



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PMAOPS350B Match and adjust colour**

**Revision Number: 1**

## PMAOPS350B Match and adjust colour

### Modification History

Not applicable.

### Unit Descriptor

|                        |                                                                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit descriptor</b> | This unit covers the use of colour matching samples in comparing the colour of a product to the standard and then recommending adjustments to be made to bring the colour into the acceptable range. |
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### Application of the Unit

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Application of the unit</b> | <p>In a typical scenario, a technician prepares a colour sample, compares it to the standard and then recommends adjustments (if required) in order to bring the product's colour within the acceptable range. This may be done using a 'colour computer' or by eye. The adjustments would be by making additions to the batch to bring it into range without overshooting. The 'standard' might be for a product being manufactured or for a new product being developed.</p> <p>The ability to recommend adjustments is the critical element of this unit as this requires a significant understanding of colour.</p> <p>The technician would:</p> <ul style="list-style-type: none"><li>• prepare a colour sample</li><li>• analyse the colour sample and compare it to the standard</li><li>• recommend adjustments to bring the batch into colour specification.</li></ul> <p>Generally the technician would work alone while colour matching, but must be capable of communicating effectively with the relevant operating personnel.</p> |
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### Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

|                           |  |
|---------------------------|--|
| <b>Prerequisite units</b> |  |
|---------------------------|--|

## Employability Skills Information

|                             |                                          |
|-----------------------------|------------------------------------------|
| <b>Employability skills</b> | This unit contains employability skills. |
|-----------------------------|------------------------------------------|

## Elements and Performance Criteria Pre-Content

|                                                                   |                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide. |
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## Elements and Performance Criteria

| ELEMENT                               | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                  |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Prepare colour sample.             | 1.1. Identify required sample properties<br>1.2. Select appropriate sample preparation method<br>1.3. Identify required sample preparation conditions<br>1.4. Adjust and control sample preparation conditions<br>1.5. Prepare colour sample.                                                                         |
| 2. Compare colour sample to standard. | 2.1. Identify light conditions for comparison<br>2.2. Compare colour sample to standard using 'colour computer' as required<br>2.3. Compare colour sample to standard by eye as required<br>2.4. Reconcile data from each comparison if appropriate.                                                                  |
| 3. Recommend adjustments to batch.    | 3.1. Estimate the colourant additions needed to bring batch to standard<br>3.2. Recommend additions to relevant personnel as appropriate<br>3.3. Recommend additional mixing/processing requirements to procedure<br>3.4. Repeat sample preparation, colour matching and adjustment until correct colour is obtained. |

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

#### Required skills

This competency requires the skills of:

- discrimination
- analysis
- interpolation and extrapolation of data

#### Required knowledge

Competence includes an understanding of colour and how the pigments used interact with the process to develop the required colour in the final product. In particular it includes the ability to:

- recognise hue, value and chroma (or colour/tone, lightness/shade and saturation) differences
- describe the effect of a change of light conditions on the appearance of the colour for the pigment combination used as relevant to the product
- recognise colourant addition and colourant dispersion differences
- make judgements based on:
  - perceptibility
  - acceptability/tolerance
  - grade 1, 2 or 3 match as required by specification
- describe the impact of opacity on colour as relevant to the product

## Evidence Guide

### EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

#### Overview of assessment

Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual plant and will include walk-throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what-if scenarios both on the plant (during demonstration of normal operations and walk-throughs of abnormal operations) and off the plant.

#### Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action.

The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

Consistent performance should be demonstrated. In particular look to see that:

- estimates of required adjustments are consistent with the colour match data
- adjustments are made cautiously and without overshooting
- adjustments are made efficiently with a minimum number of adjustments to bring the batch into specification.

| <b>EVIDENCE GUIDE</b>                                   |                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                         | These aspects may be assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant.      |
| <b>Context of and specific resources for assessment</b> | Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what-ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions. |
| <b>Method of assessment</b>                             | In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.                                                                                                                                                                                                                              |
| <b>Guidance information for assessment</b>              | Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.                                                                                                                                                                     |

## Range Statement

### RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Codes of practice/ standards</b> | Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Context</b>                      | <p>This unit of competency includes the use of items of equipment required for colour sample preparation and colour matching.</p> <p>Sample properties may include:</p> <ul style="list-style-type: none"> <li>• surface finish</li> <li>• gloss</li> <li>• thickness</li> <li>• opacity</li> <li>• substrate properties.</li> </ul> <p>Sample preparation methods may include:</p> <ul style="list-style-type: none"> <li>• draw down</li> <li>• spraying</li> <li>• brushing.</li> <li>• moulding</li> <li>• casting</li> <li>• milling</li> <li>• pressing.</li> </ul> <p>Sample preparation conditions may include:</p> <ul style="list-style-type: none"> <li>• temperature</li> <li>• drying rate</li> <li>• time</li> <li>• pressure</li> <li>• volume.</li> </ul> <p>Colourants may include:</p> <ul style="list-style-type: none"> <li>• pigments</li> <li>• masterbatches</li> <li>• tinters.</li> </ul> |
| <b>Health, safety and</b>           | All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**RANGE STATEMENT****environment  
(HSE)**

State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

**Unit Sector(s)****Unit sector**

Operational/technical

**Competency field****Competency field****Co-requisite units****Co-requisite units**