



Select Ingredients

MAY 2014 EDITION



2014 RESOURCE GUIDE



Select Ingredients



Order at 800.374.2739
bsgcraftbrewing.com



2014 RESOURCE GUIDE

Welcome to BSG CraftBrewing

Brewers Supply Group Inc. was formed in 2004 to provide the craft brewing community a dependable source of diverse ingredients from around the world. After nine years, we felt it was time to rebrand the company in order to modernize our look and name. Our new logo was designed in-house by our marketing team. We have maintained the iconic triangle in the design and used color to reflect our different divisions, our traditional green for CraftBrewing, orange for HandCraft, red for Wine and yellow for Distilling.

To our longstanding customers, thank you for your business, trust and friendship over the years. We hope to serve as a continuous, reliable source of the best brewing ingredients at competitive values backed by the best customer service in the business.

To our new customers... welcome!

BSG CraftBrewing strives to provide breweries with an integrated approach to brewing raw material supply by combining a one stop source for malt, hops, grains, sugars, spices and brewing aids, with excellent customer service. We can supply bags, pallets, trucks, ocean containers, or even railcars!

We strive to provide the industry with the very best brewing ingredients and as you will see in these pages we are proud to partner with the world's top maltsters, hop growers and ingredients suppliers.

Our knowledgeable and friendly sales and management staff are drawn from the brewing community itself and so we are able to assist in recipe formulation and troubleshooting.

With distribution centers strategically located across the United States, we are within easy reach of all but the most remote brewery locations and we are planning to open more locations in coming months.

We continue to scour the globe for new and interesting beer-making ingredients and will continue to launch new products throughout the forthcoming year.

The United States has had a tempestuous relationship with beer ranging from innovation, to prohibition, to ambivalence. Today, however, thanks to the people of the craft brewing movement, the US has the most exciting brewing industry in the world. I, along with our dedicated and hard working staff am proud to be a part of this community. Thank you for making our work so enjoyable!

Ian L Ward
President
BSG





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We'd like to give a special thank you to Allagash Brewing Company for allowing us the opportunity to include some shots of their great brewery in this Resource Guide.

Sales Offices

New England Region
250 Niantic Ave
Providence, RI 02901

Judy Nadeau - Sales Manager New England Region
jnadeau@bsgcrafbrewing.com

Tim Kochiss - Distribution Center Manager
tkochiss@bsgcrafbrewing.com

Northeast Region

Grant McDonough - Sales Manager Northeast Region
gmcdonough@bsgcrafbrewing.com

Southeast Region
7035 LaGrange Blvd, Suite B
Atlanta, GA 30336

Allen Young - Sales Manager Southeast Region
ayoung@bsgcrafbrewing.com

Tommy Krepsky - Distribution Center Manager
tkrepsky@bsgcrafbrewing.com

Midwest Region
760 East Pearl Street
Kasota, MN 56050

Chris German - Sales Manager Midwest Region
cgerman@bsgcrafbrewing.com

Darwin Shepherd - Distribution Center Manager
dshepherd@bsgcrafbrewing.com

Southern Region
7200 Golden Gate Dr
Houston, TX 77041

John Guzmán - Business Manager Brewing Ingredients
jguzman@bsgcrafbrewing.com

Thomas Stephenson - Distribution Center Manager
tstephenson@bsgcrafbrewing.com

Mountain Region
4900 Moline Street
Denver, CO 80239

Chad Hatlestad - Director of Sales
chatlestad@bsgcrafbrewing.com

Brad Warosh - Distribution Center Manager
bwarosh@bsgcrafbrewing.com

Pacific Northwest Region
3301 SE Columbia Way
Vancouver, WA 98661

Nick Funnell - Technical Sales Manager Pacific NW
nfunnell@bsgcrafbrewing.com

Jesse Gaylord - Distribution Center Manager
jgaylord@bsgcrafbrewing.com

West Coast Region
750-139th Ave
San Leandro, CA 94578

Peter Hoey - Technical Sales Manager Western Region
phoey@bsgcrafbrewing.com

Kevin Harrity - Distribution Center Manager
kharrity@bsgcrafbrewing.com

Hop Division

P.O. Box 140
Yakima, WA 98907
Inquiries: 800.374.2739

Sean McGree - Hop Specialist
smcgree@bsgcrafbrewing.com

Daniel Gonzalez - Distribution Center Manager
dgonzalez@bsgcrafbrewing.com

Customer Service 800.374.2739

Cheri Baldwin - cbaldwin@bsgcrafbrewing.com

Rachael Blom - rblom@bsgcrafbrewing.com

Diane Driver - ddriver@bsgcrafbrewing.com

John Lehmann - jlehmann@bsgcrafbrewing.com

Tyler Omoth - tomoth@bsgcrafbrewing.com

Ellie Smith - esmith@bsgcrafbrewing.com

Katie Theis - ktheis@bsgcrafbrewing.com

Jamie Thomas - jthomas@bsgcrafbrewing.com

Jim Wiggins - Sales Development Coordinator
jwiggins@bsgcrafbrewing.com

Customer service and order processing personnel are available between 7:30 AM and 5:00 PM CST, Monday through Friday at 1.800.374.2739 or fax orders to 1.952.224.1390

Headquarters

800 West First Ave
Shakopee MN 55379

Ian L. Ward, PhD. - President
707.252.2550
iward@bsgcrafbrewing.com

JD Dempsey - VP Operations
952.224.1384
jdempsey@bsgcrafbrewing.com

Marc Worona - VP Sales & Marketing
707.252.2550
mworona@bsgcrafbrewing.com

Laura Hansen - Director of Supply Chain
303.362.3240
lhansen@bsgcrafbrewing.com

Jen LaValley - Controller
952.496.7016
jlavalley@bsgcrafbrewing.com

Dawn McQuillan - Logistics Manager
952.224.1383
dmcquillan@bsgcrafbrewing.com

Malissia Urlaub - Finance Manager
952.224.1386
murlaub@bsgcrafbrewing.com

Jay Lochner - Accounting Manager
952.641.3627
jlochner@bsgcrafbrewing.com

Ordering

Pricing

- Pricing is available by calling your sales rep or our toll free line, 800.374.2739.
- All pricing is F.O.B. originating warehouse.
- There is an additional charge for milling. Please inquire.
An extra 2 – 5 days may be required for milled products.
- There is a small additional Pallet Fee. (different at each warehouse)

New Accounts

A credit application with a bank authorization must be completed in order for credit to be established. For new customers, please allow 3-5 business days for account set up and/or credit approval upon receipt of the completed credit application. Prepayment may be required. Failure to comply with credit terms may result in revocation of credit privileges. All dealings between parties shall be governed by and interpreted in accordance with the laws of Minnesota.

Prepayments

There are several payment options for our prepay customers:

- Credit Card: Visa, Mastercard, Discover and Amex accepted
- Wire Transfer, check or ACH
- Electronic check: E-mail or fax a copy of your check to us, and DO NOT mail the original. Your e-mail should be sent to accountsreceivable@bsgcraft.com or faxed to 952.224.1390

Freight

Freight terms are “Prepaid” unless otherwise instructed.

The following items need to be requested at the time of order and may have an extra charge:

- Specific delivery dates and times (guaranteed delivery)
- Lift gate service
- Pallet jack service
- Delivery notification
- Driver assist-unload (inside delivery)
- Extra hose (bulk shipments)

Receiving

Receiving Bagged Malt

Before signing the shipment Bill of Lading, each bag and/or pallet must be inspected. Look for torn or broken bags and ensure every bag and pallet is accounted for. You can reference the packing slip attached to each pallet or package.

If any problems arise:

- First, note how many bags were shorted, broken, or any other circumstances on the Bill of Lading before signing. Please take a photo.
- Then call the BSG CraftBrewing’s Customer Service within 48 hours to report, and you will be instructed on how to submit the photo.

Receiving Bulk Malt

To ensure the best quality of malt, we suggest the following:

- Ask the driver for documentation of the trailer pre-load cleanout.
- Inspect the condition of the malt and trailer before unloading.
- If pneumatic, we insist upon a slow and steady load-out of malt into the silo. Malt should not be loaded out at a rate greater than 5 psi. Please ensure driver complies.
- The Bill of Lading should not be signed until the malt is fully unloaded and inspected. The driver is required to note the unload pressure and unload time before it is signed by the receiver. Problems should be noted on the Bill of Lading.
- If you have any questions at the time of unloading, don’t hesitate to call us. The driver must wait if you have any concerns.

