

VicForests Instructions

Code of Procedure for Log Buyers

Log Specifications

January 2018

Version 3.0



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Document Information

General Information

File Path:	J:\WF_DATA\VICFORESTS\COMMERCIAL RESOURCES\SALES\PROCEDURES\CODE OF PROCEDURE\2017CODE OF PROCEDURE LOG BUYER_LOG_SPECIFICATIONS_V3.0.DOC		
RecFind Ref:			
Description:	Code of Procedure for Log Buyers		
Author:	Anne Geary		
Creation Date:	25 July 2007		
Procedure Owner(s):	Manager – Commercial Timber		
Current Version:	3.0		
Copy Number:	1		
Review Period:	Last review date:	30/06/2017	Next review date: 1/07/2020


Revision History

New Version	Revision Date	Author(s)	Old Version Revision Notes
1.0	25 July 2007	A. Geary	Update to Tables
2.1	21 August 2008	A. Geary	MSL Specification, and UP update
2.2	8 September 2009	M. McCarthy	Salvage and Pole specifications
2.3	18 September 2012	T. Hill	Update to SFMS template and review for new business management system Cengea. <ul style="list-style-type: none"> D Grade min. SED increase to 30 cm; Log grading card; Remove reference to firewood durable species (Attachment 6 & 7); Update to off specification notifications; Addition of Dormit E Grade Sawlog Specifications. Changes to Table 8: <ul style="list-style-type: none"> Acacia species to AC within pulplog specs; Blackwood to MSM >40 cm DUB; E. nitens to ASH. Reclassified EG mixed species >40 cm products
2.4	8 July 2013	T.Hill	Update of procedure to reflect appropriate Measurement of pulplog diameter grading procedure to be a measure of diameter at DBHOB.
2.5	28 February 2017	L. Woodman	Removal of salvage specs.
3.0	23 January 2018	B.McTavish	Minor edits – release to correspond to release of UP's

Reviewers

Reviewer	Position	Date

Approval

Approver	Position / Resolution	Date
Anne Geary	General Manager Commercial Resources	23/01/2018
Signature:		

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1. Purpose

This document describes the log grading techniques, specifications and interpretations that may be utilised by VicForests in the grading of log products into appropriate product groups and subsequent grades.

2. Background

This document details the specifications for logs sold by VicForests.

This Code should be read in conjunction with the following Codes and Procedures:

- Code of Procedure for Sawlog Buyers;
- Code of Procedure for Pulplog Buyers;
- Code of Procedure for Firewood Buyers;
- Utilisation Procedures;
- Any sawlog or pulplog grading variations.

VicForests will review this procedure regularly in consultation with log Buyers to ensure that amendments take into consideration log Buyers procedural requirements.

3. Scope

This code may apply to the specification of logs sold by VicForests.

4. References

VicForests Instruction - Code of Procedure for Sawlog Buyers

VicForests Instruction - Code of Procedure for Pulplog Buyers

VicForests Instruction - Code of Procedure for Firewood Buyers

Utilisation Procedures

Hardwood Log Grading Card

5. Definition

DUB	Diameter under Bark
FMA	Forest Management Area
LED	Large End Diameter
LEDUB	Large End Diameter under Bark
SED	Small End Diameter
SEDUB	Small End Diameter under Bark
SPP	Species
DBHOB	Diameter at breast height over bark

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6. Product Grade Codes

VicForests uses a standard set of product grade codes to identify the specified Timber Types for log Buyers. These are set out in Table 1 below.

Table 1 - Log Grade Product Codes

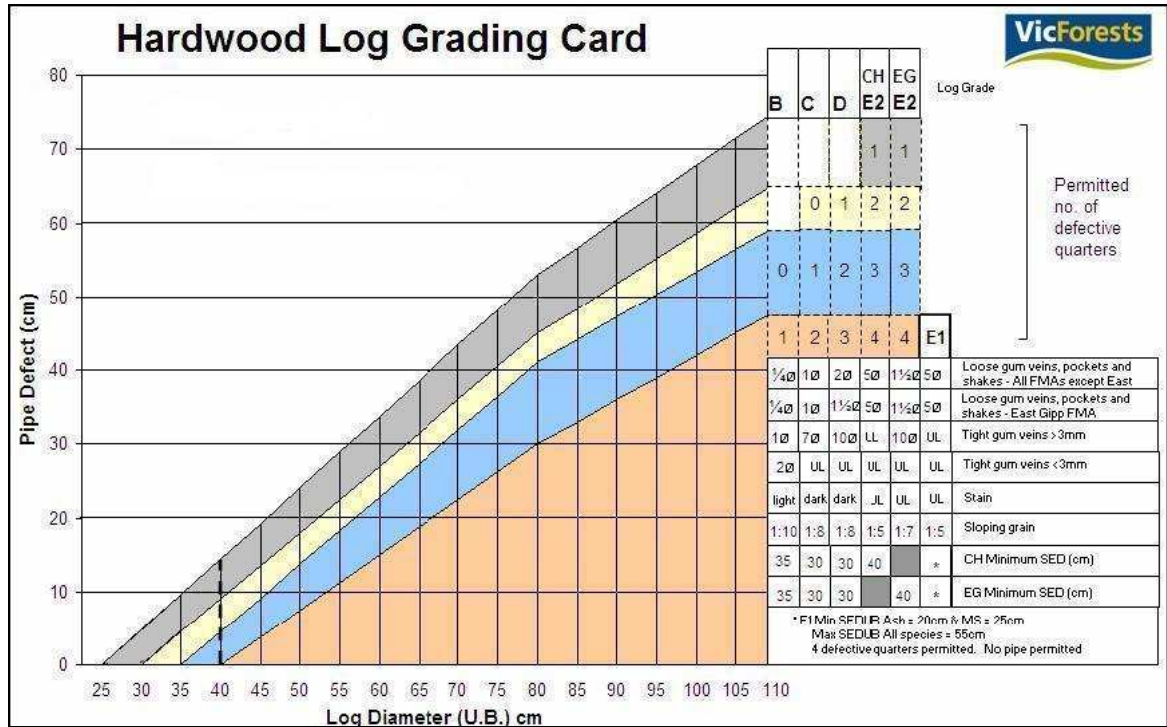
Product Group	Grade Code	Grade Name
Sawlog	B	B grade sawlogs
	C	C grade sawlogs
	D	D grade sawlogs
	U	Ungraded sawlog:-D grade or better
	E	E1 grade sawlogs
E2 grade sawlogs		
Pulplog	H	High Quality (pulp)
	M	Medium Quality (pulp)
	L	Low Quality (pulp)
Other Timber	F	Dry (firewood)
	G	Green (firewood)
	P	Poles/Piles/Posts

