



Update of QUALICOAT Specifications 2023

Update Sheet No. 14

applicable from 01.01.2024

Subject: Class 3 Metallic extension, suspended colours and critical colours

Sub-WG Powders Class 3 / 17.08.2023

- Proposals/Requests:**
- To further elaborate the requirement for metallic extension of class 3 approvals in section 4.1.4.2
 - To include the maximum number of suspended colours allowed by a class 3 approval in section 4.2.6
 - To move RAL 5005, RAL 6013 and RAL 6025 to the list of critical colours in Appendix A11.

QUALICOAT Resolution: Resolution No. 2/TC.11.23

- Amendment to the Specifications:**
- Section 4.1.4.2 Metallic extension
 - Section 4.2.6 Suspended colours
 - Appendix A11 –Critical colours and classification of RAL families for class 3
 - Appendix A12 – Colour tolerances after the weathering test for Class 3 organic coatings

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4.1.4.2 Metallic extension

For classes 1, 1.5 and 2 **all classes:** if a manufacturer wishes to have an approval extended for metallic colours, tests shall be carried out on RAL 9006.

For class 3; if a manufacturer wishes to have an approval extended for metallic colours, tests shall be carried out on RAL 9006. If satisfactory, the extension shall be granted to all lightness categories related to the same gloss category.

4.2.6 Suspended colours

A colour shall have the status “suspended” in case of:

[...]

	Number of suspended colours allowed by P-No.	Maximum duration of suspension
Class 1	Maximum 2	Two years
Class 1.5	Maximum 3	Three years
Class 2	Maximum 4	Four years
Class 3	Maximum 8	Ten Years

If these limits are exceeded, the colours concerned shall be banned.

[...]

A11 – RAL families and critical colours

[...]

3. Critical colours and classification of RAL families for class 3

16 groups of homogeneous colours (solid colours of a similar hue and shade) have been defined as RAL families for the renewal of class 3 approvals.

4 RAL families match lightness category LIGHT (CIELAB L* > 70), 5 match lightness category MEDIUM (CIELAB L* between 40 and 70), and 6 match lightness category DARK (CIELAB L* < 40).

QUALICOAT has excluded 86 critical RAL colours, which, as powder coating technology stands today, do not have sufficient resistance to colour change after 10 years of outdoor exposure.

86 89 CRITICAL RAL COLOURS (colours excluded from the RAL families)						
RAL 1004	RAL 1003	RAL 2000	RAL 3000	RAL 4001	RAL 5001	RAL 6001
RAL 1005	RAL 1012	RAL 2001	RAL 3001	RAL 4002	RAL 5002	RAL 6002
RAL 1006	RAL 1016	RAL 2002	RAL 3002	RAL 4003	RAL 5003	RAL 6003
RAL 1007	RAL 1018	RAL 2003	RAL 3003	RAL 4004	RAL 5005	RAL 6006
RAL 1017	RAL 1021	RAL 2004	RAL 3004	RAL 4005	RAL 5009	RAL 6007
RAL 1032	RAL 1023	RAL 2008	RAL 3013	RAL 4006	RAL 5010	RAL 6008
RAL 1034	RAL 1027	RAL 2009	RAL 3014	RAL 4007	RAL 5011	RAL 6011
RAL 1037	RAL 1028	RAL 2010	RAL 3015	RAL 4008	RAL 5012	RAL 6012
	RAL 1033	RAL 2011	RAL 3016	RAL 4009	RAL 5013	RAL 6013
		RAL 2012	RAL 3017	RAL 4010	RAL 5019	RAL 6014
			RAL 3018		RAL 5020	RAL 6015
			RAL 3020		RAL 5022	RAL 6016
			RAL 3022			RAL 6018
			RAL 3027			RAL 6019
			RAL 3028			RAL 6020
			RAL 3031			RAL 6022
						RAL 6024
						RAL 6025
						RAL 6026
						RAL 6027
						RAL 6029
						RAL 6032
						RAL 6034
						RAL 6037

SUMMARY	
Number of solid RAL colours (excluding metallic and pearl RAL colours)	190
Solid RAL colours (non-critical)	104 101
Critical solid RAL colours	86 89
Number of RAL families	16
Lightness category LIGHT (L>70)	4 RAL families - 21 RAL colours
Lightness category MEDIUM (<70 > 40)	6 RAL families - 55 52 RAL colours
Lightness category DARK (L<40)	6 RAL families - 28 RAL colours

104 101 SOLID RAL COLOURS (non-critical)¹
16 RAL FAMILIES

RAL 1XXX	FAMILY 1/LIGHT	FAMILY 1/MEDIUM
DESCRIPTION	IVORY AND BEIGE	OCHRE / YELLOW MEDIUM
RAL	1000 - 1001 - 1002 - 1013 -1014 – <u>1015</u>	<u>1011</u> - 1019 - 1020 -1024
Total 10 colours	6	4

