



# How to figure out the FEI Color Scale

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December 2015

# Coat Colors in Dressage

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- DR 120.3 At all test levels, riders may wear jackets in other colors within the international HSV color scale, as described in FEI Dressage Regulations, Art. 427.1. Contrast coloring and piping is allowed. Protective headgear, stocks, ties, gloves and riding boots may be the same color as the coat. For Grand Prix Freestyle only: any single color tailcoat will be allowed; striped or multi-colored coats are not permitted, and tasteful and discreet accents, such as a collar of a different hue or modest piping or crystal decorations, are acceptable.

# Art 427 cont'



## □ Scale

- Every colour which has a Value for 'V' smaller than 32%, according to the HSV colour model, will be allowed. Saturation and hue can be anything, as long as the value will not be greater than 32%.
- For Grand Prix Freestyle only, any single colour tailcoat will be allowed. Striped or multicoloured coats are not permitted. Tasteful and discreet accents, such as a collar of a different hue or modest piping or crystal decorations, are acceptable.

## □ HSV model

- The proposal is based on the world-wide used HSV (Hue, Saturation, Value) colour model. A color model is an abstract mathematical model describing the way colors can be represented as tuples of numbers. In the HSV color model, every color is specified by its Hue (angular position on the circle), Saturation (distance from the circle's center) and Value (height along the central axis).
- Hue is the color type, such as red, yellow or blue. Ranges from 0-360. Saturation is the 'vibrancy' of the color. The lower the saturation of a color, the more "grayness" is present and the more faded the color will appear. Ranges 0-100% Value is the brightness of the color. The lower the value of the color, the more dark the color will be. Ranges 0-100%.

# Hue-Saturation-Value explained

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- ❑ Color is described with three components:
- ❑ Hue – what color it is, such as red, blue, yellow, etc. Choose a number from 0 to 360 and it will describe a spoke on the color wheel.
- ❑ Saturation – how vibrant the color is. 0% Saturation = grey, and 100% Saturation is Oh-Dear-Me-That's-So-Bright-It-Hurts-My-Eyes.
- ❑ Value – how light or dark the color is. 0% Value = black and 100% Value + white.
- ❑ These three things are combined in what's called the HSV color chart.
- ❑ The FEI and the USEF allow jackets that are a color Value of 0% to 32%.... of any Hue or Saturation, as long as the Value falls within that range. Basically, any dark color.

(Credit to: <https://terrillmiller.wordpress.com/2010/04/09/new-dressage-jacket-colors/>)

# There is this scale...

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- ❑ <http://www.tydac.ch/color/>
- ❑ Look for 32% in the V box and then click within the box for different colors.
- ❑ You can pick the color in the right hand X column with the two arrows.
- ❑ Whenever you pull up a color utilizing different devices, keep in mind that each monitor or electronic device may have some slight variation in how they display a color. Utilize the scales with that in mind.

# There is also this...

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- For easy reference, [Yafla makes a color picker](#). Just click on it and enter 32 in the Value box, then slide the Hue and Saturation sliders around to your heart's content.
- <http://www.yafla.com/yaflaColor/ColorRGBHSL.aspx>

Credit to: <https://terrimiller.wordpress.com/2010/04/09/new-dressage-jacket-colors/>

# Legal Coat Colors

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- ❑ When using either of the two color apps, put 32% in either the V(value) or Light value box.
- ❑ Staying with 32(value/lightness), move Hue or Saturation up or down.
- ❑ Coats that are 32 or less in color are allowed.
- ❑ Coats that are 33 or above are too light and are not allowed.

# Depicted colors disclaimer

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- ❑ In the following color swatches that are utilized to demonstrate colors, please keep in mind that these colors are based off of my computer monitor's display.
- ❑ They are intended to demonstrate a range and be close within electronic device allowances.
- ❑ When a color is approximate to the demonstrated colors, the benefit of the doubt should be utilized.

# How to determine what colors are acceptable



1. Put 32 in the Value/Lightness %.
2. If you put the Saturation scale at 100% it will give you the lightest color of the hue that you choose.
3. Move the Hue scale left or right to get a series of colors. Those colors will all be the highest or lightest color of that color range that are legal.