Malt Storage

All grain suppliers do their utmost to provide a product that is insect free. However, once the product leaves the plant or warehouse it is beyond their control. We recommend the following:

- Inspect the malt area at regularly scheduled intervals. This is of particular importance when the room temperature is above 64 degrees F.
- Malt should be stored in a clean, cool, dry area and if at all possible, away from walls.
- To reduce the likelihood of insect activity, you may choose to fumigate periodically (Organic malt cannot be fumigated).
- For best results, we recommend using all milled products within 3 months and all whole kernel products within 6 months of receipt.
- Keep malt away from strong odors for extended periods of time.

Special Orders

Imported Malts take, on average, 12 weeks to arrive from the time we order. Please work with your sales representative on special/seasonal orders, and supply monthly projections to ensure adequate inventories.

Malt Analysis

For all bagged Rahr Malting products, the malt analysis is on the front of the ID tag sewn to the bag. For all other bagged products, the malt analysis can be faxed or emailed upon request. Weyermann® items have their own QR codes. For bulk loads, the malt analysis is sent automatically without request, if an e-mail address is provided at the time of ordering.

Miscellaneous

Prices are discounted on orders of 40+ bags of malt. Please inquire.

Please call for bulk pricing.

Due to carrier weight restrictions, we are unable to ship more than 2,500 pounds per pallet (remember to include the 60 lb weight of the pallet in this 2500 lb limit).

Customers who require a lift gate, please note: maximum allowable weight per pallet is 2,000 pounds (including the weight of the pallet itself).

Discount programs have been established with numerous LTL (less than truckload) carriers. A carrier with the best rate for your shipping destination and a strong history of reliability will be assigned, unless otherwise requested.





MALT



Castle Malting™ has an outstanding line of the highest quality base and specialty malts which are successfully exported to more than 116 countries.



Belgium is the beer Mecca of the world. The unique properties of Belgian malts are essential to all famous Belgian beers just as much as the unique brewing processes. Belgian malts offer qualities and performance profiles that differ markedly from malts produced anywhere else. They have unique characteristics in terms of flavors, clarity of wort, color, yield and other parameters.

Established in 1868, Castle Malting™ is the oldest malting company in Belgium and is renowned for its individuality, as well as for its uncompromising standards of malt quality. Castle Malting™ has an outstanding line of base and specialty malts producing more than 60 types of malt which are successfully exported to more than 116 countries.

All Castle Malting™ malts are produced using the traditional process which lasts from 8 to 10 days. This process is a solid warranty of high modification of the grain and real top quality of premium malts. Castle Malting™ malts are 100% traceable from barley field through all stages of malting process up to the delivery.

Brewer's Malt and Special Malt

Castle Malting™ offers you a wide range of base and specialty malts of the highest quality, allowing you to brew any beer style from Pilsen and White to the darkest Abbey beers.

Brewer's Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Château Pilsen 2RS	4.5	1.4-1.8	11.5	81.0	Up to 100%
Château Vienna	5.0	2.4-3.2	11.5	80.0	Up to 100%
Château Pale Ale	4.5	3.2-3.9	11.5	80.0	Up to 100%

Special Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Château Munich Light™	4.5	5.8-6.6	11.5	80.0	Up to 60%
Château Abbey™	5.0	16.3-21.2	11.5	79.0	Up to 10%
Château Melano	4.5	28.7 - 32.4	11.5	78.0	Up to 20%
Château Melano Light	4.5	14.1 - 17.1	11.5	79.0	Up to 20%



Caramel and Roasted Malts

With its brand new, innovative roasting facilities Castle Malting™ revolutionizes malt roasting processes and produces a broad range of caramel and roasted malts with exceptional taste and aroma properties.

The unique engineering design of the roasting facility and progressive production technologies allow us to obtain the following advantages for our caramelized and roasted malts: even more flavor, higher caramelization rate, less bitterness and less astringency in higher colorations.

For more information on beer styles in which you can use Castle Malting™ malts please see www.castlemalting.com

Caramel Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Château Cara Blond™	5.0	7.3-8.8	11.5	78.0	Up to 20%
Château Cara Ruby™	5.0	16.7-21.9	11.5	76.0	Up to 20%
Château Cara Gold™	6.0	41.8-49.3	11.5	74.0	Up to 20%
Château Special B™	4.0	94.3-131.8	11.5	76.0	Up to 10%

Roasted Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Château Biscuit™	4.7	17.4-21.2	11.5	77.0	Up to 15%
Château Chocolat	5.0	300.6-375.6	11.5	75.0	Up to 7%
Château Black	5.0	507.4	11.5	73.5	3-6%

Organic Malts

Always committed to a healthy environment, Castle Malting™ is happy to offer a wide range of certified organic malts.

NEW Organic Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Château Biscuit Nature	4.7	17.4-21.2	11.5	77.0	Up to 15%
Château Cara Gold Nature™	6.0	41.8-49.3	11.5	74.0	Up to 20%
Château Special B Nature	4.0	94.2-131.8	11.5	76.0	Up to 10%

More malts are available on www.castlemalting.com



Crisp Malting retains the traditional method of floor malting, which is subject to the same stringent process and quality control monitoring as the modern malting plant.



Crisp Malting Group is the UK's **leading privately owned, independent maltster**. The company's largest maltings at Great Ryburgh in Norfolk incorporates all the benefits that modern technology has brought to the industry, but still leaves room for growth.

Automatic processes, advanced materials and innovative design features all contribute to maltings that combine the traditional concept of malt production in an environment fit for the 21st Century. In accordance with their commitment to partnerships with their customers and their individual specialty requirements, **Crisp Malting retains the traditional method of floor malting**, which is subject to the same stringent process and quality control monitoring as the modern plants.

Locations

Five malting production sites, located in England (Great Ryburgh, Ditchingham, Mistley) and Scotland (Portgordon, Alloa) are well positioned to service both local and international customers with a full range of malt styles.

Brewer's Malt

Best Ale Malt from 2 row Norfolk winter barley has low protein. The elevated colors and malty sweet flavor make this a popular malt for the traditional ale brewing technique of infusion mashing and top fermentation.

Maris Otter Ale Malt has long been the favorite of the English ale brewers for its rich flavor and very forgiving brewing performance. In the field, it is lower yielding than the more modern varieties, so it is grown under contract to Crisp Malting each year by selected Norfolk farmers. In the brew house, excellent yields and efficient run-off make it the malt of choice for producing English-style beers. This malt is principally produced in the modern Saladin boxes, but is also available to be purchased under the exclusive "Gleneagles Maris Otter" brand, highlighting it as the product of the traditional floor malting plant.

Wheat Malt, when brewed in conjunction with barley malt, can improve head retention, mouthfeel and introduces typical wheat flavor changes.

Rye Malt also improves head retention, mouthfeel and introduces flavor changes of a toffee/caramel note at lower inclusion rates, and a spicy after-palate at higher use rates. Rye malt will impart a reddish hue to beer.

Brewer's Malt	Moisture % Max	Color °L	Extract FG Min	Usage %
Pale Ale Malt	3.0	2.5-3.5	82.4	to 100
Finest Maris Otter	4.5	1.5-1.9	82.4	to 100
Extra Pale Maris Otter	2.8	3.0-4.0	81.6	to 100
Gleneagles Maris Otter	4.5	1.5-1.9	81.6	to 100
Europils Malt	3.2	3.0-4.0	81.6	to 100
Wheat Malt	4.5	1.5-1.9	82.5	to 100
Rye Malt	6.5	2.0-3.0	83.5	to 55
Torrefied Wheat	4.2	7.3-7.8	86.6	to 25
Organic Ale Malt	5.0	2.5-3.5	80	to 25
Organic Wheat Malt	3.0	2.5-3.5	82.5	to 100



Special and Colored Malt

Crisp Malting's extensive range of kiln-produced special malts and roaster-produced colored malts offer brewers the opportunity to control, adjust, emphasize and intensify the color, mouthfeel and flavor characteristics of their beers.

Clear Choice Malt is exclusive to Crisp Malting and made from specially bred barley varieties that are proanthocyanidin-free. In short, the polyphenols in barley that are one of the principal elements that cause haze in beer have been removed, giving a more stable, brighter product with an extended shelf-life.

