

## Technical Data Sheet

**Product:** Unbleached Softwood Kraft Pulp  
**Brand name:** Celco FC  
**Wood specie:** Pinus Radiata D. Don  
**Pulp Mill:** Constitución

Celco unbleached softwood Kraft pulp obtained from Radiata Pine Managed plantations established in southern Chile, Arauco pulp mills are certified under chain of custody international standards in addition to ISO 9001 and 14001 certified for quality and environmental scopes. Considered as a premium fiber for fiber cement applications due to high fiber length, high fiber strength and high coarseness.

### Pulp Characteristics

Lignin content				
	Unit	Average	Std. Dev*	Based on
Kappa Number	(N°)	29	1.3	ISO:302-2004

Fiber morphology				
	Unit	Average	Std. Dev*	Based on
L.Weighted	(mm)	2.55	0.03	L&W fiber tester 912
Coarseness	(dg/m)	23.5	1.0	L&W fiber tester 912

Referential values for mechanical properties				
	Unit	Average	Std. Dev*	Based on
Dry Zero Span (unbeaten)	(Km)	16.0	0.5	T231 cm-96
Wet Zero Span (unbeaten)	(Km)	15.0	0.5	T273 pm-96

Response to PFI laboratory refining <sup>(1)</sup>						
	Unit	Reference Values				Based on
PFI Revolutions	(rev)	0	5000	7000	9000	T248 sp-08
Freeness	(°SR)	12	20	30	45	T227 om-09
Breaking Length	(Km)	3,2	10	10,5	10,8	T494 om-13
Burst Factor	(f)	16	75	80	85	T403 om-10
Tear Factor	(f)	200	135	126	120	T414 om-12

(1) Typical values obtained at Constitution mill's laboratory with normal production samples. Hand sheet forming based on T 205 om-88, Physical properties calculation based on 60 g/m<sup>2</sup>

Other properties				
	Unit	Average	Std. Dev*	Based on
Viscosity	(cm <sup>3</sup> /g)	1050	30	T230 om-82
Sodium	(ppm)	480	70	T266 om-88
Alcohol- Benzene	(%)	0,09	0,025	T204 os-76

Guaranteed values for optical Properties				
	Unit	Average	Std. Dev*	Based on
Dirt Count	(mm <sup>2</sup> /m <sup>2</sup> )	80	10	T213 om-85

\*Three Std. Dev are considered