

Sturmgeschütze vor!

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Introduction

Painting German vehicles can seem like a daunting task. Sometimes it is easier to settle for simple base coats of panzer grey, dark yellow or African brown. What follows is a simplified list describing the various camouflage patterns the Germans used what theater they were used in and when they were used. These patterns were applied mainly to armored fighting vehicles. Soft-skinned vehicles could be camouflaged, but more often than not they received a base color without secondary or tertiary colors.

In general, the factory applied the base color with units painting on any additional colors as necessary. Base colors were available and older vehicles would be repainted by a unit's

maintenance section when a major change was required.

Paint was provided to units in the form of a paste to be applied with a spray gun or brushes. The paste was mixed or thinned with kerosene, gasoline, oil, water, etc. This alone would account for a number of color variations. Add in age, exposure to the elements, dust and damage and you will have a bewildering number of shades that are possible. In other words, don't let anyone give you too much grief because your Dunkelgelb is a few shades off!

European Theater

Early War Years

Two Color Disruptive: 1935 – Introduced in 1935, the two color disruptive pattern consisted of dark grey and dark brown (Dunkelgrau RAL 7021 & Dunkelbraun RAL 7017) applied in a two-thirds/one-third pattern

Color	Tamiya	Gunze	Vallejo
RAL 7021 Dunkelgrau	XF63	TC-1	995
RAL 7017 Dunkelbraun	5:1 XF10/ XF1	-	822

Grey: July 1940 – Units were issued stocks of dark grey (Dunkelgrau) and instructed to paint their vehicles in this single color. This is the ubiquitous "panzer grey" camouflage.

Color	Tamiya	Gunze	Vallejo
RAL 7021 Dunkelgrau	XF63	TC-1	995



Pz III Early War - Dunkelgrau

Mid War Years

Dark Yellow: October 1942 – Dunkelgelb (RAL 7028) was a dark yellow color originally developed as paint for agricultural vehicles and equipment. After October of 1942 it became a standard military color. This color continued in use through out the war as a vehicle base coat and disruptive color pattern over olive green and red-brown primers.

Color	Tamiya	Gunze	Vallejo
RAL 7028 Dunkelgelb	XF60	H403	882

Three Color Disruptive: February 1943 – Vehicles were painted with a base coat of dark yellow (Dunkelgelb). Over this, stripes of olive-green (Olivgrün RAL 6003) and red-brown (Rotbraun RAL 8017) were applied by the maintenance sections and could be varried according to the terrain.

Color	Tamiya	Gunze	Vallejo
RAL 7028 Dunkelgelb	XF60	H403	882
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826



Replica StuG III in three color disruptive camouflage



Pz VI B in three color disruptive camouflage

Late War Years

Ambush Camouflage (Hinterhalt-Tarnung): August 1944 – In order to achieve a more standardized pattern, camouflage paint began to be applied at the factory. "Ambush Camouflage", consisted of a base of dark yellow (Dunkelgelb) with olive-green and red-brown (Olivgrün & Rotbraun) patches. On top of this pattern were added small contrasting dots of all three paints.

Color	Tamiya	Gunze	Vallejo
RAL 7028 Dunkelgelb	XF60	H403	882
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826



Restored Hetzer in Ambush Camo (Virginia Museum of Military Vehicles)



Restored Hetzer in Ambush Camo (Virginia Museum of Military Vehicles)

September 1944 – Tanks were left in the red primer (Oxidrot RAL 3009) with no base coat and only limited camouflage of olive-green and/or red-brown (Olivgrün & Rotbraun) applied at the factory. By the end of October 1944, this was expanded to include dark yellow, olive green and red brown (Dunkelgelb, Olivgrün and Rotbraun) applied in limited amounts over the red primer. Dark grey (Dunkelgrau) could be used instead of dark yellow (Dunkelgelb) if yellow was unavailable (there is no evidence that dark grey was ever used in this manner).

Color	Tamiya	Gunze	Vallejo
RAL 3009 Oxidrot	-	H13	982
RAL 7028 Dunkelgelb	XF55	H403	882
RAL 7021 Dunkelgrau	XF63	TC-1	995
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826

December 1944 – Vehicles were to be painted with a base coat of olive green (Olivgrün) with a hard-edged pattern of red brown (Rotbraun) and dark yellow (Dunkelgelb).

Color	Tamiya	Gunze	Vallejo
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826
RAL 7028 Dunkelgelb	XF55	H403	882

Africa

Vehicles in Africa often showed the effects of layering and the abrasive effect of sand. Many pictures show older colors showing through in areas of high wear and contact with sand. In addition to this, shortages of paint and time often resulted in incomplete or poorly applied camouflage/paint schemes.

February 1941: - Initially vehicles sent to Africa, arrived painted dark grey (Dunkelgrau). Units immediately sought out ways to cover or break up this color. Mud, local stores of paint or paint borrowed from the Italians/ Luftwaffe are among some of the solutions crewmen found to camouflage their vehicles.

Color	Tamiya	Gunze	Vallejo
RAL 7021 Dunkelgrau	XF63	TC-1	995
Mud, etc	Any tan or brown paint		



Pz IV DAK

March 1941: - Vehicles in Africa were to be painted yellow-brown (Gelbbraun RAL 8000) and grey-green (Graugrün RAL 7008) using two-thirds to one-third ratio.