Dextrin Malt has been developed by Crisp Malting to provide the brewer with an opportunity to increase head retention and body when used in conjunction with a well-modified base malt.

In addition to our brewing range of malts, Crisp Malting are pleased to offer **Pot Still and High Diastatic (HDP)** malts which are aimed at the distiller wanting to gain maximum yield from malt and grain whiskey production.

Special Malt	Moisture % Max	Color °L	Extract FG Min	Usage Rate %
Light Munich Malt	5.0	5	80	to 20
Dark Munich Malt	5.0	20	81	to 20
Dextrin Malt	7.0	1.5-2.0	81	to 10
Clear Choice Malt™	4.0	2.0-2.5	82.6	to 100

Crisp Malting provides a full range of colored malts, from the lower colored Caramalt with its characteristic dry, malty flavors, to the Crystal Malts with their sweet caramel flavors and the rich Chocolate, Black Malts and Roasted Barley associated with strong chocolate, coffee and astringent notes.

Colored Malt	Moisture % Max	Color °L	Extract FG Min	Usage Rate %
Caramalt 15	3.2%	10-15°	76	Up to 25
Crystal Light 45	3.2%	40-50°	76	Up to 25
Crystal 60	3.2%	55-65°	76	Up to 20
Crystal Dark 77	3.2%	70-80°	76	Up to 20
Crystal Extra Dark 120	3.2%	110-130°	76	Up to 10
Amber	3.0%	23-35°	80	Up to 20
Brown	3.0%	60-70°	76.5	Up to 10
Pale Chocolate	3.0%	200-250°	77	Up to 10
Chocolate	3.0%	425-475°	77	Up to 10
Black	3.0%	580-630°	75	Up to 10
Roasted Barley	3.0%	550-560°	76.5	Up to 10



Gambrinus Malting Corporation, located in British Columbia's Okanagan Valley, began production in 1992 to provide the finest quality specialty malts to the brewing industry.



Gambrinus Malting Corporation, located in British Columbia's **Okanagan Valley**, began production in 1992 to provide the finest quality specialty malts to the brewing industry. With a production capacity of 6000 metric tonnes and a desire to serve, they are able to meet the specific needs of regional and micro-brewers.

Brewer's Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Pale Malt	4.5	1.5 – 2.0	11.0	82.0	Up to 100%
Pilsner Malt	4.5	1.3 – 1.8	10.5	82.0	Up to 100%
ESB Pale Malt	4.0	3 - 4	11.0	82.0	Up to 100%
Wheat Malt	4.5	1.8 – 2.8	12.0	84.0	Up to 60%
Pale Rice Malt	4.1	2.2	8.5	68.0	---

Color Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Munich Light 10L	4.0	9.5 – 10.5	11.5	81.0	to 100
Munich Dark 30L	4.0	25 - 30	11.5	81.0	to 30
Vienna Malt	4.5	5 - 6	11.5	81.0	to 100

Gambrinus Pale (Conventional & Organic)

Processed from premium Canadian two-row barley, this base malt may be used in beers of all types.

Gambrinus Pilsner (Conventional & Organic)

Processed from premium Canadian two-row barley available, this very low protein base malt may be used in all types of European style beers.

Gambrinus ESB Pale

"Extra Special British" pale malt has been produced for brewers seeking a domestic malt with the unique flavor imparted by British pale malt.

Gambrinus Pale Wheat (Conventional & Organic)

Processed from the finest Canadian wheat available, this wheat malt may be used in wheat beers of all types.

Gambrinus Munich Light 10L (Conventional & Organic)

This plump, sweet and mellow kilned malt is ideal for any amber beer where balanced malty character is sought.

Gambrinus Munich Dark 30L

A very deep kilned Munich malt with the color and flavor characteristics of roasted malt coupled with the mellow maltiness of Munich malt.

Gambrinus Vienna

This mellow kilned malt is a bridge between a Pale and Munich malt. It is ideal for any amber beer where balanced malty character is desired.

Gambrinus Honey Malt

With intense malt sweetness, Honey Malt has been patterned after German Bruhmalt and is well suited for use in brown ale and strong ale, among others.



Malting Company of Ireland ownership is shared between three Irish grower cooperatives... giving them full traceability from farm to customer.

MALTING COMPANY OF IRELAND, LTD. are manufacturers of quality malted barley to the brewing and distilling industries since 1858. The malt house is located in the city of Cork on the south coast of Ireland. Renowned for its agricultural products from its fertile soils and ample rainfall, Ireland's farmers produce excellent barley for malting.

MCI ownership is shared between three Irish cooperatives. All of their barley is grown under contract with seeds, sprays and fertilizers supplied by the cooperatives themselves, giving them full traceability from farm to customer.

MCI's lineage can be traced back to the floor maltings originally built in 1858 to supply the Beamish & Crawford Brewery. In 1965, a Boby drum plant was built in Ballincollig which also supplied Irish Distillers and Murphy's Brewery. In 1998, the plant was expanded, then once again upgraded in 2000 bringing its capacity to 32,000MT.

Brewer's Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
MCI Irish Ale Malt	4	2.0-3.5	10.0	82.0	up to 100
MCI Irish Lager Malt	4.5	1.5-2.0	10.0	80.0	up to 100
MCI Irish Stout Malt	4.5	1.5-2.0	10.0	82.0	up to 100
MCI Irish Distillers Malt	4.5	1.25-1.75	10.0	82.0	up to 100

Irish Ale Malt

Characterized by plump kernels with low protein and very high extract. The elevated kilning temperature (96-98 °C) produces a malt that offers an aromatic wort with a rich straw to yellow color (2.0-3.5 °L). The malt is highly modified and very versatile in the brewhouse. Assortment is very uniform.

Irish Lager Malt

Expertly crafted for brewers who wish to produce European-style Lagers and other types of beers. The kernels are uniformly plump and show a high degree of modification and very low protein. The kilning temperature is in the mid range (88-90 °C) which allows for fine balance between a rich straw colored (1.5 to 2.0 °L) wort and proper enzyme activity.

Irish Stout Malt

Characterized by plump kernels with very low protein and high extract. The kilning temperature is kept low (82-84 °C) resulting in a low colored base wort with higher enzyme levels. The Irish Stout Malt is a versatile malt that performs well in the brewhouse. Typically used as the base for the top tier Irish Stout brands, it can be used in almost any application where traditional ale-type malts are preferred.

Irish Distillers Malt

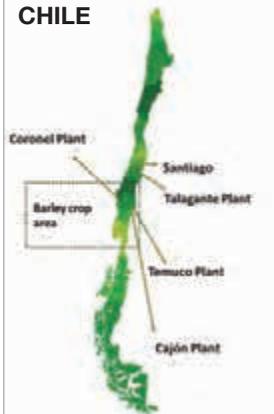
Traditional base used in making many of the renowned Irish Whiskeys. It is well suited for use in making other distilled spirits also. The kilning temperature is low (78-80 °C) resulting in a low color wash.



Founded in 1896, Patagonia Malt leads in the Latin American Pacific Coast Malt Market and keep increasing quality recognition among craft brewers worldwide.



CHILE



Patagonia Malt comes from Chile. Barley is grown and malted with unique soil and weather conditions, between the Andes Mountains and the Pacific Ocean, to create unmatched flavor. Unique climate conditions of the central-south zones of Chile, characterized by a cold and rainy weather, create an environment for exceptional barley growing.

Founded in 1896, Patagonia Malt leads in the Latin American Pacific Coast Malt Market and keep increasing quality recognition among craft brewers worldwide.

Today we grow Barke, Sebastian and Scarlett barley varieties. All malts originated from Europe, but have been adapted to the Chilean soil and climate. We have complete control and traceability from the barley seed to the final product, with special care for the purities of each variety. Our agricultural R+D department is also constantly exploring how new varieties behave in our conditions.

Our products have a unique flavors and characteristics. We keep innovating in order to bring you more alternatives so that you can craft a new kind of beer.

Barley steeping and germination conditions are carefully monitored to achieve even germination and homogenous malting. Following kilning, our malted barley possesses quality and color comparable with the finest malts, though with a unique aroma and taste from Chilean Terroir.

