

Smilodon Munich–Style Dunkel

Author: Edward Mathis
Date: 07/22/20007
Category: 4 – Dark Lager
Subcategory: B – Munich Dunkel



Kettle Volume: 14.94 gal (SG: 1.041)	Efficiency: 76.75%
Boil Duration: 2.0 hrs	Attenuation: 64.9%
Evaporation: 5.4 gal	Evap/Hour: 2.7 gal
Volume Gain/Loss: 1.5 gal	
Final Volume: 10.66 gal (SG: 1.057)	

Ingredients:

0.0 ea WYeast 1007 German Ale
23.0 lbs Munich TYPE II
1.0 oz De-Bittered Black Malt (Mout Roost 1400)
2.8 oz Spalt Spalter (2.2%) – added during boil, boiled 60.0 min
1.2 oz Hallertau Mittelfruh (4.1%) – added during boil, boiled 60.0 min
0.4 oz Hallertau Mittelfruh (4.1%) – added during boil, boiled 30.0 min
0.2 oz Hallertau Mittelfruh (4.1%) – added during boil, boiled 2.0 min
4.0 tsp Irish Moss – added during boil, boiled 15.0 min

Water:
15.0 gal Munich, Germany

Style Comparison:

Recipe	Guideline	
Original Gravity: 1.057	1.048 – 1.056	
Terminal Gravity: 1.020	1.010 – 1.016	
Color: 14.9 °SRM	14.0 – 28.0	
Alcohol: 4.86%	4.5% – 5.6%	
Bitterness: 21.66	18.0 – 28.0	

Analysis:

	Apparent	Real	Weight	Calories
Original Extract:	14.02 °P	14.02 °P	Alcohol: 13.7 g	94.48
Attenuation:	64.9%	51.7%	Carbs: 24.1 g	91.75
Terminal Extract:	5.08 °P	6.77 °P	Protein: 1.7 g	6.76
% Alcohol:	4.86% ABV	3.78% ABW		Total: 192.99

Schedule:

Ambient Air: 70.0 °F
Source Water: 60.0 °F
Elevation: 0.0 m

00:18:00 Mash In
Liquor: 2.88 gal
Strike: 152.5 °F
Target: 131.0 °F

00:38:00 Protein Rest
 Rest: 20.0 min
 Final: 128.8 °F

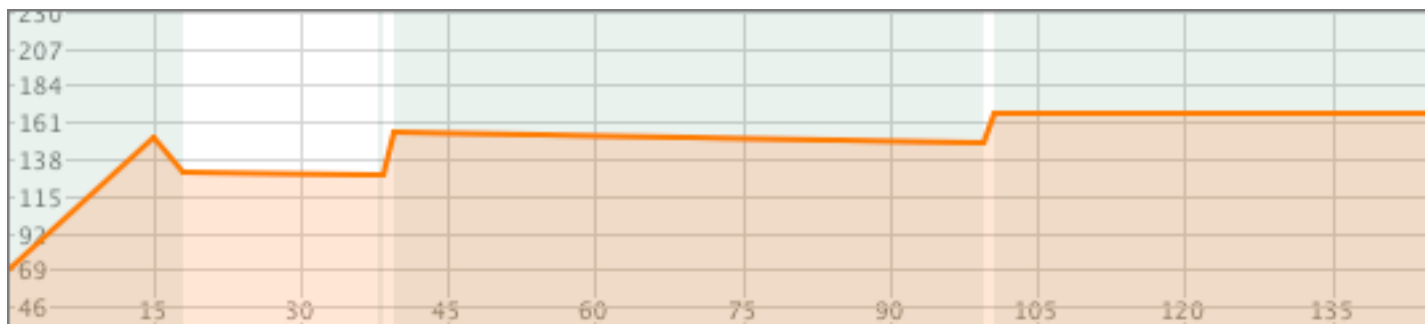
00:38:33 End Protein Rest
 Heat: 0.6 min
 Target: 130.0 °F

00:39:33 Infusion
 Water: 4.32 gal
 Temperature: 180.0 °F
 Target: 156.0 °F

01:39:33 Saccharification Rest
 Rest: 60.0 min
 Final: 149.4 °F

01:40:33 Mash Out
 Water: 4.32 gal
 Temperature: 203.8 °F
 Target: 168.0 °F

02:25:33 Sparge
 Sparge
 Volume: 5.52 gal
 Temperature: 170.0 °F
 Runoff: 14.33 gal
 Duration: 45.0 min
 Total Runoff: 14.69 gal



Carbonation:

Natural Conditioning

Beer Temp: 68.0 °F
 Priming Agent Rate: 4.02 g/L
 Priming Agent Mass: 265.692 g
 Volumes CO2: 2.5

Forced Carbonation

Beer Temp: 45.0 °F
 Pressure: 14.8861 PSI
 Volumes CO2: 2.5

Notes

Awards:
 2008 Great Arizona Homebrew Competition Best of Show