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7. Sawlog Specifications

7.1 The Hardwood Sawlog Grading Card

The Hardwood Sawlog Log Grading Card shown in Figures 1 and 2 is the standard used to grade all sawlogs produced by VicForests in all supply zones.



7.2 Sawlog Timber Specifications

The sawlog timber specifications for VicForests timber grades are set out in the tables below.

7.2.1 D+ Sawlog Specifications

Table 2 – D+ Sawlog Timber Specifications (Excluding East Gippsland FMA)

Parameter		Specification		
Timber		B Grade	C Grade	D Grade
Minimum small end diameter under bark (cm)		35	30	30
Log diameter under bark (cm)				
30-34	Permitted number of defective quarters with no pipe defect	n/a	0	1
35-39		0	1	2
>=40		1	2	3
Minimum graded length (m)		2.7	2.7	2.7
Loose gum veins or pockets or shakes		up to ¼ diameter under bark	up to the diameter under bark	up to twice the diameter under bark
Tight gum veins greater than 3mm		up to 1 diameter under bark	up to 7 diameter under bark	up to 10 diameter under bark
Tight gum veins less than 3 mm		up to twice the diameter under bark	Unlimited	Unlimited
Stain*		Light stain* only	tolerated	tolerated
Sloping grain		maximum of 1 in 10	maximum of 1 in 8	maximum of 1 in 8

* see section 2.8

- No D+ sawlog may have a sweep or crook which is greater than one-fifth of the diameter under bark of that sawlog at the apex of the sweep or crook, measured from a straight edge inside the sweep or crook of at least 2.4 metres.
- No D+ sawlog may have a pipe defect which exceeds the permissible size for the relevant grade of timber set out in the Hardwood Timber Grading Card published by VicForests. For the purpose of this paragraph, a "defect" is a feature affecting other than the surface or sapwood of a timber which prevents sawn timber of any merchantable grade being recovered from some or all of a sawlog.

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Table 3 - D+ Sawlog Timber Specifications - East Gippsland FMA

Parameter		Specification		
		B Grade	C Grade	D Grade
Minimum small end diameter under bark (cm)		35	30	30
Log diameter under bark (cm)				
30-34	Permitted number of defective quarters with no pipe defect	n/a	0	1
35-39		0	1	2
>=40		1	2	3
Minimum graded length (m)		2.7	2.7	2.7
Loose gum veins or pockets or shakes		up to ¼ diameter under bark	up to the diameter under bark	up to 1.5 times the diameter under bark
Tight gum veins greater than 3 mm		up to 1 diameter under bark	up to 7 diameter under bark	up to 10 diameter under bark
Tight gum veins less than 3 mm		up to twice the diameter under bark	Unlimited	Unlimited
Stain*		Light stain* only	tolerated	tolerated
Sloping grain		maximum of 1 in 10	maximum of 1 in 8	maximum of 1 in 8

* see section 2.8 in Attachment 3.

- No D+ sawlog may have a sweep or crook which is greater than one-fifth of the diameter under bark of that sawlog at the apex of the sweep or crook, measured from a straight edge inside the sweep or crook of at least 2.4 metres.
- No D+ sawlog may have a pipe defect which exceeds the permissible size for the relevant grade of timber set out in the Hardwood Timber Grading Card published by VicForests. For the purpose of this paragraph, a "defect" is a feature affecting other than the surface or sapwood of a timber which prevents sawn timber of any merchantable grade being recovered from some or all of a sawlog.

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7.2.2 E Grade Sawlog Specifications

Table 4 - E Grade Sawlog – General Timber Specifications

Parameter	Specification		
	E1 Grade	E2 Grade	E2 Grade
		All FMA's excluding East Gippsland FMA	East Gippsland FMA
Minimum small end diameter under bark (cm)	20 for Ash spp 25 for Mixed spp	40 for all species	40 for all species
Maximum small end diameter under bark (cm)	55 for all spp	Unlimited	Unlimited
Permitted number of defective quarters	4	Refer to the Log Grading Card	Refer to the Log Grading Card
Minimum clearwood length within one quarter over a 2.7 m length (m)	1.2	1.2	Unlimited
Minimum graded length (m)	2.7	2.7	2.7
Allowable pipe	None	Not to exceed the maximum allowable pipe for a D grade log	As per the East Gippsland FMA Hardwood Sawlog Grading Card
Loose gum veins or pockets or shakes	Up to 5 times the log diameter under bark	Up to 5 times the log diameter under bark	Up to 1.5 times the log diameter under bark
Tight gum veins greater than 3 mm	Unlimited	Unlimited	Up to 10 times the log diameter under bark
Tight gum veins less than 3 mm	Unlimited	Unlimited	Unlimited
Stain *	Unlimited	Unlimited	Unlimited
Sloping grain	Maximum of 1 in 5	Maximum of 1 in 5	Maximum of 1 in 7

* see section 2.8 in Attachment 3

- No E grade sawlog may have a sweep or crook which is greater than one-fifth of the diameter under bark of that sawlog at the apex of the sweep or crook, measured from a straight edge inside the sweep or crook of at least 2.4 metres.
- The E2 specification as it applies to a specific Buyer may be varied by agreement between VicForests and that Buyer