## yaflaColor - Simple Web Color Utility And RGB/HSL Conversion

Red/Green/Blue  (hex string - e.g. F2F0DD)

Hue  degrees



Saturation  %



Lightness  %





Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %

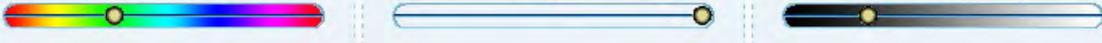


Hue  degrees      Saturation  %      Lightness  %



In these three swatches, the Hue remains the same, the Value/Lightness remains the same and the Saturation drops. The color gets progressively darker. As all of these are Lightness 32%, they are legal.

Hue 120 degrees      Saturation 100 %      Lightness 25 %



Hue 120 degrees      Saturation 100 %      Lightness 15 %



Hue 120 degrees      Saturation 100 %      Lightness 5 %



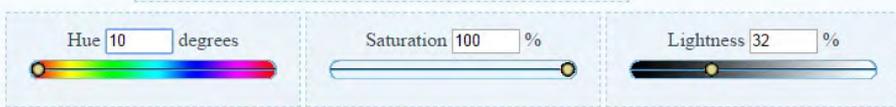
With these three color swatches, the Value/Lightness scale drops while the other two scales, Hue and Saturation, remain the same. As they are all below 32%, they are all legal colors.

# The following are samples

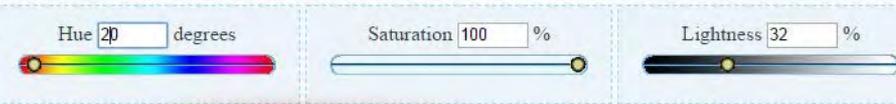
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- ❑ In the following color swatches, the Value/lightness has been established at 32.
- ❑ The saturation was put at 100% which makes it the lightest it can be in that particular Hue.
- ❑ The Hue is being moved in gradual 10-20 degree increments.
- ❑ For each of the colors, anything in this Hue that is this shade or darker would be legal.



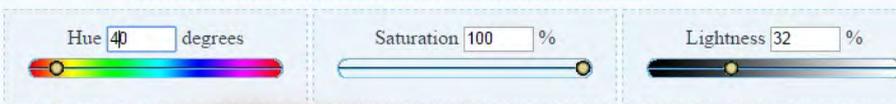
If you look at the Value/Lightness, it is set at 32.



If you look at the Saturation, this is as light as this color can be.



If you look at Hue, this is a gradation of acceptable colors in Hue working from 10 degrees to 40 degrees.



In other words, if the coat is this shade/color, it can be this shade or darker than this but not lighter.



Hue  degrees      Saturation  %      Lightness  %

If the coat is this Hue, it can be this color/shade or darker than this but not lighter.



Hue  degrees      Saturation  %      Lightness  %



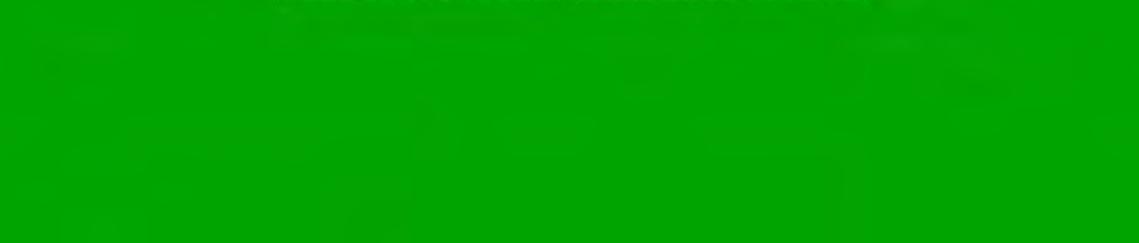
Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



If the coat is this Hue, it can be this color/shade or darker than this but not lighter.



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



If the coat is this Hue, it can be this color/shade or darker than this but not lighter.



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



If the coat is this Hue, it can be this color/shade or darker than this but not lighter.



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



Hue  degrees      Saturation  %      Lightness  %



If the coat is this Hue, it can be this color/shade or darker than this but not lighter.