Brewer's Malt	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Extra Pale Malt	4%	1.6	11.5	80	Up to 30%
Caramel Malts	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Caramel 15L	7%	15	12.5	65.0	Up to 30%
Caramel 35L	7%	35	12.5	65.0	Up to 30%
Caramel 45L	7%	45	12.5	65.0	Up to 30%
Caramel 55L	7%	55	12.5	65.0	Up to 30%
Caramel 70L	6%	70	12.5	65.0	Up to 25%
Caramel 90L	5%	90	12.5	65.0	Up to 25%
Caramel 110L	5%	110	12.5	65.0	Up to 20%
Especial Malt 140L	5%	140	12.5	65.0	Up to 20%
Caramel 170L	4%	170	12.5	65.0	Up to 15%
Caramel 190L	4%	190	12.5	65.0	Up to 15%
Roasted Malts	Moisture % Max	Color °L	Protein Total Max	Extract FG Min	Usage Rate %
Brown 115L	4%	115	12.5	65.0	Up to 15%
Coffee 230L	4%	230	12.5	65.0	Up to 15%
Chocolate 350L	4%	350	12.5	65.0	Up to 15%
Dark Chocolate 450L	4%	450	12.5	65.0	Up to 10%
Black Malt 530L	4%	530	12.5	65.0	Up to 5%
Perla Negra (Black Pearl) 340L	5%	340	12.5	65.0	Up to 15%



Patagonia Extra Pale Malt

- Medium modified malt.
- Low DMS due to higher kiln temperature allows boiling for 60 min.
- Blend of at least two barley varieties from:
 - Sebastian
 - Barke
 - Scarlett

Developed to offer a new and challenging alternative to craft brewers, it is a great choice for ales and lagers due to its versatility, low color and undesired aromas.

Caramel Malts

Also known as Crystal Malt, it's made from green malt. During the toasting process, sugars are caramelized developing unique flavors, aromas and colors. Outstanding high color caramel malts, because of its complex flavor and higher red color.

Features

Appearance: Friable golden brown kernels

Aroma: Pleasant, sweeter and more intense than pilsner malt

Flavor: Sweet, fresh and clear caramel taste on lower colors. As roasting increases, flavors become more complex, adding toffee, raisins, dry prunes, some sweet bitterness and roasted bread flavors.

Roasted Malt

Whether you want to add a subtle touch of complexity to an ESB or taste bold and striking, these unique roasted malts can be a good option.

Features

Appearance: Light brown to dark brown kernels

Aroma: Roasted

Flavor: Each roasted malt has its own characteristic. Going from bready, smoky and slightly roasted, to chocolate and coffee, to strong bitter black malt.

Perla Negra or Black Pearl

Is a unique, 100% huskless product made from selected spring barley from the Patagonia. Through specialized process, the husk is completely removed and the grain is gently toasted to develop flavors and aromas with less bitterness and no astringency

Features

Appearance: Brown kernels with no husk

Aroma: Chocolate and toasted coffee

Flavor: Low roasted taste with minimal bitterness. Mellow chocolate flavor mixed with subtle notes of coffee and nuts can be found, without the acrid bite, phenolic, astringency or smoky character often inherited from the in-husk roasted barley.



RAHR MALTING CO.

Founded by entrepreneur William Rahr in 1847 as the Eagle Brewery, the company soon found that their ability to produce quality malt exceeded the needs of their tiny brewery.



The story of Rahr is one of tradition and family. A family inspired by vision, imagination and determination. **Founded by entrepreneur William Rahr in 1847 as the Eagle Brewery**, the company soon found that their ability to produce quality malt exceeded the needs of their tiny brewery.



Five generations later Rahr Malting Company is still dedicated to the founder's core values. The drive for excellence, astute judgment and confidence in meeting challenges have made Rahr Malting a legend.

With **modern malting facilities** at both of their company headquarters in Shakopee, Minnesota and at their malt house in Alix, Alberta, Canada, Rahr Malting Company maintains the traditions of quality and customer service that have been the standard of industry excellence for over 160 years.

You may have noticed the new 100% recyclable Rahr bags that indicate "Fossil Free Malting" and "Made with Renewable Energy". With environmental stewardship and sustainability as core values, Rahr together with Sioux community partners commissioned the Koda Biomass project, a 16.5 MW 125 mmbtu/hr biomass fueled Combined Heat and Power plant in November 2008. This CHP plant eliminates the use of natural gas as a fuel (70,000 tons per year of CO₂) for drying Rahr Malt and generates 220% more electricity than Rahr consumes (approximately 190,000 tons of CO₂ per year reduction compared to 16.5 MW of coal fired electrical generation). The excess electricity is supplied back to the grid for use within the city of Shakopee. Rahr is proud to be producing Fossil Free Malt.

Brewer's Malt	Moisture % Max	Color °L	Protein Total	Extract FG Min	Usage Rate %
Premium Pilsner	4.0	1.5 – 2.0	11.0 ± 0.5	80.0	Up to 100%
Old World Pilsner	4.0	1.5 – 2.0	11.5 ± 0.5	79.0	Up to 100%
Standard 2-row	4.0	1.7 – 2.0	11.5 ± 0.5	80.0	Up to 100%
Standard 6-row	4.2	2.1 – 2.5	15.0	79.0	Up to 100%
Pale Ale	4.5	3.0 – 4.0	12.0	79.0	Up to 100%
Red Wheat	4.5	3.0 – 3.5	12.0	85.0	Up to 50%
White Wheat	4.5	3.0 – 3.5	12.0	85.0	Up to 50%
Unmalted Wheat	12.0	1.5 – 4.0	12.0 ± 3.5	-	Up to 50%
High DP Distillers Malt	4.5	2.5 – 3.0	11.5 ± 3.5	76.0	Up to 100%



Schill Malz has been run by members of the founding family for more than 150 years.



Germany has a world-wide reputation not only for the production of beer but also for excellent brewing malt. Schill Malz has been run by members of the founding family for more than 150 years. It is one of the biggest producers in the German malting industry and known for outstanding quality and service.

Malt	Color°L	Application
Pilsner	1.25 - 1.77	To be used exclusively for pale beers (Pilsner, Lager) or as an additive in variable quantities for almost all other types of beer
Vienna	2.8 - 4.1	For strong light beers and festival beers or for later coloring of pale beers
Munich Light	2.5 - 3.6	
Munich Dark	5.1 - 7.1	For dark beers, festival beers, strong beers, malt beers and stouts, or for reinforcing the malty, aromatic character of medium-colored beers (e.g. Alt-old style German top fermented beer)
Wheat Malt	1.0 - 2.0	For brewing wheat beers or as an additive for top fermented beers (e.g. Kölsch - strong lager, or Berlin white beer)
Cologne (Kölsch) Malt	4.1 - 4.6	For brewing Kölsch-type beers. The malt is being produced in the only malting facility in the Cologne area, Germany.



“150 years, 5 generations, 1 home of good malt.”

www.simpsonsmalt.co.uk



Peter Simpson chats supply chain with brewers

“The art of making good malt out of poor barley has yet to be discovered.”

Simpsons™ Maris™ Malts™ Pale Ale™ Promise™ Naked Oats™
DRC Otter Roast Best Golden Golden

Base Malts	Usage Rate %	Colour Lovibond	Moisture Max	Characteristics
Finest Pale Ale Golden Promise	to 100	1.9 – 2.4	3.5%	A principal ingredient of cask ales using heritage barleys.
Finest Pale Ale Maris Otter	to 100	2.1 – 2.8	3.5%	A principal ingredient of cask ales using heritage barleys.
Low Colour Maris Otter	to 100	1.3 – 2.1	3.5%	For brewers who require low colour, well modified malt using a Heritage Variety (light colour ale or and IPA type)
Best Pale Ale Malt	to 100	2.1 – 2.8	3.5%	The principal ingredient of cask/keg ales. UK-2 row barley.
Extra Pale Ale Malt	to 100	1.3 – 2.1	3.5%	For brewers who require low colour, well modified malt to produce a light coloured beer. (Lager or IPA) UK 2-row barley
Finest Lager Malt	to 100	1.5 – 1.9	4.5%	Low total nitrogen, low colour, high extract and well modified UK Spring 2 row malt. Good to make a very good light coloured beer.
Distilling Malt	to 100	1.3 – 2.1	4.5%	The main ingredient for Whisky production
Pilsner Lager Malt	to 100	1.5 – 1.9	4.5%	The main ingredient of lager beers