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Table 5 - Dormit E Grade Sawlog Specifications

ACCEPTED SPECIES – DANDENONG				
Species Group	Species	Common Name	Product Code	
Ash Species	<i>E. delegatensis</i>	Alpine Ash	AS-E	
	<i>E. nitens</i>	Shining Gum	AS-E	
	<i>E. regnans</i>	Mountain Ash	AS-E	
Mixed Species	<i>E. sieberi</i>	Silvertop	MS-E	
ACCEPTED SPECIES – SWIFTS CREEK				
Species Group	Species	Common Name	Product Code	
Ash Species	<i>E. delegatensis</i>	Alpine Ash	AS-E	
	<i>E. nitens</i>	Shining Gum	AS-E	
	<i>E. regnans</i>	Mountain Ash	AS-E	
Mixed Species	<i>E. denticulata</i>	Errinundra Shining Gum	MS-E	
	<i>E. sieberi</i>	Silvertop	ST-E	
	<i>E. fastigata</i>	Cut-tail	MS-E	
	<i>E. viminalis</i>	Manna Gum	MS-E	
	<i>E. dalrympleana</i>	Mountain Gum	MS-E	
	<i>E. obliqua</i>	Messmate	MS-E	
	<i>E. baxteri</i>	Brown Stringybark	MS-E	
	<i>E. globedia</i>	White Stringybark	MS-E	
	<i>E. macrorhyncha</i>	Red Stringybark	MS-E	
DORMIT E GRADE SAWLOG SPECIFICATIONS				
Minimum SED	AS-E 20 cm MS-E 25 cm	Permitted number of defective quarters with no pipe defect	Log Diameter (cm)	No. of Defective Quarters
Maximum LED	60 cm (Dandenong) 65 cm (Swifts Creek)		20-24	0
Minimum Graded Length	3.6 m		25-29	1
Set Log Lengths	3.7 – 4.0 m		30+	4
	7.4 – 7.6 m	Tight Gum Veins > 3 mm	Up to five times diameter.	
	11.1 – 11.5 m	Tight Gum Veins < 3 mm	Unlimited	
* Log Lengths between 4.0 and 6.2 m should be avoided		Stain	Unlimited	
Other	No Pipe Defect	Sloping Grain	Maximum 1 in 5	
	No Charcoal	Sweep: No timber may have sweep which is >1/5 of the diameter of that timber at the apex of the sweep measured for a straight edge inside the sweep of at least 2.4 m.		
	No Split Logs			
	All Logs trimmed flush.			

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7.3 Ungraded Sawlog

Logs sold by weight by the log load are usually sold as ungraded sawlogs.

The specifications for ungraded sawlogs are as per the specifications for D grade and better sawlogs; however individual grades are not identified in each log. Where more than one species is present the species is to be identified on each log. Ungraded sawlogs may be supplied by weight using the stipulated weight to volume conversion factor for Ash species and mixed species.

8. Pulplog Specifications

8.1 Pulplog Grades

Pulplog grades are based on the timber species and log size class. VicForests pulplog grades by species and size-class are summarised in Table 6. Log size class is determined as a measure of DBHOB at the stump.

Pulplog Buyers may have individual grading specifications prepared for them as per the Terms and Conditions of their sales agreements. Further to this, as pulplog quality may vary by geographic location, site quality and elevation, there is provision for variation of the pulplog grade class by agreement between VicForests and the Buyer. The procedure for variation of pulplog grades is provided in Attachment 5.

Table 6– Pulplog Species and Size Class Specifications

VICFORESTS PULPLOG SPECIFICATIONS			
PULPLOG GRADE BY SPECIES AND SIZE CLASS			
Species Name	Size Class Diameter (cm) (As a measure of DBHOB) #		
	0 - 40	40 - 60	60+
Mountain Ash (<i>E.regnans</i>)	AS-H	AS-H	AS-H
Alpine Ash (<i>E.delegatensis</i>)	AS-H	AS-H	AS-H
Shining Gum (<i>E.nitens</i>)	AS-H	AS-H	AS-H
Silver Wattle (<i>A.dealbata</i>)	AC-H	AC-H	AC-H
Black Wattle (<i>A.mearnsii</i>)	AC-H	AC-H	AC-H
Blackwood (<i>A.melanoxylo</i>)	AC-H	AC-H	AC-H
Shining Gum (<i>E.denticulata</i>)	MS-H	MS-H	MS-H
Silvertop (<i>E.sieberi</i>)	MS-H	MS-M (EG FMA)	MS-M (EG FMA)
		MS-H	MS-H
Cut tail (<i>E.fastigata</i>)	MS-H	MS-M (EG FMA)	MS-M (EG FMA)
		MS-H	MS-H
Manna Gum (<i>E.viminalis</i>)	MS-H	MS-M (EG FMA)	MS-M (EG FMA)
		MS-H	MS-H
Blue Gum (<i>E.globulus</i> ssp.)	MS-H	MS-M (EG FMA)	MS-M (EG FMA)
		MS-H	MS-H
Mountain Gum (<i>E.dalrympleana</i>)	MS-H	MS-M (EG FMA)	MS-M (EG FMA)
		MSH	MSH
Narrow Leaf Peppermint (<i>E.radiata</i> / <i>E.croajingolensis</i>)	MS-H	MS-M	MS-L (EG FMA)
			MS-M
Messmate (<i>E.obliqua</i>)	MS-H	MS-M	MS-L (EG FMA)
			MS-M
Grey Gum / Monkey Gum (<i>E.cypellocarpa</i>)	MS-H	MS-M	MS-L (EG FMA)
			MS-M
Brown Stringy (<i>E.baxteri</i>)	MS-H	MS-M	MS-L (EG FMA)
			MS-M
River Peppermint (<i>E.elata</i>)	MS-H	MS-M	MS-M
Maidens Gum (<i>E.maidenii</i>)	MS-H	MS-M	MS-M
Gully Gum (<i>E.smithii</i>)	MS-H	MS-M	MS-M
Swamp Gum (<i>E.ovata</i>)	MS-H	MS-M	MS-M
Brittle Gum (<i>E.mannifera</i>)	MS-H	MS-M	MS-M
Candle Bark (<i>E.rubida</i>)	MS-H	MS-M	MS-M
Broad Leaf Peppermint (<i>E.dives</i>)	MS-H	MS-M	MS-M
Yellow Stringy (<i>E.muellerana</i>)	MS-H	MS-M	MS-L
White Stringy (<i>E.globoidea</i>)	MS-H	MS-M	MS-L
Mahogany (<i>E.botryoides</i> / <i>E.robusta</i>)	MS-H	MS-M	N/A
Apple-topped Box (<i>E.angophoroides</i>)	MS-H	MS-M	N/A
Blue Leaf Stringy (<i>E.agglomerata</i>)	MS-H	MS-M	N/A
Red Stringy (<i>E.macroryncha</i>)	MS-H	MS-M	N/A
Ironbark (<i>E.tricarpa</i>)	N/A	N/A	N/A
Woollybutt (<i>E.longifolia</i>)	N/A	N/A	N/A
Greybox, Redbox (<i>E.bosistoana</i> , <i>E.polyanthemos</i>)	N/A	N/A	N/A
Yertchuk (<i>E.consideniana</i>)	N/A	N/A	N/A
Bloodwood (<i>C.qummifera</i>)	N/A	N/A	N/A