# All legal coat colors

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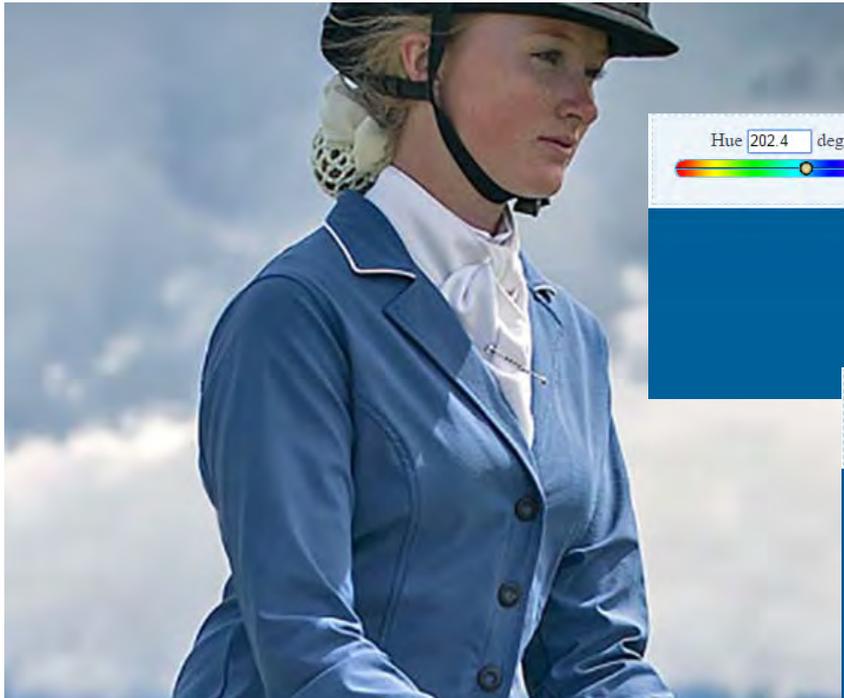


# Legal Color



Hue  degrees      Saturation  %      Lightness  %

A set of three sliders for color adjustment. The first is a rainbow color wheel with a gold dot on the blue side. The second is a saturation slider with a gold dot in the middle. The third is a lightness slider with a gold dot near the left end.



