, to avoid damaging it. An advantage of using a knife is you can cut out a small hole leaving the rest of the sheet intact, so you don't end up with lots of separate bits which can be hard to identify next time you use the sheet.

If it is a spot carrier (just over the decal) you can leave a wide border, but if it is an overall carrier film you should cut as close to the decal as you can – magnification such as an Optivisor is useful. When the edge of the carrier is close to the lettering it is much less noticeable because the eye is distracted by the bigger contrast between the letters and background.

White decals on pale blue sheets can be very difficult to see. Lots of light helps – I use a desk lamp either side of the sheet with the lights fairly close to the sheet. It helps to have a paper print of the sheet with a darker background – some suppliers provide this either with the decals or on their web site. Some people recommend using a marker pen on the back to darken the paper, but I found that some of the colour could get onto the decal and show up on the model.

If the decal is to fit in a tight space, for example between a stanchion and strapping on a wagon side, it is a good idea to check the decal (with backing) fits before wetting it, if not cut it closer or even cut a little of the decal off. Sometimes decals can be slightly oversize for what you want, in particular black backing squares may need cutting down. You don't want a corner of the carrier bent up against strapping, it is very difficult to get it to lay flat.

Wetting the Decal

Do NOT drop the decal into a cup of water. If you do there is a danger you will leave it too long, it will float off the backing and most of the glue will get washed off.

Instead hold the decal in tweezers and dip it in water for about 3 seconds, shake any drips off, then place it on the lid of a plastic box such as the ones most wagons come in. Alternatively put the dry decal on the lid, dip a paint brush in water and apply water to the edges of the decal, repeating after a few seconds so there is a little water round the edge of the decal. After about a minute it should have soaked up enough that the decal is loose and will slide around – prod it gently with a small stick to see if it moves, if not wait a bit longer, add more water if needed. The time taken to soak varies between different sheets.

If you get interrupted the decals simply dry out and can be reused.

It is best to use soft or distilled water; if you use hard water it can leave a chalky deposit when it dries. The water from a condensing tumble drier is good. It may help if it is warm, but it seems to make little difference.

Applying the Decal

Have a photo to hand so you know exactly where to put the decals.

Pick up the decal and backing paper with a pair of tweezers and place it on the model, next to where it is to go and the right round (again magnification can be useful).

With a small wooden stick – a cocktail stick or toothpick – push it off the backing paper into place. You may need to hold the backing paper with another stick or the tweezers while doing this. Throw the backing paper away, then push the decal around with the stick until it

is in the correct position. If it won't slide, apply a little more water with a damp paintbrush; you can also use the brush to move it around. When correctly positioned mop up any excess water and press the decal down by rolling the end of a cotton bud over it. Then go on to the next decal on that side.

Let the first side dry for a while before doing the other to minimise the chance of moving a decal already applied to the other side.

Varnishing

It is essential to varnish after applying decals for two reasons. The first is to seal the decal so it does not lift off the wagon in future. More important though is that you want a uniform matt or satin finish over the whole side else the decal will stand out against the rest of the wagon.

The simplest way is a can of spray varnish. Having tried several matt varnishes I always use Testor's Dullcote for goods wagons – many model suppliers sell it, and in most people's opinion it produces the best matt finish. You may well need more than one coat to get a uniform appearance, a couple of thin coats is better than one thick one in any case.

For decals on a coach or loco you may want a less matt varnish, possibly satin. For a change of loco number you may prefer just to varnish the cab side and leave the factory finish on the rest, either by brushing a matt or satin varnish on or by masking the rest out and spraying. If it does not quite match, loco numbers were often rubbed with an oily rag so they were easily readable and showed up as cleaner and more glossy than the rest of the loco.

TIPS

Changing Numbers on RTR Models. Don't try to change just one digit of a printed number – it will not match properly and will look odd. Replace the whole number.

The aim is to remove the painted on number without removing the body colour paint underneath. Start with a craft knife or scalpel held at right angles to the body, and very gently scrape the numbers off. Take your time with many light passes. When nearly all the paint is off, just leaving a few small dots of paint, finish off by rubbing with an ink eraser sharpened to a point; moistening it can help. Don't worry if where you have removed it looks more glossy than the rest, you will have to varnish over it afterwards.

There is a good article on various other ways of removing numbers here:
<http://www.replicarailways.co.uk/transfers/transfer-application/>

Creating Specific Numbers. If you are renumbering a loco from a sheet of full made-up numbers it may not have the one you need. Rather than cutting out individual digits, try to find two numbers that between them have the digits you need in the correct order, then cut out these as two decals – it is easier to get two decals aligned correctly, particularly if each has 2 or more digits. For example, if you need 42573, you may find your sheet has 42541 and 45732. You can cut out 425 from the first and 73 from the second. Cut as close to the digits as you can. If you have to use 3 or more decals, start from the centre when applying.

Lining. Long lengths of lining are difficult to apply – they tend to get kinked or knotted. It is however surprisingly easy to position two lengths of lining so they join up perfectly. So I always cut the lining into sections not more than 1" long. This has an advantage when the

lining needs to fit a particular length, you can make them slightly longer and overlap them to get the correct length. It is difficult to get coach lining to go over handles, it is often easier to cut it either side.

Decal Setting Agents. There are a number of different liquids to get decals to sit flat and mould themselves over irregularities. Probably the best known are from Microscale: Micro Set and Micro Sol. Micro Set is a wetting agent to help the decal adhere, put on before the decal. It is also a mild softening agent so the decal bends to fit over irregularities better. Micro Sol is a more powerful softening agent, applied after putting the decal on with Micro Set.

Usually decals mould themselves to the surface without needing special liquids. The liquids are most useful for decals with a thick carrier on awkward surfaces, many modern decals have very thin carrier film. For many using a liquid makes little difference, certainly for Railtec decals I get good results pushing the decal down with a cotton bud and the liquids seem to make no improvement. This is possibly because they act on the carrier but not the ink, and Railtec decals have little carrier, none at all if on a coloured background (e.g. ones on black patches). I sometimes find Micro Set helpful, I have very rarely needed Micro Sol. Starting with a gloss surface is more important.

Suppliers

Searching the net for “model railway decals” will find many suppliers. If you model post 1948 there is a good selection available, grouping era there is less choice, and pre-grouping is very patchy.

Below are some companies producing decals for British N gauge:

N Gauge Society. Decals to match the NGS wagon kits

Fox Transfers. Very wide range of decals, their lining is particularly good.

Railtec. Wide coverage but specially strong for more recent eras.

Modelmaster. Extensive range of decals, many for 50s/60s, some group era. Unfortunately now winding down his business and not selling 2mm decals.

Cambridge Custom Transfers. Large range almost entirely 50s/60s with a few GWR sheets. Well researched. They are produced on an ALPS printer so a coat of acrylic varnish to protect the ink is recommended before starting to use them.

Precision Labels. Good range, focussed mainly on post-steam eras.

Noel Leaver, 2019