^ EG FMA - East Gippsland Forest Management Area

Log diameter is determined as a measure at the stump of DBHOB.

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8.1.1 Pulplog General Specifications

The general specifications and defect tolerances relating to pulplog are summarised in Tables 7 and 8 below.

Table 7 – General Pulplog Specifications

Parameter	Specification
Minimum small end diameter under bark (SEDUB)	8 cm for both round and split logs
Maximum large end diameter under bark (LEDUB)	60 cm
Minimum length	3.0 metres
Maximum length	12.0 metres
Size Class Diameter (cm)	As a measure of DBHOB
Branches	Less than half log diameter and flush trimmed
Charcoal	100 % free
Bark	100 % free
Sweep	Less than diameter over 2.4 metres
Spiral Grain	Less than half diameter over 2.4 meters
Shattered ends and slovens	Removed
Split logs	Acceptable and clean of all rot and mud

* Note that maximum length specifications may be varied for specific buyers or truck configurations to maximise haulage options.

** Note that the maximum and minimum diameter specifications may be varied for specific buyers depending on chipper configuration and size.

*** Note that the minimum length may be varied for specific harvest and haul configurations.

Table 8– Pulplog Defect Tolerances

Size Class	Permitted Defect
Logs and slabs less than 40 cm diameter	Defect not to exceed 50% of diameter.
	Minimum wood depth of 10 cm across the diameter of the log.
Logs and Slabs between 40 and 60 cm large end diameter (LED)	Logs must have an average of 10 cm of solid wood between the pipe and outside diameter of the log, for the length of the log.
Logs with a pipe of greater than 25 cm	If rot or mud present then must be split with all rot and mud removed.
Logs greater than LED cm	Must be split to render maximum piece size less than 60 cm.

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9. Other Timber Specifications

9.1 Firewood

Firewood may be specified as green or dry sales.

The specification for firewood timber is provided within the Table 9.

Table 9– Firewood Specifications

Parameter	Specification
Minimum small end diameter under bark	10 cm
Maximum large end diameter under bark	Logs over 80 cm must be split
Minimum number of defective quarters	4
Pipe defect	A minimum depth of 10 cm of solid wood, measured from the pipe to the outside of the log
Minimum log length	2.7 m
Maximum log length	13 m or less
Loose gum veins, pockets or shakes	Unlimited
Tight gum veins greater than 3 mm	Unlimited
Tight gum veins less than 3 mm	Unlimited
Stain	Unlimited
Sloping grain	1 : 8
Sweep	No pronounced bends or sharp sweep
Species	As per table in Attachment 6

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9.2 Poles, Piles and Posts

Sales of poles, piles and posts timber are not standard. VicForests negotiates appropriate specifications with interested Buyers.

A general specification for poles is provided in Table 10.

Table 10– General Pole Specification

Parameter	Specification
Minimum small end diameter under bark	15 cm
Maximum large end diameter under bark	40 cm
Number of defective quarters	Up to 4
Green limbs	Up to 20% of log circumference – trimmed flush
Pipe defect	Not permitted
Log length	12 m
Stain and Gum vein	Acceptable
Spiral Grain	Not Permitted
Sweep	No pronounced bends or sharp sweep
Species	Eucalypt species as per table in Attachment 1

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Attachment 1 - Sawlog Species Codes

The following species codes are used by VicForests to identify timber species.