Hue 202.4 degrees      Saturation 100 %      Lightness 30 %

Hue 205.9 degrees      Saturation 100 %      Lightness 30 %

Hue 206.3 degrees      Saturation 87 %      Lightness 32 %

It looks to be a legal color

# Legal color as it is below 32%





# Legal color

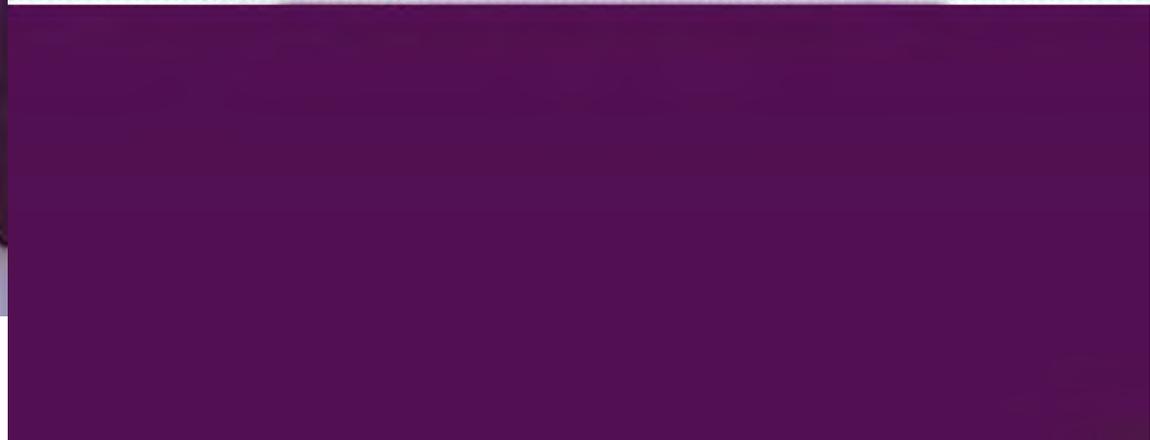
Hue 301.5 degrees



Saturation 65.4 %



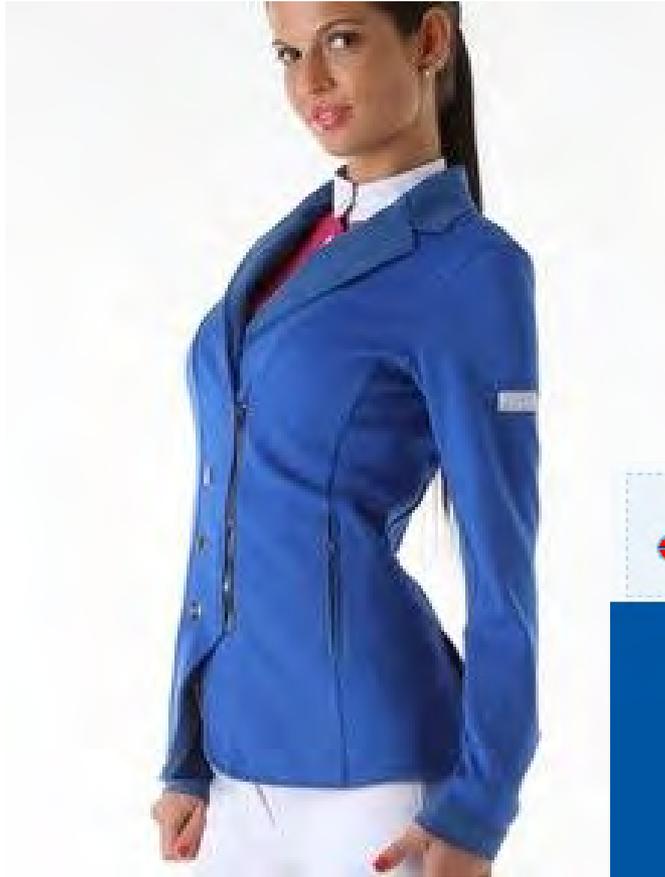
Lightness 19.5 %





# Legal color

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Hue  degrees      Saturation  %      Lightness  %

The interface includes three sliders: a color wheel for hue, a horizontal slider for saturation, and a grayscale slider for lightness. The hue slider is positioned at 208.2 degrees, the saturation slider is at 100%, and the lightness slider is at 32%.





Color is too light  
Not Legal

Hue  degrees      Saturation  %      Lightness  %





Color is too light  
Not Legal

Hue <input type="text" value="208.2"/> degrees	Saturation <input type="text" value="100"/> %	Lightness <input type="text" value="40"/> %





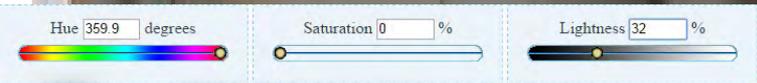
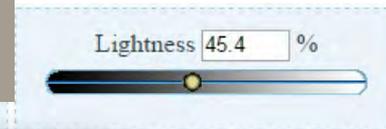
# Is this coat color legal?



If you look at the Value/Lightness scale, it is 84.9%. Legal would be under 32%.

This coat is not legal. The gray to the left is as it's Value/lightness is 32%.

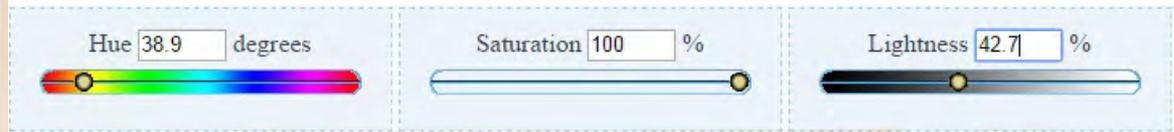
# How brown does it have to be to be legal?