Color	Tamiya	Gunze	Vallejo
RAL 8000 Gelbbraun (Grünbraun)	-	TC-2	879
RAL 7008 Graugrün	-	H81 / TC-4	866



Pz III - Afrika - Gelbbraun

March 1942: - Yellow-brown and sand paint (Gelbbraun RAL 8020 & Sandgrau RAL 7027) were made available to be used once current stocks of Gelbbraun and Graugrün ran out. The colors were to be applied using two-thirds to one-third ratio (yellow-brown to sand) with feathered edges.

Color	Tamiya	Gunze	Vallejo
RAL 8020 Gelbbraun	XF57	H79	847
RAL 7027 Sandgrau	XF72	-	819

Green Tigers in Tunisia: - "Panzer Colors" notes Allied reports that some Tigers and Panzer III's in Tunisia were an overall medium olive green. Sometimes this color is incorrectly identified as RAL 7008 (Battlefront recommends Vallejo 924 - Russian Uniform if you wish to model this).

Other explanations suggest the possible use of captured British and "borrowed" Italian paint, either on their own or in mixes, but I've yet to see a primary source confirming this. Italian colors would be an obvious option, and British paint could have been "acquired" in Tobruk and elsewhere. The museum in Bovington, UK has an original Tiger captured in Tunisia and the re-created colors can be seen below:



Until I see something to the contrary, I believe the green Tigers are a myth.

Russia

1941- 1942: - Tanks and vehicles participating in the initial wave of the invasion of Russia were painted dark grey (Dunkelgrau).

Color	Tamiya	Gunze	Vallejo
RAL 7021 Dunkelgrau	XF63	TC-1	995

Late 1942 - Dark yellow (Dunkelgelb) base coated vehicles began to appear in Russia.

Color	Tamiya	Gunze	Vallejo
RAL 7028 Dunkelgelb	XF60	H403	882

Early 1943: - A two color camouflage with two-thirds panzer grey with stripes of one-third olive green or one-third red-brown.

Color	Tamiya	Gunze	Vallejo
RAL 7021 Dunkelgrau	XF63	TC-1	995
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826

Late 1943-1944: - A three color disruptive similar to the one used in the European Theater. Vehicles were to be painted with a base coat of dark yellow (Dunkelgelb) at the factory. Over this, stripes of olive-green (Olivgrün) and red-brown (Rotbraun) were to be applied by the maintenance sections. Both the olive-green and red-brown were delivered as a paste which was to be thinned and applied with a spray gun or brushes.

Color	Tamiya	Gunze	Vallejo
RAL 7028 Dunkelgelb	TS-3, XF60	H403	882
RAL 6003 Olivgrün	XF58	H303 / TC-5	979
RAL 8017 Rotbraun (Schokoladenbraun)	XF64	TC-6	826

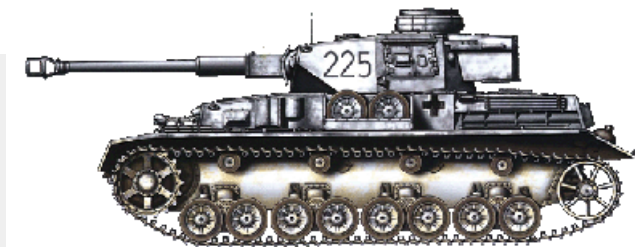


Late Pattern Camouflage of Dunkelgelb & Olivgrün

1944+: - By late 1944, the Germans had been pushed back into Eastern Europe and the camouflage schemes for the last year of the war followed the patterns used in the European Theater.

Winter Camouflage

Most countries used white wash to provide camouflage in a snow environment (on any front). When available, the Germans used a white paint that was water based and would wash off the equipment when the first rain started to wash away the snow. Tactical numbers, unit emblems, etc. were masked off and left in "boxes" of contrasting color. If supplies of white wash were not sufficient, chalk, bed sheets or snow piled on the vehicle were some of the improvised methods used.



Pz IV - Dunkelgrau with Whitewash Overcoat

Interior Colors

Interiors: - The most widely used interior color was Elfenbein (RAL 1001). This was by far the most suitable being a light buff or cream color. Some darker colors were used including Graugrün, which is a dark interior color. Internally some equipment installed in the tank was left in the black color they received at the factory. In late 1944, painting the interior was suspended and it was left in the primer color.

Hatches: - In theory, the inside of hatches and any of the interior that would be visible from the outside was usually painted in the exterior color. Photographs show that this was not always the case. In particular, a number of pictures taken in Africa show the interior hatch covers painted in Elfenbein. This may be due to the lighter exterior colors used in Africa which provided less of a contrast with the Elfenbein.

Color	Tamiya	Gunze	Vallejo
RAL 1001 Elfenbein	XF55	-	976
RAL 7008 Graugrün	-	H81 / TC-4	880
Misc.	Painted to match exterior colors		



Interior of a Panther A (turret removed, looking forward)



Hetzer Interior (looking forward)

Paint Finish

A majority of the paint was intended to be matte or flat finish. Application methods could cause the paint to take on a satin or semi-gloss sheen.

Dunkelgelb

You may note that I have only included one version of Dunkelgelb (dark yellow). That name was applied to two separate colors during the war. Historians have trouble agreeing on what they looked like, so I have chosen to treat them as a single color. In a similar note, this is not intended as a scholarly article, but as a guide for miniature painters so I have dispensed with the various name and designation changes some colors went through.



Gelbbraun vs. Dunkelgelb

Sources

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3. RAL COLOUR CONVERSION TABLE. <http://miniatures.de/html/ita/colour-ral-farben.html>. Retrieved 08/28/2006
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