Species Group	Species Code	Genus	Species	Common Name
AC	AC	Acacia	- not specified -	Acacia species
AC	BW	Acacia	melanoxyton	Blackwood
AC	SW	Acacia	dealbata	Siver Wattle
AM	AM	Eucalyptus	All	Ash and Mixed species
AS	AA	Eucalyptus	delegatensis	Alpine Ash
AS	AS	Eucalyptus	All ash	Mixed ash species
AS	MA	Eucalyptus	regnans	Mountain Ash
AS	SG	Eucalyptus	nitens	Shining Gum
MS	BG	Eucalyptus	- not specified -	Mixed Blue Gum Species
MS	BG	Eucalyptus	bicostata	Eurabbie
MS	BG	Eucalyptus	pseudoglobulus	Victorian Eurabbie
MS	BG	Eucalyptus	maidenii	Maidens Gum
MS	BG	Eucalyptus	globulus	Southern Blue Gum
MS	BS	Eucalyptus	baxteri	Brown Stringybark
MS	BX	Eucalyptus	- not specified -	Box Species
MS	CB	Eucalyptus	rubida	Candlebark
MS	CT	Eucalyptus	fastigata	Cut-tail
MS	CY	Eucalyptus	cypellocarpa	Mountain Grey Gum
MS	DA	Eucalyptus	dalrympleana	Mountain Gum
MS	DE	Eucalyptus	denticulata	Errinundra Shining Gum
MS	GG	Eucalyptus	bosistoana	Gippsland Grey Box
MS	IB	Eucalyptus	tricarpa	Red Ironbark
MS	MM	Eucalyptus	obliqua	Messmate
MS	MS	Eucalyptus	Mixed	Non-ash mixed species
MS	PM	Eucalyptus	- not specified -	Peppermint
MS	PM	Eucalyptus	dives	Broad-leaved Peppermint
MS	PM	Eucalyptus	croajingolensis	
MS	PM	Eucalyptus	radiata/robertsonii	Narrow-leaved Peppermint
MS	PM	Eucalyptus	nitida	Shining Peppermint
MS	PM	Eucalyptus	willisii	
MS	RB	Eucalyptus	polyanthemos	Red Box
MS	RP	Eucalyptus	elata	River Peppermint
MS	RS	Eucalyptus	macrorhyncha	Red Stringybark
MS	SM	Eucalyptus	botryoidies	Southern Mahogany
MS	ST	Eucalyptus	sieberi	Silvertop
MS	VM	Eucalyptus	viminalis	Manna Gum
MS	WS	Eucalyptus	globoidea	White Stringybark
MS	YK	Eucalyptus	consideniana	Yertchuk
MS	YS	Eucalyptus	muelleriana	Yellow Stringybark

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Attachment 2 - Mixed Species Sawlog Species Sub-Groups

The following species group codes are used where mixed species logs were sold prior to the Timber Sales Process 2013 in specified groups of species.

M1	M2	M3	M4	M5*	MS
Messmate Silvertop Cut-tail	Grey gum Stringybarks Peppermints Other Species	Manna Gum Shining Gum (<i>E.denticulata</i>)	Any mixed Species: undefined proportions	Yellow Stringybark Southern Mahogany Ironbark Box Species Blue Gum	Any mixed species: run of bush

****M5 Species will generally not be included in other sub-groups in East Gippsland FMA, and may be specified as individual species in sales contracts and timber lots.***

The following species group codes are used where mixed species logs are sold pursuant to the Timber Sales Process 2013 in specified groups of species.

M1	M4	M6	MS
Messmate Silvertop Cut-tail	Any mixed Species: undefined proportions	All Stringybark species (Yellow, White, Red, Brown) Mountain Grey Gum Blue Gum Box Species Ironbark Southern Mahogany	Any mixed species: run of bush

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Attachment 3 - Sawlog Grading Procedure and Interpretations

1. THE HARDWOOD LOG GRADING PROCEDURE

The following chronological steps are used in grading a log:

1. The log is inspected for any limiting defect or feature that would immediately indicate the grades of the component sawlogs; then
2. Measurement of the diameter under bark at each end of the log (see 2.3), and measurement of the dimensions of any boxed defect that is present; then
3. The applicable Hardwood Log Grading Card and Specification Table is used to determine the permitted number of defective quarters for each grade for the particular diameter under bark and pipe combinations at each end of the log; then
4. The permitted number of defective quarters in the first 2.7 m length of the log is checked and the grade determined for that length; then
5. If the grade continues unchanged immediately after the first 2.7 m length, the point along the log where it is considered that the grade has changed, as determined by the number of defective quarters, short end diameter under bark limitations, and estimated pipe diameter is identified; then
6. Each end of the log is checked to identify the presence of gum and/or shake affects the grade as determined above. If it does, downgrade the log accordingly; then
7. Logs may be cross cut at any grade change points, unless the log is a multigrade log.

2. GRADING INTERPRETATIONS

2.1 Short Logs

The Contractor must ensure that:

- (a) if the short section occurs within a log between two sawlogs:
 - (i) for sections up to 1.2 m it can remain in the log for cartage convenience at the discretion of the VicForests' Customer. In this case the length should be added to the length of the lowest grade sawlog on either side; or
 - (ii) for sections greater than 1.2 m a sawlog of minimum length of the appropriate grade should be prepared but it may remain in the log for cartage convenience at the discretion of the VicForests' Customer.
- (b) if the short section occurs on the end of a log:
 - (i) for sections less than 1.2m the length may be trimmed as waste; or
 - (ii) for sections up to 1.2m it can remain on the log at the discretion of the VicForests' Customer. In this case the length of the section will be added to the length of the lowest grade sawlog in the log; or

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- (iii) for sections greater than 1.2m, but less than 2.7m a sawlog of minimum length of the appropriate grade may be prepared at the discretion of the VicForests' Customer; or
- (iv) for sections greater than 1.2m but less than 2.7m where the VicForests' Customer does not wish to take this length it may be trimmed to waste.