Minimum shade of brown

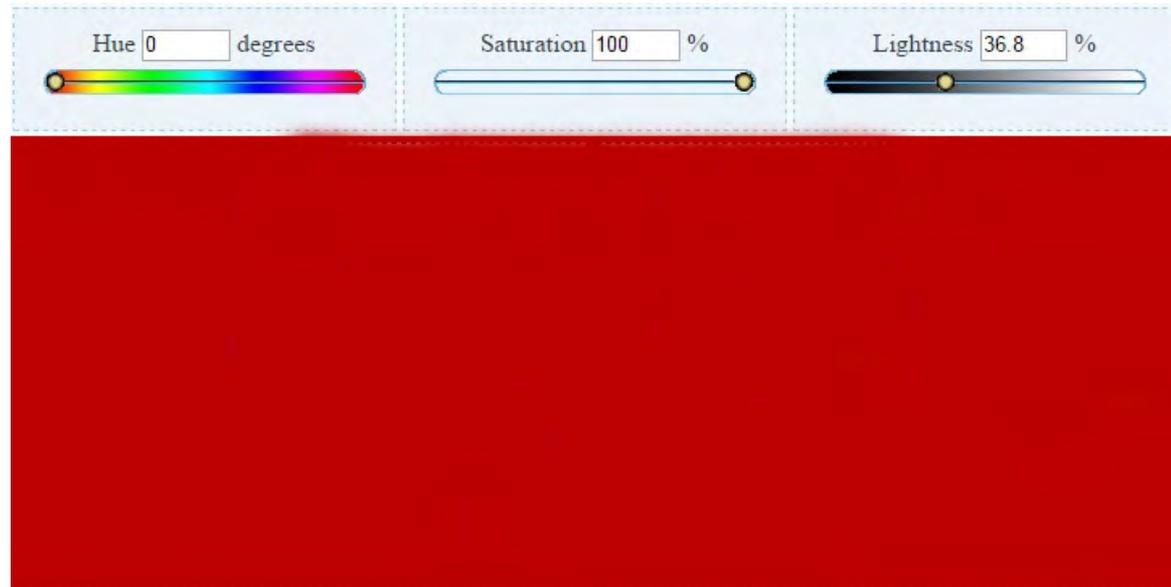
# Too gold...

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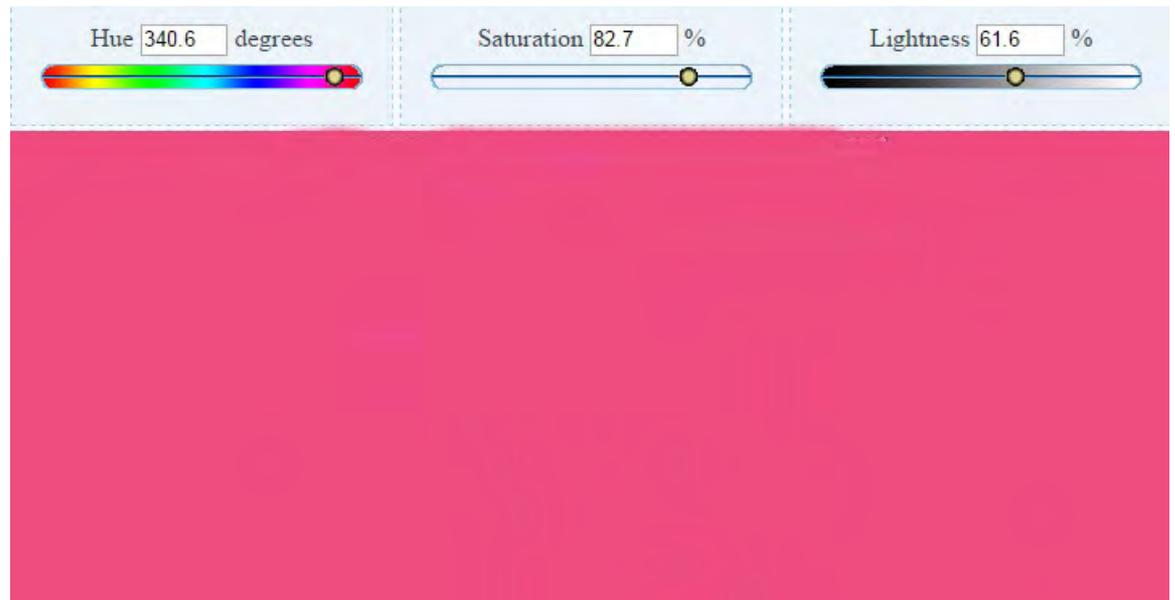
Too red...

