

DOXA

CHEMISTRY ENVISIONED

Doxflow 3100 and 3290 Evaluation

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Results and Discussion

- Doxflow 3100 and 3290 are leveling agents for acrylic systems, designed for solvent-based coating systems. They can effectively improve film leveling and smoothness.
- This test shows the effectiveness of Doxflow 3100 and 3290 in the areas of leveling, transparency, adhesion and flexibility in a coil coating system.
- **Our products' performance will be compared with that of a competitor**

Introduction

Doxflow 3100/3290 Evaluation

Coil coating **system**

Ingredient	Brand
Leveling Agent	Doxflow 3100
	Doxflow 3290
	Competitor Grade
Color Paste	PK0725A, Houchi
Resin	ANO 163, KUO-TAI
Hardener	M 27585, KUO-TAI

Test Materials

Black coil coating formulation	Wt %				
Leveling agent ratio	0.1%	0.5%	1%	2%	3%
Black color paste	2%	2%	2%	2%	2%
Xylene/butyl acetate	33%	33%	33%	33%	33%
Hardener	20%	20%	20%	20%	20%
Resin	45%	45%	45%	45%	45%

Test Formulation

Transparent coil coating formulation	Wt %				
	0.1%	0.5%	1%	2%	3%
Leveling agent ratio	0.1%	0.5%	1%	2%	3%
Xylene/butyl acetate	33%	33%	33%	33%	33%
Hardener	20%	20%	20%	20%	20%
Resin	45%	45%	45%	45%	45%

Test Formulation

- **Prepare coil coating and test transparency (do not add black color paste), leveling, adhesion and flexibility.**
- **Spray on glass and perform transparency test.**
- **Spray on iron plate and test leveling, adhesion and flexibility.**

Methodology

Leveling	0.1%	0.5%	1%	2%	3%
Competitor Grade	12	10	11	14	15
Doxflow 3290	3	7	13	8	9
Doxflow 3100	5	6	4	2	1
Note: 1 represents best leveling, 15 worst					

Doxflow 3100 shows the best leveling with scores of <6 across the board.

Leveling

Transparency	0.1%	0.5%	1%	2%	3%
Competitor Grade	○	○	○	X	X
Doxflow 3290	○	○	○	○	X
Doxflow 3100	○	○	○	○	○
Key: ○ Transparent X Not Transparent					

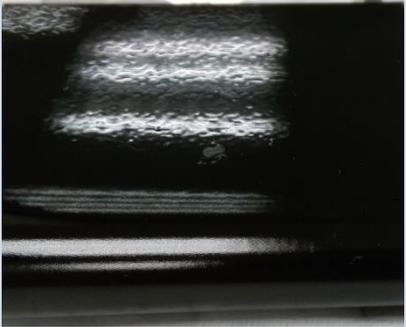
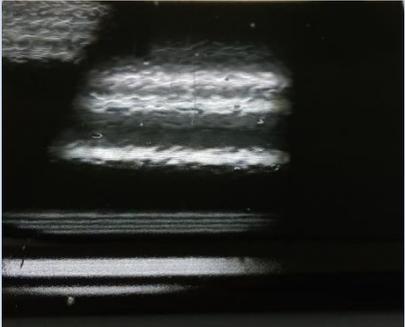
Both Doxflow grades show superior performance to that of the competitor at higher dosage levels

Transparency

Adhesion	0.1%	0.5%	1%	2%	3%
Competitor Grade	2B	2B	3B	3B	4B
Doxflow 3290	4B	4B	4B	5B	4B
Doxflow 3100	4B	4B	3B	3B	4B
On a scale of 5B-0B, 5B being the best adhesion					

Doxflow 3290 shows the best performance, with scores of 4B-5B at all dosage levels.

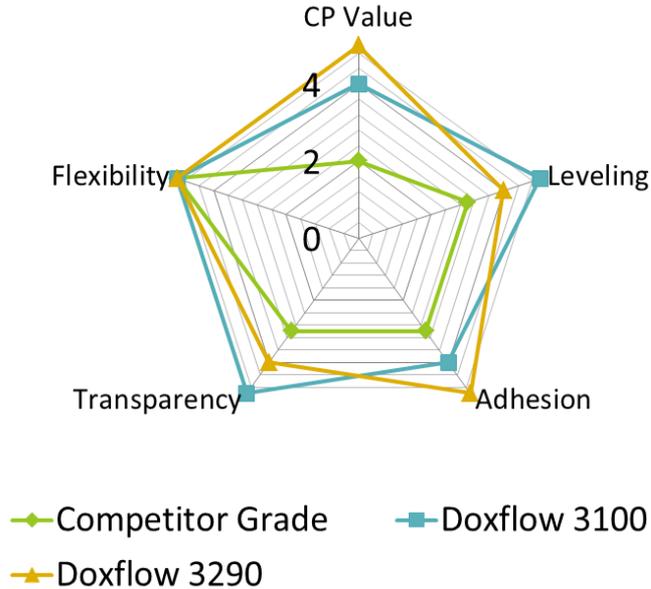
Adhesion

Competitor Grade (0.5%)	Doxflow 3290 (0.1%)	Doxflow 3100 (3%)
		

The competitor grade shows significant leveling defects. Doxflow 3100 provided a smooth surface, while 3290's performance was in between the two.

Leveling: Spray Plate

Performance Comparison



- **Doxflow 3100** Provides outstanding leveling, transparency and flexibility.
- **Doxflow 3290** offers excellent adhesion and flexibility at a competitive price point.

Results and Discussion