

**HOW TO DETERMINE IF A COATING IS
COMPLIANT WITH DISTRICT VOC STANDARDS**

WHERE CAN I FIND THE VOC STANDARDS I AM REQUIRED TO COMPLY WITH?

Your facility is subject one of the following District Rules depending on the type of coating operation you have:

- **Rule 66.1 – Miscellaneous Coating Operation**
- **Rule 67.0 – Architectural Coating Operation**
- **Rule 67.3 – Metal Parts Coating Operation**
- **Rule 67.9 – Aerospace Component Coating Operation**
- **Rule 67.11 – Wood Coating Operation**
- **Rule 67.19 – Marine Coating Operation**
- **Rule 67.20.1 – Automotive Coating Operation**

You can find each Rule on the San Diego APCD website. Each Rule is broken into sections, and lists the required VOC standards in section (d).

It is recommended to keep a copy of the applicable Rule for your operation on record.

WHERE CAN I FIND THE VOC STANDARDS I AM REQUIRED TO COMPLY WITH?

If your coating has a VOC Content that is less than or equal to the VOC Standard in the applicable Rule, then your coating is compliant.

Below is an example, from Rule 67.3, of VOC content limits for a metal coating operation.

(3) VOC Limits for Specialty Coatings		
A person shall not apply any specialty coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating, as applied, excluding water and exempt compounds:		
<u>CATEGORY</u>	<u>AIR-DRIED</u>	<u>BAKED</u>
Chemical Agent Resistant	420	420
Heat Resistant	420	360
High Gloss	420	360
High Performance Architectural	420	420
Metallic Topcoat	420	360
Pretreatment Wash Primer	420	420
Solar Absorbent	420	360

Note that the values in the table may differ from what the current version of the Rule reflects. The remainder of this guide provides an example in which a made-up metal coating operation's materials are evaluated for compliance.

WHAT INFORMATION DO I NEED TO BEGIN WITH?

To determine if a coating in your operation is compliant with applicable VOC standards, you must first collect the following information:

For single component coatings

- *VOC Regulatory* – Sometimes labeled ‘VOC content less water and exempt compounds’, ‘VOC as applied’, or ‘VOC EPA Method 24’. This is needed for *each* component in the coating.

For help with finding the VOC Regulatory of a material, review [How to Find VOC Information for Coating Operations](#), posted on the San Diego APCD website.

For multiple component coatings

- *VOC of Mixture* – Typically found on the overall coating’s Product Data Sheet (PDS)

If this value is not found in a manufacturer supplied document, you can calculate it using the VOC information from each component.

For help with calculating VOC of Mixture, review [How to Calculate the VOC Content of a Mixed Coating](#), posted on the San Diego APCD website.

EXAMPLE

This metal coating operation will only use two (imaginary) coatings: an *air-dried heat resistant* coating and a *baked solar absorbent* coating.

Air-Dried Heat Resistant Coating: This coating has multiple components, and must be mixed. The coating's PDS states the VOC content (VOC of Mixture) of the coating is 3.45 lbs/gal. The VOC content standard from the Rule 67.3 table for air-dried heat resistant coatings is 420 g/L.

Baked Solar Absorbent Coating: This coating only has one component. The coating's MSDS states the VOC content (VOC Regulatory) of the coating is 4 lbs/gal. The VOC content standard from the Rule 67.3 table for baked solar absorbent coatings is 360 g/L.

COATING	AIR-DRIED OR BAKED?	VOC CONTENT	VOC STANDARD
Heat Resistant	Air-Dried	3.45 lb/gal	420 g/L
Solar Absorbent	Baked	4 lb/gal	360 g/L

You will notice that the *units* that VOC information is given in is in terms of a weight per volume such as *pound per gallon (lb/gal)* or *grams per liter (g/L)*.

In order to determine if these coatings are compliant, the units of the VOC Content values must match the units of the VOC Standard values.

We will convert the VOC Content values from lb/gal to g/L using the following conversion factor:

$$1 \text{ lb/gal} = 119.8 \text{ g/L}$$

COATING	AIR-DRIED OR BAKED?	VOC CONTENT (lb/gal)	VOC CONTENT (g/L)	VOC STANDARD
Heat Resistant	Air-Dried	3.45 lb/gal	---	420 g/L
Solar Absorbent	Baked	4 lb/gal	---	360 g/L

Multiplying each VOC Content value by the conversion factor will yield the proper units:

Heat Resistant Coating:

$$VOC\ Content = 3.45 \frac{lb}{gal} \times \frac{119.8g/L}{1\ lb/gal} = 413\ g/L$$

Solar Absorbent Coating:

$$VOC\ Content = 4 \frac{lb}{gal} \times \frac{119.8g/L}{1\ lb/gal} = 479\ g/L$$

COATING	AIR-DRIED OR BAKED?	VOC CONTENT (lb/gal)	VOC CONTENT (g/L)	VOC STANDARD
Heat Resistant	Air-Dried	3.45 lb/gal	413 g/L	420 g/L
Solar Absorbent	Baked	4 lb/gal	479 g/L	360 g/L

Because the VOC Content of the *heat resistant coating* is less than the VOC Standard, the *heat resistant coating* is compliant.

Because the VOC Content of the *solar absorbent coating* is more than the VOC Standard, the *solar absorbent coating* is non-compliant, and cannot be used in the operation.

COATING	AIR-DRIED OR BAKED?	VOC CONTENT (lb/gal)	VOC CONTENT (g/L)	VOC STANDARD	COMPLIANT?
Heat Resistant	Air-Dried	3.45 lb/gal	413 g/L	420 g/L	YES
Solar Absorbent	Baked	4 lb/gal	479 g/L	360 g/L	NO

It is important to check that each coating your operation will use is compliant before you submit a permit application or you add or change a coating in your inventory.