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# Too pink...

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# Too light...



Hue  degrees      Saturation  %      Lightness  %

Three sliders for color adjustment. The first is a rainbow spectrum with a yellow dot. The second is a blue-to-white gradient with a yellow dot. The third is a black-to-white gradient with a yellow dot. Below the sliders is a large solid blue rectangular area.

## Grand Prix Freestyle only...



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. . . . tasteful and discreet accents, such as a collar of a different hue or modest piping...

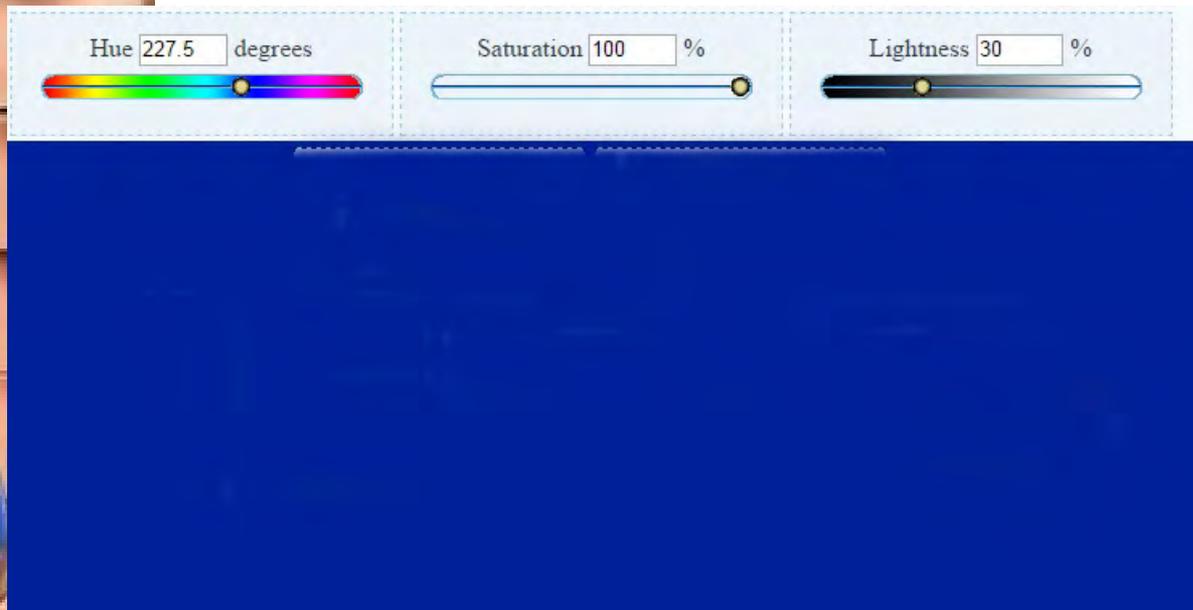
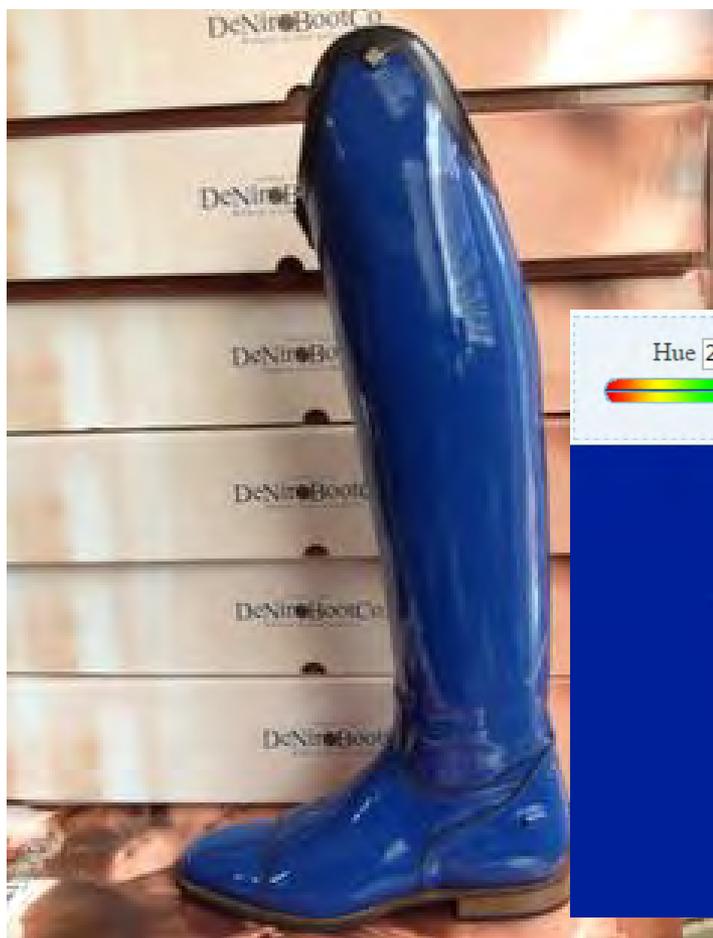