2.2 Multigrading

The Contractor must ensure that:

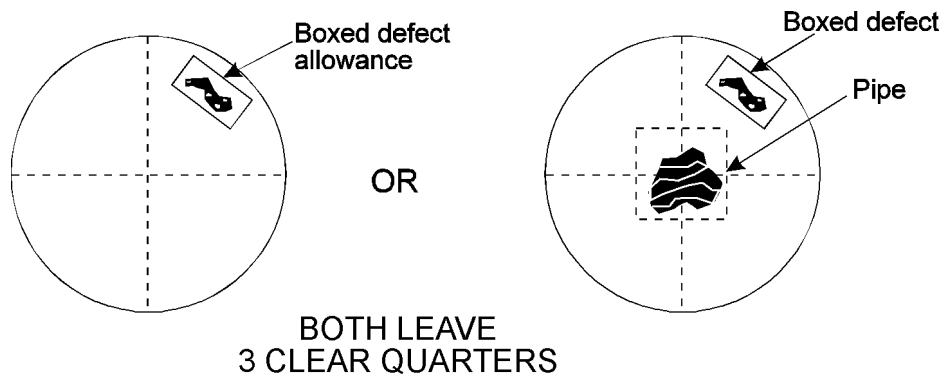
- (a) at landings where logs are being dispatched to Customers accepting a range of log grades, log lengths containing more than one grade are permitted for cartage convenience, provided:
 - (i) grade lengths are clearly identified and recorded; and
 - (ii) each section of a multi-graded log are a minimum of 2.7m in length; and
 - (iii) the multi-graded log must include a 0.1m allowance for cross cutting by the customer; and
 - (iv) the extent of the pipe should be marked on the face of the log.
- b) one log length contains no more than two grades unless otherwise agreed by the VicForests Customer receiving the log.
- c) Mountain ash (MA) sawlog cannot be multigraded for gum vein unless the log length is equal to or greater than 6.2m.

2.3 Using pipe and defect quarter allowances

The Contractor must ensure that:

- (a) boxing and defect quarters are used where they increase the grade of logs; and
- (b) boxes are measured around the centre of the log (diagram 1) in the following way:
 - (i) measure two diameters at 90 degrees to each other; then
 - (ii) calculate the average of these diameters to determine the pipe defect to be used on the card; then
 - (iii) convert rectangular boxes to a square of approximately equivalent area.
- (i) where there is buttressing or butt flare present on the butt of a log the diameter measurement is to take into consideration the extent of merchantable timber; that is the buttressing or butt flare is not to be included in the diameter measurement
- (c) if the defect falls only in one quarter it should be treated as a defective quarter (diagram 1).

Diagram 1



2.4 Gum Veins

- (a) A Contractor must consider the following three types of gum vein when grading logs:
- (i) Tight gum vein less than 3 mm in diameter is a ring of ribbon or kino running between growth rings that has bridging wood at close intervals; not associated with excessive discontinuity of wood tissue.
 - (ii) Tight gum vein more than 3 mm in diameter is a ring of ribbon or kino running between growth rings that has bridging wood at close intervals; not associated with excessive discontinuity of wood tissue.
 - (iii) Loose Gum Vein are a ribbon of gum or kino between growth rings that is associated with excessive discontinuity of wood tissue. They include gum pockets and shakes.
- (b) A Contractor must measure gum veins as follows:
- (i) Gum vein is to be measured radially and calculated cumulatively;
 - (ii) Gum vein in sapwood are not to be included in the measurement;
 - (iii) Loose gum vein are to be measured first and checked against the card to determine the impact on grade;
 - (iv) Tight gum veins greater than 3 mm are to be measured next. Add this length to the loose gum vein then check against the card to determine the impact on grade;
 - (v) Tight gum vein less than 3 mm is to be measured last. Add this length to the lengths of both the loose gum vein and tight gum vein greater than 3 mm. Check this length against the card to determine the impact on grade.
 - (vi) Where gum vein is concentrated around the heart area and the other end of the log does not exhibit scattered gum vein, they may be boxed out to upgrade the log.
 - (vii) Where gum vein is concentrated in one quarter or half and the other end of the log does not exhibit scattered gum vein, the quarter or half can be considered as a defective quarter or half respectively and the log regraded accordingly. In this scenario the allowable length of each of the types of gum vein in the non-defective quarters must be reduced by the proportion of defective

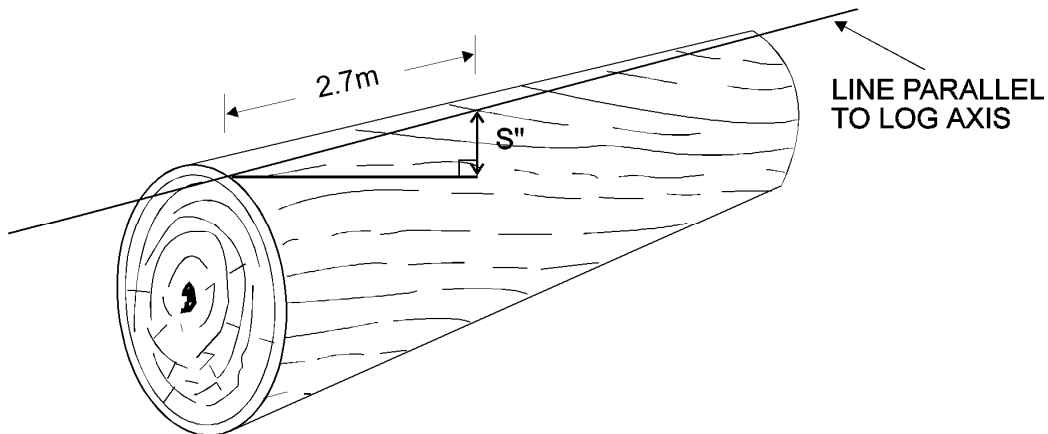
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quarters and the defective quarter or half considered in conjunction with other defective quarters due to stem defect.

2.5 Sloping Grain Interpretation

- (a) A Contractor must consider the following points when measuring sloping grain:
- (i) Sloping grain is when the grain of the log does not run parallel but angles across the length of a log (Diagram 2).
 - (ii) To check sloping grain, measure the distance 'S' over a 2.7m length and compare it to the longitudinal length as shown. If the ratios below are exceeded, then the log should be downgraded appropriately:
 - B Grade 1:10
 - C Grade 1:8
 - D Grade 1:8

Diagram 2



2.6 Stem Defect

- (a) A Contractor must consider the following points when measuring stem defect:
- (i) Stem defect is a defect extending into the heartwood which significantly reduces the recovery of sawn timber of the lowest merchantable grade; and
 - (ii) Stem defect will only be treated as a defect when the width of the defect extends into the heartwood greater than one third of a quarter.

