October 20, 2022

RADAR Color Formulas – Frequently Asked Questions

Question	Answer
What does ADAS stand for?	ADAS stands for Advanced Driver Assistance Systems.
What kinds of ADAS are there?	ADAS includes RADAR, ultrasound, cameras, and LiDAR.
What kinds of driver assistance do these advanced systems provide?	ADAS provides adaptive/traffic-aware cruise control, parking assistance, lane departure warning/correction, traffic signal recognition, rear collision warning, cross-traffic warning, emergency braking, and collision avoidance.
What percentage of vehicles are equipped with ADAS?	As of 2020, about 65% of new cars and light trucks have at least one type of ADAS. By 2025 that number is forecast to rise to 85%.
Why is it important?	ADAS equipment is usually located behind the painted surfaces of cars and light trucks so there may be an interaction between the equipment, the panels (metal or plastic) and the coatings.
Is there an interaction between RADAR signals and coatings?	Yes, there can be a loss in the transmission of RADAR signals through painted panels.
What is the effect of this RADAR transmission loss?	If the loss of RADAR transmission through plastic bumper exceeds a certain threshold, then the functioning of the RADAR may be diminished, and it may not function as designed.
What is the threshold for RADAR transmission?	The threshold for RADAR transmission is set by the vehicle manufacturer.
Where is RADAR equipment located?	RADAR equipment is usually located behind the bumper on cars and light trucks.
Does RADAR transmission loss through painted bumpers affect all colors?	No, RADAR transmission loss through painted bumpers is mostly associated with metallic paints.
Why do metallic paints affect the transmission of RADAR signals?	The aluminium flake pigments used to create metallic paint effects interfere with the transmission of the RADAR signals.
How many cars and light trucks are affected?	According to PPG's 2022 global automotive color trend information, approximately 25% of all new cars and light trucks are painted in metallic colors.
How can one tell if the vehicle is equipped with RADAR?	Please refer to the motor manufacturer's equipment guide.
Will my collision repair estimating system tell me if the vehicle I am working on is equipped with RADAR?	Your collision repair estimating system may provide information about the presence of RADAR equipment on the vehicle under repair.
What is PPG doing to help make sure that metallic cars and light trucks can be repaired in a way that maintains the performance of the RADAR?	For metallic colors where the RADAR transmission is below the threshold set by the manufacturer, PPG is providing a special "RADAR capable" color match.
How can I tell if a RADAR capable color match is available for the vehicle I am working on?	When searching for a color using the PAINTMANAGER® XI software, if a RADAR capable match is available, it will be displayed on the results screen.
Will a RADAR capable color match be displayed however I search for colors?	Yes, if a RADAR capable color match is available, it will be displayed whether OEM code search, color chip or RAPIDMATCH® XI search is employed.

How will the RADAR capable color differ from a normal/regular color?	The RADAR capable color has been reformulated to improve the RADAR transmission. This is usually done by replacing some or all of the aluminium tinters/toners with existing, alternative tinters/toners.
Will the RADAR capable color be available in all PPG color lines?	RADAR compliant color matches are available in PPG's premium waterborne color lines – ENVIROBASE® High Performance basecoat, AQUABASE® Plus basecoat and AQUAMAX® Extra basecoat.
How will the RADAR capable color compare with the standard match?	The standard color match prioritizes color alignment, while the RADAR capable match also takes RADAR transmission into account. There may be some differences in color between standard match and the RADAR capable match. It is recommended that a test panel is sprayed first to check the color.
When should the RADAR capable match be used?	It is important to use the RADAR compliant match when painting a bumper which has RADAR equipment located behind the bumper.
If the repair includes a bumper and additional panels, such as the wing/fender and/or bonnet/hood, which color should I choose?	The RADAR compliant color can be used on bumpers and other parts and mixing one color is the most efficient way of repairing the vehicle.
If the vehicle being repaired is equipped with RADAR but the damaged area does not include the bumper (behind which the RADAR is located) should the RADAR capable color be used?	If the repair (including any blend or fade-out area) does not include that part of the vehicle where RADAR equipment is located, it is not necessary to use the RADAR capable color.
Are there any special instructions for painting vehicles and parts equipped with RADAR?	Always make sure to follow the manufacturer's guidelines for repairing vehicles equipped with RADAR.
How can one tell if the repair has been successful, and the RADAR is operating as designed?	It is important to following the manufacturer's guidelines for testing the operation of RADAR and/or any other ADAS.