A rider could have a coat of this color with boots that match.

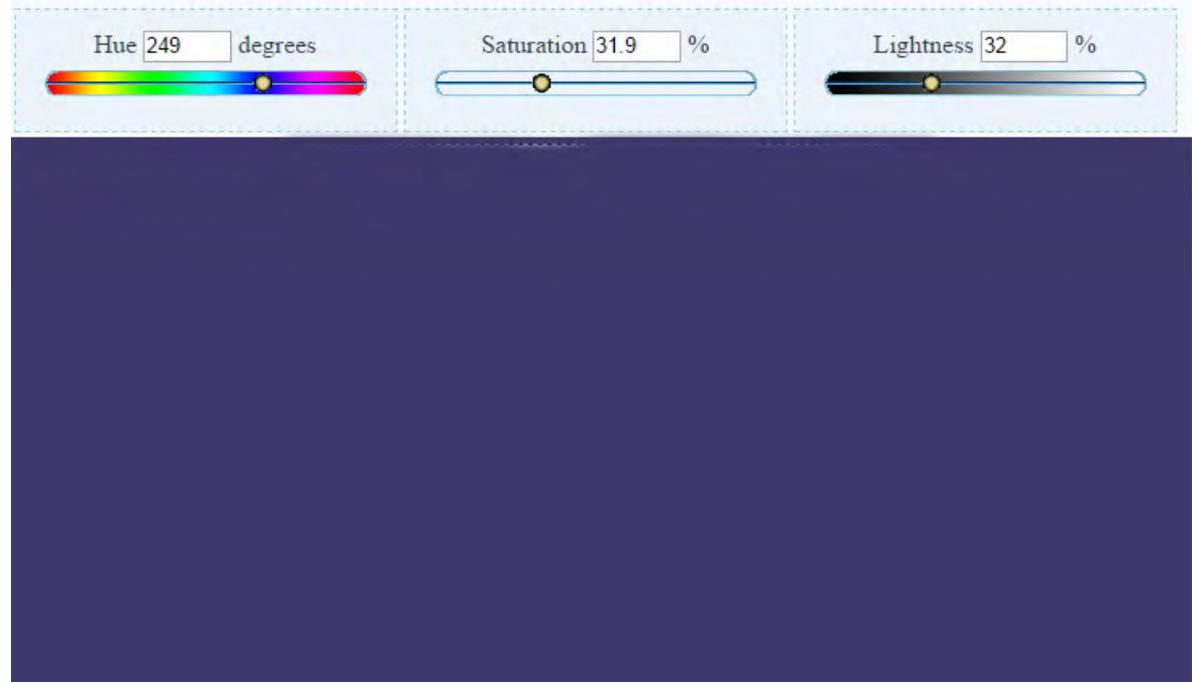
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Protective headgear, stocks, ties, gloves and riding boots may be the same color as the coat.