RAL 3XXX	FAMILY 3/MEDIUM	FAMILY 3/DARK
DESCRIPTION	LIGHT RED AND PINK	DARK RED
RAL	3012*	3005* - 3007* - 3009* - 3011*
Total 5 colours	1	4

RAL 5XXX	FAMILY 5/LIGHT	FAMILY 5/MEDIUM	FAMILY 5/DARK
DESCRIPTION	LIGHT BLUE	MEDIUM BLUE	DARK BLUE
RAL	5014* - 5015* - 5023* - 5024*	5000* - <u>5005*</u> - 5007* - 5017* - 5018* - 5021*	5004* -5008*
Total <u>12</u> <u>11</u> colours	4	<u>6</u> <u>5</u>	2

RAL 6XXX	FAMILY 6/MEDIUM	FAMILY 6/DARK
DESCRIPTION	MEDIUM GREEN	DARK GREEN
RAL	6000* –6010* – <u>6013*</u> - 6017* - 6021* – <u>6025*</u> - 6033*	6004* – 6005* - 6009* - 6028*
Total <u>10</u> <u>9</u> colours	<u>7</u> <u>5</u>	4

RAL 7XXX	FAMILY 7/LIGHT	FAMILY 7/MEDIUM	FAMILY 7/DARK
DESCRIPTION	LIGHT GREY	MEDIUM GREY	DARK GREY
RAL	7032 – <u>7035</u> - 7038 - 7044 - 7047	7000 - 7001 - 7002 - 7003 - 7004 - 7005 - 7006 - 7008 - 7009 - 7010 - 7011 - 7012 - 7015 - 7023 - 7030 - 7031 - 7033 - 7034 - 7036 - 7037 - 7039 - <u>7040</u> - 7042 – 7043 - 7045 - 7046	7013 – <u>7016</u> - 7021 - 7022 - 7024 - 7026
Total 37 colours	5	26	6

¹ Colours underlined = basic colours (see Section [4.1.4](#))

* These colours have to be assessed every two years.



RAL 8XXX	FAMILY 8/MEDIUM	FAMILY 8/DARK
DESCRIPTION	MEDIUM BROWN	DARK BROWN
RAL	8000 - 8001 - 8002 - 8003 - 8004 - 8008 -8012 – 8015 -8023 - 8024 -8025	8007 - 8011- 8014 - 8016 - 8017 – 8019 - 8022 - 8028
Total 19 colours	11	8

RAL 9XXX	FAMILY 9/LIGHT	FAMILY 9/DARK
DESCRIPTION	WHITE - CREAM AND GREY WHITE	BLACK
RAL	9001- 9002 - 9003 – 9010 - 9016 - 9018	9004 – 9005 - 9011- 9017
Total 10 colours	6	4

A12 – Lists of colour tolerances after weathering tests for granting or renewing an approval

[...]

Colour tolerances after the weathering test for Class 3 organic coatings													
RAL	Δ E	RAL	Δ E	RAL	Δ E	RAL	Δ E	RAL	Δ E	RAL	Δ E	RAL	Δ E
1000	3.0	3005	5.0	5000	5.0	6000	5.0	7000	4.0	8000	4.0	9001	3.0
1001	3.0	3007	5.0	5004	5.0	6004	5.0	7001	4.0	8001	4.0	9002	3.0
1002	3.0	3009	5.0	5005	5.0	6005	5.0	7002	4.0	8002	4.0	9003	3.0
1011	3.0	3011	5.0	5007	5.0	6009	5.0	7003	4.0	8003	4.0	9004	5.0
1013	3.0	3012	5.0	5008	5.0	6010	5.0	7004	4.0	8004	4.0	9005	5.0
1014	3.0			5014	5.0	6013	5.0	7005	4.0	8007	4.0	9006	4.0
1015	3.0			5015	5.0	6017	5.0	7006	4.0	8008	4.0	9007	4.0
1019	3.0			5017	5.0	6021	5.0	7008	4.0	8011	4.0	9010	3.0
1020	6.0			5018	5.0	6025	5.0	7009	4.0	8012	4.0	9011	5.0
1024	3.0			5021	5.0	6028	5.0	7010	4.0	8014	4.0	9016	3.0
				5023	5.0	6033	5.0	7011	4.0	8015	4.0	9017	5.0
				5024	5.0			7012	4.0	8016	4.0	9018	3.0
								7013	4.0	8017	4.0		
								7015	4.0	8019	4.0		
								7016	4.0	8022	5.0		
								7021	4.0	8023	4.0		
								7022	4.0	8024	4.0		
								7023	4.0	8025	4.0		
								7024	4.0	8028	4.0		
								7026	4.0				
								7030	4.0				
								7031	4.0				
								7032	3.0				
								7033	4.0				
								7034	4.0				
								7035	3.0				
								7036	4.0				
								7037	4.0				
								7038	3.0				
								7039	4.0				
								7040	4.0				
								7042	4.0				
								7043	4.0				
								7044	3.0				
								7045	4.0				
								7046	4.0				
								7047	3.0				