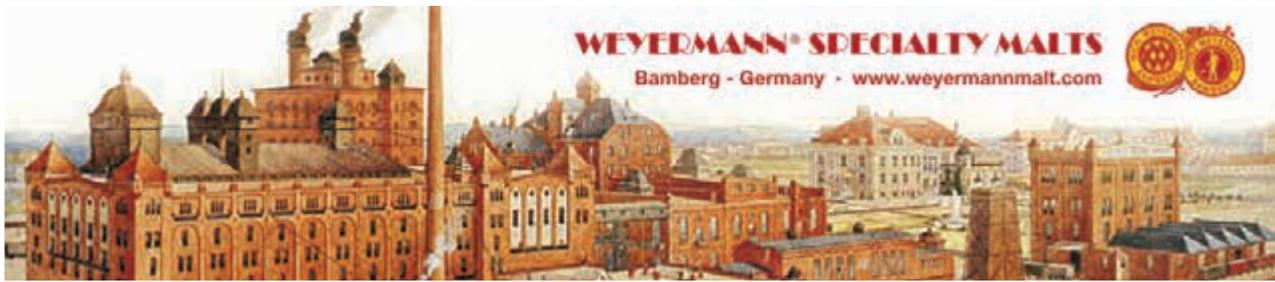
Crystal Malts	Usage Rate %	Colour Lovibond	Moisture Max	Characteristics
Caramalt	to 25	11.8 – 16.3	5%	Lager colour and flavour adjustment.
Premium English Caramalt	to 20	20.8-25.3	5%	Top of the range cara for colour and flavour adjustment. Used in light coloured beers. Ultimate malty flavour without the burnt characteristics of a higher colour crystal. Tastes great!
Crystal Light	to 25	36.2-42.9	5%	Sweet, Caramel, Toffee flavours. Contributes to golden hues.
NEW Simpsons DRC™	to 20	105.6-120.6	10%	DRC™ gives a dark caramel taste and imparts raisin like flavours to beers. It is a great substitute to darker roasted malts when astringent bitterness is not desired.
Medium Crystal	to 20	63.2-71.8	5%	Ale colour and flavour adjustment, tailored to requirement.
Crystal Dark	to 20	94.3-107.4	5%	Ale colour and flavour adjustment, tailored to requirement.
Crystal Extra Dark	to 10	169.3-188.1	5%	Ale colour and flavour adjustment, tailored to requirement.

Highly Kilned Malts	Usage Rate %	Colour Lovibond	Moisture Max	Characteristics
Vienna Malt	to 15	2.4 – 4.3	3.5%	Enhances colour, flavour and aroma.
Munich Malt	to 15	7.3 – 8.8	2.2%	Contributes rich malty flavour and golden hues when used at 5-15%.
Imperial Malt	to 15	15.6-19.3	3.5%	Enhances depth of colour, flavour and aroma.
Aromatic Malt	to 100	19.3-26.8	5%	Flavour reminiscent of raisins. Could be used for body in low ABV bitters. Good ph balancer.

Roasted Malts and Grains	Usage Rate %	Colour Lovibond	Moisture Max	Characteristics
Amber Malt	to 15	20.8-27.2	2.5%	A traditional malt for dry biscuity finishes to ales.
Coffee (Brown) Malt	to 10	161.8-225.6	4%	'Coffee' notes for stouts and porters. Smooth mouth-feel.
Chocolate Malt	to 10	400.7-488.1	3%	Roasted malts for 'winter warmer' styles.
Black Malt	to 10	538-713.1	3%	Rich, dark colours with burnt toast dryness.
Roasted Barley	to 10	488.1-713.1	3.5%	A typical ingredient of Irish dry stouts.

Extra Special Malts & Grains	Usage Rate %	Colour Lovibond	Moisture Max	Characteristics
Wheat Malt	to 60	1.3 – 2.8	5%	Even small additions can enhance head retention and foam. Used at 50 – 60% for wheat beers.
Golden Naked Oats - GNO™	to 10	5.1-9.6	6.0%	Huskless oat crystal malt. Exotic ingredient for subtle nutty difference.
Pinhead Oats*	to 10	1.3 – 1.7	8%	Important ingredients for oatmeal stouts. They provide a smooth creamy finish to ales and "zing" for spring seasonal beers.
Oat Flakes*	to 10	1.3 – 1.7	8%	
Rye Crystal	to 15	89.4-116.8	4.0%	Seasonal autumn flavour – sweet and malty with warm bread-crust flavours.
Peated Malt	-	1.3-1.7	5.0%	Ingredient for providing the essential peat flavour in whisky production. Heavy/medium or light peating levels.

* Special Order item - please check for availability



The 135-year-old malt house of Weyermann® Specialty Malts is a protected historic site. But behind the red-brick turn-of-the-century exterior lies the modernized heart of the world's leading manufacturer of specialty brewing malts. Presided over by Sabine Weyermann, a fourth-generation member of the founding family, and her husband, Thomas Kraus-Weyermann, the company benefits as much from its roots in the past as it does from its modern malting practices.

Weyermann® offers the world's largest malt portfolio, produced entirely in-house, and has become the leading malt supplier to the worldwide craft brew industry. We have been serving the American craft brew industry since 1994 and are now by far the largest supplier of European malt to the United States! Weyermann® Specialty Malts are also the freshest European malts available in the U.S. market, due to the high constant number of containers that are being shipped to the U.S. every day from Bamberg. All our malts are guaranteed by the unique and infinite Weyermann® Quality Malt Pipeline: Weyermann® Unparalleled Know-How → Dependable, Top-Quality Raw Materials Sourcing → Quality-Controlled Batch Processing → Ample Production Capacity for In-Stock Availability → Professional Logistics for Optimal Shipping Conditions. Look to us as your partner in all malt matters, including expert international recipe developments and expert advice from more than 20 certified brewmasters. To learn more about the many ways in which Weyermann® malt can add character to your beers, visit our website at www.weyer mann malt.com.

Bavarian Line	Color °L	Flavor	Usage Rate %
Weyermann® Extra Pale Premium Pilsner Malt	1.2-1.4	Malty-sweet, gentle notes of honey	to 100
* Weyermann® Pilsner Malt	1.5-2.2	Malty-sweet, gentle notes of honey	to 100
* Weyermann® Vienna Malt	2.8-3.9	Malty-sweet, gentle notes of honey, nuts (almond, hazelnut)	to 100
* Weyermann® Munich Malt Type 1	5.1-7.0	Rich malt aromas, notes of light caramel, honey, bread	to 100
* Weyermann® Munich Malt Type 2	8.0-9.9	Rich malt aromas, notes of light caramel, honey, bread	to 100
Weyermann® Melanoidin Malt	23-31	Intense maltiness, notes of honey, biscuit	to 30
* Weyermann® Pale Wheat Malt	1.7-2.4	Notes of bread, nuts, biscuit, toffee and light caramel	to 80
Weyermann® Dark Wheat Malt	6.2-8.1	Notes of bread, nuts, biscuit, honey, toffee, caramel	to 70
* Weyermann® Rye Malt	2.0-4.3	Strong emphasis on typical rye aromas; malty-sweet; notes of bread, honey	to 50
* Weyermann® Spelt Malt	1.7-3.2	Strong emphasis on typical spelt aromas; soft malty notes; gentle notes of hazelnut, biscuit	to 100
American/English Line	Color °L	Flavor	Usage Rate %
* Weyermann® Pale Ale Malt	2.6-3.4	Notes of bread, dried fruits, honey	to 100
Barke® Line	Color °L	Flavor	Usage Rate %
Weyermann® Barke® Pilsner Malt	1.5-2.2	Intense malt aromas	to 100
Weyermann® Barke® Vienna Malt	2.8-3.9	Intensely malty-sweet; gentle notes of honey, nuts	to 100
Weyermann® Barke® Munich Malt	6.9-8.8	Rich malt aromas; notes of honey, biscuit	to 100
Belgian Line	Color °L	Flavor	Usage Rate %
Weyermann® CARABELGE®	11.8-13.7	Notes of dried fruits, caramel, nuts (almonds)	to 30
Weyermann® Abbey Malt®	16-19	Intense malt aromas, notes of honey, nuts, chocolate	to 50
Weyermann® Special W®	106-121	Notes of nuts, raisins, dark caramel, bread	to 30
Bohemian Line	Color °L	Flavor	Usage Rate %
Weyermann® Bohemian Pilsner Malt	1.7-2.4	Characteristic brewing malt with intense malt aromas; malty-sweet	to 100
Weyermann® Floor-Malted Bohemian Pilsner Malt	1.6-2.3	Produces authentic traditional Bohemian-style malt flavors and aromas; intense malt aromas; notes of honey, biscuit	to 100
Weyermann® Floor-Malted Bohemian Dark Malt	5.1-8.1	Characteristic brewing malt with intensely earthy malt aromas, malty-sweet; notes of biscuit, bread	to 100
Weyermann® Floor-Malted Bohemian Wheat Malt	1.6-2.5	Characteristic brewing malt with intense, but soft wheat malt aromatics, creamy mouthfeel; notes of biscuit, nuts, toffee	to 70
Weyermann® CARABOHEMIAN®	64-83	Intense caramel aroma, notes of bread, dark caramel, toffee	to 20
Caramel Line	Color °L	Flavor	Usage Rate %
* Weyermann® CARAFOAM®	1.5-2.9	Malty-sweet, gentle notes of caramel	to 40
* Weyermann® CARAHELL®	8.1-11.8	Malty-sweet, gentle notes of caramel	to 30
Weyermann® CARABELGE®	11.8-13.7	Notes of caramel, dried fruits, nuts (almonds)	to 30
* Weyermann® CARARED®	16-23	Malty-sweet, notes of caramel, honey and biscuit	to 25
Weyermann® CARAAMBER®	23-31	Notes of toffee, caramel and bread	to 20
Weyermann® CARAWHEAT®	42-53	Aroma enhancer, mild notes of caramel, almonds, biscuit; bread aroma	to 15
Weyermann® CARAMUNICH® Type 1	31-38	Intense caramel aroma; notes of biscuit	to 20
* Weyermann® CARAMUNICH® Type 2	42-49	Intense caramel aroma; notes of biscuit	to 20
Weyermann® CARAMUNICH® Type 3	53-60.5	Intense caramel aroma; notes of biscuit	to 20
Weyermann® CARARYE®	57-76	Typical rye aromas, intense aroma of bread, coffee, dark chocolate, dried fruit	to 15
Weyermann® CARABOHEMIAN®	64-83	Notes of bread, dark caramel, toffee	to 20
* Weyermann® CARAAROMA®	132-169	Notes of roasted nuts, dark caramel, dried fruit	to 20