# Purple is legal



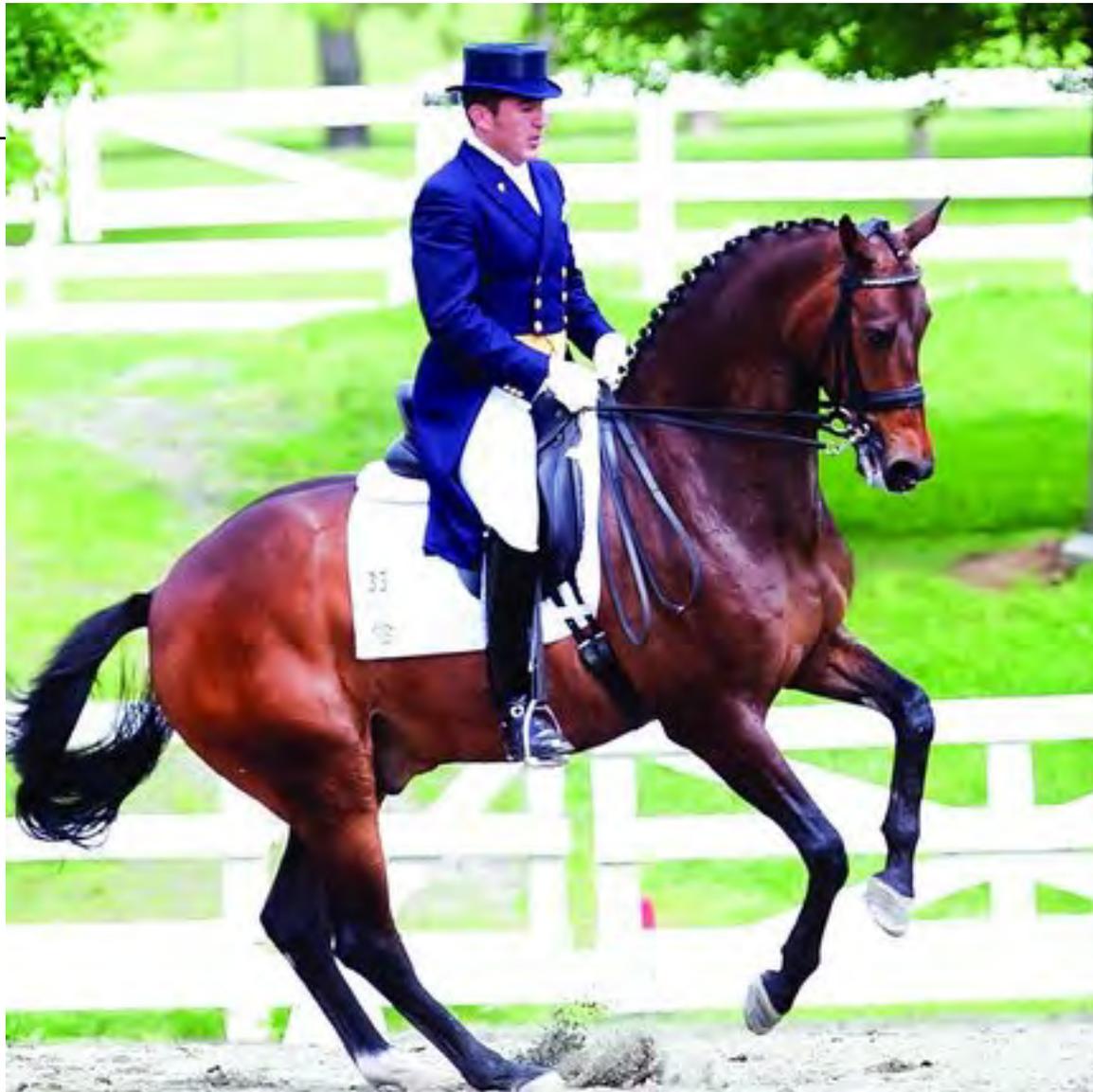
Coats could match any of these..





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Legal



Legal

# Legal



# For Grand Prix Freestyle only

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For Grand Prix Freestyle only, any single color tailcoat will be allowed.

- Striped or multicolored coats are not permitted.
- Tasteful and discreet accents, such as a collar of a different hue or modest piping or crystal decorations, are acceptable.

We hope that this has been helpful...

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- This has been intended to give you a starting point to understand how the international HSV color scale is utilized.
- Hopefully, it will provide you as a TD with guidelines.