2.7 Mechanical damage

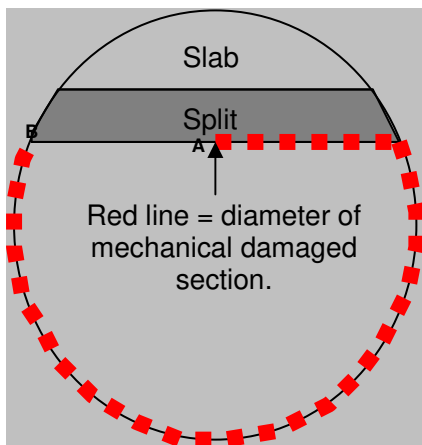
- (a) Mechanical damage should be minimised through appropriate handling of logs on the landing.
- (i) Damaged sections, in particular slabbed sections, are to be removed from the log, at the landing
 - (ii) Excessive waste will be identified and treated as a performance management issue

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- (b) A Contractor must consider the following points when treating slabbing or splitting due to mechanical damage:
- (i) Where identified, slabbing and splitting is not to be considered as a defect; and
- (c) A log with a split or slab that covers more than 15% of the log end and runs for more than 30 cm into the log is to have the volume recalculated. A log will be deemed to have 15% of the end affected by the slab or split, if the damaged section exceeds one fifth or 20% of the log diameter.
- (i) Measure a 2.7 m length or the length of the slabbed section, whichever is longer (note if the log is <5.4 m long the entire length must be used as it cannot be cut into two logs).
 - (ii) At the mid point of this section measure the diameter from the edge of the split, around the log and to the centre of the split (see Diagram 3). If the slabbed section remains attached to the log then an estimate will need to be made.
 - (iii) The volume of the log is determined using the standard log volume table using the length determined in (i) above and the diameter determined in (ii) above.
 - (iv) Any undamaged log section needs to be remeasured
- (d) A Contractor must identify and treat the following forms of mechanical damage as a defect:
- (i) Stumped and shattered wood
 - Stumped and shattered wood must be removed from the log on the landing prior to final grading and delivery.
 - The delivery of stumped or shattered wood is unacceptable and should be dealt with in the mill if discovered by culling the affected portion of the log and remeasuring the remaining section.
 - (ii) Pulled wood that extends for more than 30 cm.

Diagram 3:

Diameter Measurement of the Mechanical Damaged Section of the Log



2.8 Stain

- (a) A Contractor must consider the following points when assessing stain:
- (i) Stain can be defined as light or dark stain; and
 - (ii) Light stain has no impact on log quality; and
 - (iii) For stain to be considered dark it must be judged that the sawn timber will not be suitable for appearance grade timber.

2.9 Sweep

- (a) A Contractor must consider the following point when grading sawlogs:
- (i) No sawlog greater than 5.4 metres in length may have a sweep or crook which is greater than one-fifth of the diameter of that sawlog at the apex of the sweep or crook, measured from a straight edge inside the sweep or crook of at least 2.4 metres.
 - (ii) No sawlog 5.4 metres or less in length may have a sweep or crook which is greater than one-quarter of the diameter of that sawlog at the apex of the sweep or crook, measured from a straight edge inside the sweep or crook for the length of the log.

2.10 Ambrosia

- (a) A Contractor must consider the following points when measuring Ambrosia:
- (i) Ambrosia is a beetle that leaves small borer holes that are generally associated with dark stain; and
 - (ii) Logs should only be downgraded from a B grade if the Ambrosia cannot be boxed or quartered out and runs the length of the log.

2.11 Black Fleck

- (a) A Contractor must consider the following points when measuring Black Fleck:
- (i) Black Fleck appears as fine black lines radiating out from the centre of a log; and
 - (ii) Logs will only be downgraded from a B grade, if the Black Fleck cannot be boxed or quartered out and runs the length of the log.

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2.12 Long Butting

- (a) If a long butt is required, a Contractor is to maximise the recovery of D+ sawlog.

Attachment 4 - Off Specification Timber Procedure

In accordance with the Terms and Conditions of Timber Sales Agreements the Buyer may notify VicForests of the delivery of logs to a Delivery Site of logs that the Buyer believes are Off Specification. This includes notification where log docket are not fully completed. Such notification by the Buyer is referred to as the Buyer's Notification.

Buyers Notification	The Buyer's Off Specification Notification form is shown in Attachments 4 (a & b). The Buyer must fully complete all relevant sections of the form, and the form must be lodged with the nominated VicForests contact for that Buyer.
Log Storage	A Log, to which the Buyer's Notification relates, must be stored and cared for in a manner consistent with standard industry practices for a log of that type until a VicForests' inspection is carried out and an Election to Reject, an Election to Retain, or a Notice of Removal is issued. Failure to store and care for logs in such a manner may result in the logs being unable to be regraded, and will be automatically deemed part of the Annual Timber Intake.
Inspections & Regrading	VicForests shall inspect and regrade the logs to which the Buyer's Notification relates in accordance with the Terms and Conditions Licences and Timber Sales Agreements and Terms and Conditions for Timber Sales upon receipt of the Buyer's Notification. The logs shall be removed by the Buyer from any storage stack and laid out so that the entire log may be viewed in a safe fashion.
Election to Reject	Should a Buyer elect to reject any agreed Off Specification log, VicForests, at its own cost, must ensure that the log is removed from the Delivery Site as soon as practicable after the Buyer reloads. The Buyer may invoice VicForests for the cost of reloading in accordance with the Reloading Charge.
Notice of Removal from VicForests	Should VicForests give written notice to the Buyer electing to remove the Off Specification logs from the delivery site to which it was delivered, this will be done in accordance with the Terms and Conditions Licences and Timber Sales Agreements and Terms and Conditions for Timber Sales. The Buyer may invoice VicForests for the cost of reloading in accordance with the Reloading Charge.