Roasted Line	Color °L	Flavor	Usage Rate %
Weyermann® CARAFA® Type 1	300-375	Notes of coffee, cocoa, dark chocolate, intense roastiness	to 5
* Weyermann® CARAFA® Type 2	413-450	Notes of coffee, cocoa, dark chocolate, intense roastiness	to 5
Weyermann® CARAFA® Type 3	488-563	Intense notes of coffee, cocoa, dark chocolate, intense roastiness	to 5
Weyermann® CARAFA® Special Type 1 (dehusked)	300-375	Notes of coffee, cocoa, dark chocolate, light bitterness	to 5
Weyermann® CARAFA® Special Type 2 (dehusked)	413-450	Notes of coffee, cocoa, dark chocolate, light bitterness	to 5
Weyermann® CARAFA® Special Type 3 (dehusked)	488-563	Notes of coffee, cocoa, dark chocolate, light bitterness	to 5
Weyermann® Roasted Barley, unmalted	375-450	Typical roasty aroma; notes of coffee, cocoa	to 5
* Weyermann® Chocolate Wheat Malt	338-451	Mild roasty aroma, notes of coffee, dark chocolate, bread	to 5
Weyermann® Roasted Wheat, unmalted	388-451	Typical soft roasty aroma; notes of chocolate	to 5
* Weyermann® Chocolate Rye Malt	188-300	Mild notes of coffee, chocolate, nuts, bread	to 5
Weyermann® Roasted Rye, unmalted	188-300	Typical roasty aroma; bready, notes of dark chocolate	to 5
Weyermann® Chocolate Spelt Malt	170-240	Intense roast aromas, intense notes of coffee, chocolate	to 5

Smoked Line	Color °L	Flavor	Usage Rate %
Weyermann® Beech Smoked Barley Malt	2.1-3.6	Characteristic, well-rounded aroma of beech wood smoke; malty-sweet; notes of vanilla, honey	to 100
Weyermann® Oak Smoked Wheat Malt	2.1-2.8	Mild, delicate, and well-rounded aroma of oak smoke; malty-sweet; notes of vanilla, honey	to 100

Specialty Line	Color °L	Flavor	Usage Rate %
Weyermann® Acidulated Malt	1.7-2.8	Fruity and sour	to 10

Distillers Line	Color °L	Flavor	Usage Rate %
* Weyermann® Distillers Wheat Malt	1.7-2.4	Enzyme rich distilling malt; malty-sweet	to 100
* Weyermann® Distillers Barley Malt	1.5-2.1	Enzyme rich distilling malt; malty-sweet	to 100
Weyermann® Beech Smoked Barley Malt	2.1-3.6	Characteristic, well-rounded aroma of beech wood smoke; malty-sweet; notes of vanilla, honey	to 100
Weyermann® Oak Smoked Wheat Malt	2.1-2.8	Mild, delicate, and well-rounded aroma of oak smoke; malty-sweet; notes of vanilla, honey	to 100
* Weyermann® Spelt Malt	1.7-3.2	Strong emphasis on typical spelt aromas; soft malty notes; gentle notes of hazelnut, biscuit	to 100
* Weyermann® Rye Malt	2.0-4.3	Strong emphasis on typical rye aromas, malty-sweet, notes of bread, honey	to 100
* Weyermann® Munich Malt Type 1	5.1-7.0	Rich malt aromas, notes of light caramel, honey, bread	to 100
* Weyermann® Munich Malt Type 2	8.0-9.9	Rich malt aromas, notes of light caramel, honey, bread	to 100
Weyermann® CARABELGE®	11.8-13.7	Notes of dried fruits, caramel, nuts (almonds)	to 30
Weyermann® Abbey Malt®	16-19	Intense malt aromas, notes of honey, nuts, chocolate	to 50
* Weyermann® CARARED®	16-23	Malty-sweet, notes of caramel, honey and biscuit	to 25
* Weyermann® Melanoidin Malt	23-31	Intense maltiness, notes of honey, biscuit	to 30
Weyermann® CARAMUNICH® Type 1	31-38	Intense caramel aroma; notes of biscuit	to 20
* Weyermann® CARAMUNICH® Type 2	42-49	Intense caramel aroma; notes of biscuit	to 20
Weyermann® CARAMUNICH® Type 3	53-60.5	Intense caramel aroma; notes of biscuit	to 20
Weyermann® CARAWHEAT®	42-53	Aroma enhancer, mild notes of caramel, almonds, biscuit; bready aroma	to 30
Weyermann® CARARYE®	57-76	Typical rye aromas, intense aroma of bread, coffee, dark chocolate, dried fruit	to 15
Weyermann® Special W®	106-121	Notes of nuts, raisins, dark caramel, bread	to 30
* Weyermann® CARAAROMA®	132-169	Notes of roasted nuts, dark caramel, dried fruit	to 30
* Weyermann® CARAFA® Special Type 3 (dehusked)	488-563	Notes of coffee, cocoa, dark chocolate, light bitterness	to 10
Weyermann® Floor-Malted Bohemian Pilsner Malt	1.6-2.3	Produces authentic traditional Bohemian-style malt flavors and aromas; intense malt aromas; notes of honey, biscuit	to 100
Weyermann® Floor-Malted Bohemian Dark Malt	5.1-8.1	Characteristic destilling malt with intensely earthy malt aromas, malty-sweet; notes of biscuit, bread	to 100
Weyermann® Floor-Malted Bohemian Wheat Malt	1.6-2.5	Characteristic destilling malt with intense, but soft wheat malt aromatics, creamy mouthfeel; notes of biscuit, nuts, toffee	to 100
Weyermann® CARABOHEMIAN®	64-83	Intense caramel aroma, notes of bread, dark caramel, toffee	to 30

Extract Line	Color °L	Extract Max [Weight-%/BRIX]	Flavor
Weyermann® SINAMAR®	3040-3200	53.0	Intense notes of coffee, cocoa, dark chocolate, mild roastiness
Weyermann® Certified Organic SINAMAR®	3040-3200	53.0	Intense notes of coffee, cocoa, dark chocolate, mild roastiness

*We are able to custom-produce any of our malts from 100% organically certified raw materials, certified organic by BCS (DE-ÖKO-001)

Weyermann®, Abbey Malt®, Special W®, CARABELGE®, CARABOHEMIAN®, CARAFOAM®, CARARELL®, CARARED®, CARAAMBER®, CARAWHEAT®, CARAMUNICH®, CARARYE®, CARAAROMA®, CARAFA® and SINAMAR® are registered trademarks of the Weyermann® Specialty Malting Company, Bamberg





HOPS



All of our hops are hand selected for quality by our expert staff. We buy only the very best quality from the best growers here in the United States, and from around the world.