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Attachment 4 (a) - Off Specification Notification Form - Sawlog

SFMS – RECOMMEND WHERE RELEVANT

OFF SPECIFICATION NOTIFICATION - SAWLOG



Attention:

VicForests Use Only.
Date Notification received: ___ / ___ / ____
Name of Recipient: _____

From:

Company	
Site Address	
Contact	

Load Details:

Coupe Number	___ ___ ___ / ___ ___ ___ / ___ ___
Forest Operation No.	
Contractor	
Log Grader No.	
Docket No.	
Date Load Received	___ / ___ / ____
Date of Notification	___ / ___ / ____

Disputed Log Details: If whole load tick box

	Log Number	Delivered Grade	Requires Regrade	Unacceptable Presentation	Other
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Attachment 4 (b) - Off Specification Notification Form - Pulplog

SFMS – RECOMMEND WHERE RELEVANT

OFF SPECIFICATION NOTIFICATION - PULPLOG



Attention: _____

VicForests Use Only.
Date Notification received: ___ / ___ / _____
Name of Recipient: _____

From:	
Company	_____
Site Address	_____
Contact	_____

Load Details:	
Coupe Number	___ ___ ___ / ___ ___ ___ / ___ ___
Forest Operation No.	_____
Contractor	_____
Log Grader No.	_____
Docket No.	_____
Date Load Received	___ / ___ / _____
Date of Notification	___ / ___ / _____

Disputed Log Details:			
Total Number of Logs	_____	If whole load tick box	<input type="checkbox"/>

Disputed Log Characteristics:			
Charcoal	<input type="checkbox"/>	Insufficient Holding Wood	<input type="checkbox"/>
Bark	<input type="checkbox"/>	Excessive Pipe	<input type="checkbox"/>
Flush Trimming	<input type="checkbox"/>	Excessive Diameter	<input type="checkbox"/>
Deadwood	<input type="checkbox"/>	Bend / Sweep	<input type="checkbox"/>
Split Log Not Cleaned Out	<input type="checkbox"/>	Non-Desirable Species	<input type="checkbox"/>
<40 cm - > 50% Defect	<input type="checkbox"/>	Other	<input type="checkbox"/>

Comments:

VicForests Form - Off Specification Notification - Pulplog

Version 1.0

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Attachment 5 - Procedure: Variation to Pulplog Grade

SFMS: RECOMMENDED WHERE RELEVANT

VicForests Form - Request for Pulpwood Exception Specification				
<i>Optional SFMS Use</i>				
Date:				
From				
To:				
Supply Zone		FMA:		
FMA:		Ops Area:		
<i>Exception requested on pulplog 40-60 cm diameter under bark at stump of the following species:</i>				
Species	Exception Requested On			
Shining Gum (E.nitens, E.denticulata)				
Silvertop (E.sieberi)				
Cut tail (E.fastigata)				
Messamate (E. obliqua)				
Manna Gum (E.viminalis)				
River Peppermint (E.elata)				
Blue Gum (E.globulus ssp.)				
Maidens Gum (E.maidenii)				
Gully Gum (E.smithii)				
Swamp Gum (E.ovata)				
White Ash (E.fraxinoides)				
Other:				
Exception Granted by:		Confirmed by VicForests		
Exception Start Date:		Exception End Date:		
Signed by Buyer		Signed by VicForests		
<i>Exception not granted because (Circle Reason/s)</i>				
Stand quality	Disturbance History	Other Species Present	Stand Age	Aspect
Other Reasons	Market Demand	Contractor	Undisclosed Reasoning	
<i>Other reason/s Continued</i>				

VicForests Form - Request for Pulpwood Exception Specification

Version 1.0

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Attachment 6 - Firewood Species and Grade Codes

Firewood Species Codes

Ash Species Firewood		AS
Botanical name	Common name	
Eucalyptus delegatensis	Alpine Ash	
Eucalyptus nitens	Shining Gum	
Eucalyptus regnans	Mountain Ash	
Mixed Species Firewood		MS
Eucalyptus agglomerata	Blue Stringybark	
Eucalyptus baxteri	Brown Stringybark	
Eucalyptus bicostata	Blue Gum	
Eucalyptus botryoides	Southern Mahogany	
Eucalyptus bridgesiana	Apple Box	
Eucalyptus consideniana	Yertchuk	
Eucalyptus croajingolensis	Gippsland Peppermint	
Eucalyptus cypellocarpa	Mountain Grey Gum	
Eucalyptus dalrympleana	Mountain Gum	
Eucalyptus denticulata	Errinundra Shining Gum	
Eucalyptus dives	Broad-leaved Peppermint	
Eucalyptus elata	River Peppermint	
Eucalyptus fastigata	Cuttail	
Eucalyptus globoidea	White Stringybark	
Eucalyptus macrorhyncha	Red Stringybark	
Eucalyptus mannifera	Brittle Gum	
Eucalyptus muelleriana	Yellow Stringybark	
Eucalyptus obliqua	Messmate	
Eucalyptus pseudoglobulus	Gippsland Blue Gum	
Eucalyptus radiata	Narrow-leaved Peppermint	
Eucalyptus rubida	Candlebark Gum	
Eucalyptus sieberi	Silvertop	
Eucalyptus smithii	Gully Gum	
Eucalyptus viminalis	Manna Gum	
Eucalyptus tricarpa/ sideroxylon	Red Ironbark	
Eucalyptus polyanthemos	Red Box	
Eucalyptus bosistoana	Gippsland Grey Box	
Eucalyptus goniocalyx	Long leaf box	
Eucalyptus microcarpa	Grey Box	

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Attachment 7 - Firewood Grade Codes

Species Group	Dry Firewood	Green Firewood
Ash	AS-F	AS-G
Mixed Species	MS-F	MS-G

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