BSG CraftBrewing offers an extensive range of domestic and imported hops.

All of our hops are hand selected for quality by our expert staff. We buy only the very best quality from the best growers here in the United States, and around the world including Germany, England, the Czech Republic, New Zealand, Australia, France and Slovenia.



Harvest Fresh Pellets

BSG CraftBrewing is one of the few suppliers to offer Harvest Fresh Pellets - The harvest fresh pellets are taken straight from the cooling floor (before the baling process), pelletized and vacuum sealed in mylar pouches within 36 hours of being picked in the field. Traditional baling ruptures lupulin glands and research shows 5-6% of the hops' alpha and aroma oils are lost during baling. By avoiding the baling process, our hop pellets are more fresh and higher quality. The majority of our domestic pelleted hops are ready for shipment by October 15th of each crop year.

Superior Pellet Quality

Researchers have shown when you pelletize hops you need to hit a temperature "sweet spot", between 120-125° F. Temperatures too hot will burn off the aroma oils; too cold and the pellet doesn't form properly. Temperatures too cold will prevent the pellet from forming properly.

Forward Contracting

We encourage brewers, both small and large, to forward contract for their hop requirements. By placing a contract, the brewer signals clear demands to the supply chain. Contracts enable the grower and distribution partners to plan and plant appropriately. Contracting is vital for a crop with high establishment costs.

A hop contract placed with BSG is your assurance of supply and consistent quality. BSG is not owned by growers and so we are able to be strict on quality.

- We work with the grower to manage disease issues
- Limit spray applications, if necessary
- Dictate the drying times and temperatures
- Expedite hop deliveries from growers
- Evaluate and select the best quality hops at harvest

When a brewer buys hops on the spot market, they have less control over quality, availability and price. Forward contracting assists in financing the industry by paying the grower soon after harvest, while permitting the brewer to manage their cash by drawing down their contract over the course of the year.

Packaging and Labeling:

Whole leaf hops - 10 lb. & 50 lb. cartons | Type 90 pellets - 11 lb. & 44 lb. cartons | Labeled with crop year and lot number for complete traceability.

Mesh Hop Bags	Material
Dry Hop Sack (2"x24")	Nylon Medium Mesh
Hop Pellet Bag (8"x6")	Nylon Fine Mesh
Hop Pellet Bag (12"x9")	Nylon Fine Mesh
Winemaking Bag (12"x9")	Nylon Mesh

A full listing of BSG CraftBrewing Hop varieties can be found on page 28.



New Hop Variety - El Dorado® Hops

A unique dual purpose hop variety with exceptional aroma qualities and high alpha acids.

Alpha acids:	14.0 - 16.0%
Beta acids:	7.0 - 8.0%
Alpha-Beta ratio:	2.0
Cohumulone:	28 - 33%
Total Oil:	2.4 - 2.8 ml/100 g
Storage Stability:	Good
Disease Resistance:	Tolerant to Powdery Mildew
Maturity:	Early to Mid-Season
Aromas:	Tropical fruit, watermelon candy, pear and stone fruit



The HVG is a transparent, dependable and reliable partner of the German hop-growers. Besides processing German hops into HVG hop pellets, HVG hop extract and other hop products as well as marketing the German hop production, the HVG also fulfils important tasks as a producer group.

Among these are:

- Promoting measures to improve the production (presses; Turbodrop jets; etc.)
- Promoting the Independent Quality Appraisal (NQF)
- Supporting hop research
- Supporting research and registration procedures in plant protection
- Marketing those hop varieties for the growers which are difficult to sell
- Worldwide promotion / worldwide marketing of hops from German production
- Surveying hop acreage and editing data to obtain informative statistics on hop production in Germany
- Paying out subsidies in accordance with the European Hop Market Regulation

BSG is the proud supplier of HVG Hops to the American Craft Brewing Industry

Hop Variety	Alpha acid range %	Beta acid range %	Co-H as % of alpha	Total oils mls/100 gr.	Country of origin
US Amarillo®	8.0 – 11.0	6.0 – 7.0	21 - 24	1.5 – 1.9	United States
US Azacca™	14.0 – 16.0	4.0 – 5.5	16 - 18	-	United States
US Cascade	4.5 – 7.0	4.8 – 7.0	33-40	0.7 – 1.4	United States
US Centennial	9.5 – 11.5	3.5 – 4.5	29 – 30	1.5 – 2.3	United States
US Chinook	11.0 – 14.0	3.0 – 4.0	29 – 35	1.7 – 2.7	United States
US Citra®	11.0 – 13.0	3.5 – 4.5	22 - 24	2.2 – 2.8	United States
US Cluster	5.5 – 8.5	4.5 – 5.5	37 – 43	0.4 – 0.8	United States
US Challenger	6.5 – 8.5	3.0 – 4.0	20 -23	1.0 – 1.5	United States
US Crystal	3.5 – 5.5	4.5 – 6.5	20 – 26	1.0 – 1.5	United States
US CTZ	14.5 – 16.5	4.0 – 5.0	28 – 32	2.0 – 3.0	United States
US El Dorado™	14.0 – 16.0	7.0 – 8.0	28 – 31	2.5 – 2.8	United States
US Galena	11.5 – 13.5	7.2 – 8.7	36 – 40	0.9 – 1.3	United States
US Glacier	5.0 – 6.0	8.0 – 8.5	11 - 13	0.7 – 1.6	United States
US Golding (US)	4.0 – 6.0	2.0 – 3.0	23-28	0.7 – 1.0	United States
US Horizon	11.0 – 13.0	6.5 – 8.5	16 - 19	1.5 – 2.0	United States
US Liberty	3.0 – 5.0	3.0 – 4.0	24 – 30	0.6 – 1.2	United States
US Mosaic™	11.5 – 13.5	3.2 – 3.9	24 – 26	1.0 – 1.5	United States
US Mount Hood	4.0 – 7.0	5.0 – 8.0	21 - 23	1.2 – 1.7	United States
US Nugget	11.5 – 14.0	3.0 – 5.8	22 – 30	0.9 – 2.2	United States
US Sorachi Ace	11.0 – 12.5	6.5 – 7.0	23 – 26	1.2 – 1.8	United States
US Sterling	6.0 – 9.0	4.0 – 6.0	22 - 28	1.3 – 1.9	United States
US Summit™	13.5 – 15.5	4.0 – 6.0	26 – 33	1.5 – 2.5	United States
US Tettnang	2.5 – 5.5	3.0 – 5.0	22 – 28	0.5 – 0.9	United States
US Warrior®	14.5 – 16.5	4.3 – 5.3	22 – 26	1.3 – 1.7	United States
US Willamette	4.0 – 6.0	3.0 – 4.5	30 – 35	1.0 – 1.5	United States
NZ Dr. Rudi (Super Alpha)	10.0- 12.0	7.0 – 8.5	36 – 39	1.0 – 1.4	New Zealand
NZ Green Bullet	11.0 – 14.0	6.5 – 7.0	41 – 43	1.0 – 1.4	New Zealand
NZ Kohatu	6.0 – 7.0	5.0 – 6.0	21 – 23	1.0 – 1.5	New Zealand
NZ Motueka	6.5 – 7.5	5.0 – 5.5	28 – 30	0.8 – 1.0	New Zealand
NZ Nelson Sauvin	12.0 – 13.0	6.0 – 8.0	23 – 25	0.9 – 1.2	New Zealand
NZ Pacifica	5.0 – 6.0	5.0 – 6.0	24 – 26	0.9 – 1.2	New Zealand
NZ Pacific Jade	12.0 – 14.0	7.0 – 8.0	23 – 25	1.1 – 1.5	New Zealand
NZ Pacific Gem	13.0 – 15.0	7.0 – 9.0	37 – 40	1.0 – 1.3	New Zealand
NZ Rakau	9.0 – 11.0	7.0 – 9.0	23 – 25	1.2 – 1.6	New Zealand
NZ Southern Cross	11.0 – 14.0	5.0 – 6.0%	25 - 28	1.2	New Zealand
NZ Wakatu	6.5 – 8.5	8.0 – 8.5	28 – 30	0.9 – 1.2	New Zealand
AU Galaxy	13.5 – 15.0	5.8 – 6.0	33 – 35	2.4 – 2.7	Australia
AU Summer	5.6 – 6.4	4.8 – 6.1	20 – 25	1.4 – 2.0	Australia
GR Hallertau Blanc	9.0 – 11.0	4.0 – 7.0	28 - 35	1.2 – 2.2	Germany
GR Hallertau Mittelfrüh	3.0 – 5.5	3.0 – 5.0	18 – 28	0.7 – 1.3	Germany
GR Hersbrucker	1.5 – 4.0	2.5 – 6.0	17 – 25	0.5 – 1.0	Germany
GR Huell Melon	7.0 – 8.0	6.0 - 8.0	25 – 28	0.8 – 1.2	Germany
GR Magnum	11.0 – 16.0	5.0 – 7.0	21 – 29	1.6 – 2.6	Germany
GR Mandarina Bavaria	7.0 – 10.0	4.0 – 7.0	3.0 – 6.0	1.5 – 2.2	Germany
GR Northern Brewer	6.0 – 10.0	3.0 – 5.0	27 – 32	1.0 – 1.6	Germany
GR Perle	4.0 – 8.0	2.5 – 4.5	29 – 35	0.5 – 1.5	Germany
GR Polaris	18 – 24	5.0 – 6.5	22 – 29	4.4 – 4.8	Germany
GR Saphir	2.0 – 4.5	4.0 – 7.0	12 – 17	0.8 – 1.4	Germany
GR Select	3.0 – 6.5	2.5 – 5.0	21 – 27	0.6 – 0.9	Germany
GR Tettnang	2.5 – 5.5	3.0 – 5.0	22 – 28	0.5 – 0.9	Germany
GR Tradition	4.0 – 7.0	3.0 – 6.0	24 – 30	0.5 – 1.0	Germany
CZ Saaz	3.0 – 6.0	4.5 – 8.0	23 – 26	0.4 – 1.0	Czech Republic
SL Styrian Goldings	4.5 – 6.0	2.0 – 3.5	25 – 30	0.5 – 1.0	Slovenia
UK Boadicea	9.0 – 10.0	3.5 – 4.5	24 – 26	1.3 – 1.5	United Kingdom
UK Challenger	6.5 – 8.5	4.0 – 4.5	20 – 25	1.0 – 1.7	United Kingdom
UK Fuggle	3.0 – 5.6	2.0 – 3.0	25 – 30	0.7 – 1.4	United Kingdom
UK East Kent Golding	4.0 – 6.5	1.9 – 2.8	28 – 32	0.4 – 0.8	United Kingdom
UK Progress	5.0 – 7.5	1.8 – 2.7	25 – 27	0.5 – 0.8	United Kingdom
UK Sovereign	4.5 – 6.5	2.1 – 3.1	26 – 30	0.6 – 1.0	United Kingdom
UK Target	9.5 – 12.5	4.3 – 5.7	35 – 40	1.2 – 1.4	United Kingdom



Varietal Specific Hop Extract



A varietal specific CO₂ Hop Extracts ... in cans.

The CO₂ extraction process captures virtually all of the essential bittering and aroma components in fresh hops, leaving behind only the leafy plant material.

In other words, these easy to use canned extracts include practically everything a brewer would want from a hop, without adding spent hops to the trub pile.

The benefits of BSG Hop Extracts

- Varietal character preserved
- Increased hop utilization
- Increased kettle yield
- Consistent bittering
- Money saving
- Space saving

Varieties available:

Cascade
Centennial
Chinook
Summit
Amarillo®



Order at 800.374.2739
bsgcraftbrewing.com

The CO₂ extraction process offers complete extraction of virtually all of the essential bittering and aroma components in fresh hops, leaving behind only the leafy plant material. These easy to use canned extracts include practically everything a brewer would want from a hop, without adding spent hops to the trub pile.

They are 100% Natural with no chemical modifications.

The benefits of BSG Hop Extracts include:

- Varietal character preserved
- Consistent bittering
- Increased hop utilization
- Money saving
- Increased kettle yield
- Space saving

Hop Extract Alpha acid content:

Chinook 58.8%

Cascade 38.8%

Summit 56.2%

Centennial 54.4%

Utilization: 35% in a 60 minute boil

Formula:

The following formula can be used to calculate “estimated” bitterness when using CO₂ hop extract. For results consistent with typical bittering calculations, the extract % alpha and 35% utilization can be included in the standard bittering calculation of any brewery.

$$\text{required gma} = \frac{(\text{desired wort IBU}) (\text{hL volume wort @ end of boil})}{(\text{utilization\% expressed in decimal form}) (10)}$$

- 1 hectoliter = 100 liters
- 1 hectoliter = 0.852 barrels
- 1 barrel = 1.173 hectoliters
- 1 IBU = 1 mg iso-alpha per 1 liter of beer
- 1 X 150 gma can has 150,000 mg of alpha acid

Example: 65 desired IBU in 15 BBL wort, given 35% utilization-

$$\text{required gma} = \frac{(65\text{IBU}) (17.55\text{hL})}{(0.35) (10)}$$

$$\text{required gma} = \frac{1140.75}{3.5}$$

$$\text{required gma} = 325.93$$

Notes:

Unit of measure is grams of alpha (gma). Available in 150 gma and 300 gma can sizes

One 150 gma can of extract, boiled for 45 minutes (+) will provide 30 IBU's** in a 15 barrel batch of wort. Each 150 gma can contains the extract from 2-6 pounds of hops.

**This is an approximation only. Final bitterness may vary based on individual brew house performance. Actual usage rate should be determined through trials and/or laboratory analysis.





YEAST
NUTRIENTS
ENZYMES



Easy to use, the entire range complies with the strictest manufacturing standards and has assured microbiological specifications.

First to produce true dry lager beer yeast in the late 1990's Fermentis is the sole supplier of 10 different dry brewing yeast strains allowing brewers to brew a variety of beers. Easy to use, the entire range complies with the strictest manufacturing standards and has assured microbiological specifications. Offer your next brew a Fermentis dry brewing yeast.

DRY YEAST

LAGER & PILSNER YEASTS

Saflager S-23

Originating from the famous VLB institute in Germany, true lager yeast capable of producing continental lagers with fruity and estery notes.
Available in 500g packs

Saflager S-189

From the Hurlimann brewery in Switzerland. Neutral flavor development for a large range of lager and pilsen beers.
Available in 500g packs

Saflager W-34/70

The most popular lager strain worldwide, from the Weihenstephan institute in Germany.
Available in 500g packs

ALE YEASTS

Safale S-04

English Ale yeast displaying fast fermentation and excellent sedimentation (flocculation) properties.
Available in 500g packs

Safale US-05

American ale yeast for well-balanced beers with low diacetyl and a very crisp end palate.
Available in 500g packs

Safale K-97

Top cropping ale yeast for top fermented beers with low esters, ideal for highly attenuated beers as saison beers.
Available in 500g packs

SPECIALTY BEER YEASTS

Safbrew T-58

Spicy, estery flavors ideal for continental beer styles.
Available in 500g packs

Safbrew S-33

Robust, high alcohol tolerant yeast for a wide range of top fermented beers.
Available in 500g packs

Safbrew WB-06

This yeast produces subtle estery and phenol flavor notes typical of wheat beers. The choice of wheat beer fans.
Available in 500g packs

Safbrew F-2

A neutral aroma profile, high alcohol resistance, and good sediment layer formation as well as maintaining the pre-carbonated beer sugar profile make it a perfect match for consistent refermentation in bottle and cask.
Available in 20g sachets and 500 gram packs.

Product specification sheets, information, recipes on www.fermentis.com

Follow us www.facebook.com/Fermentis or @Fermentis



YEAST NUTRIENTS

Nutramix LN

This is a **blend of minerals and vitamins** essential for yeast growth. It contains no Diammonium Phosphate, making it productive for alternative fermentations and for winemakers and brewers who wish to control inorganic nitrogen levels.

Pack size	Application rate
50 lbs	12-30 ppm (1.2 g/hl-3 g/hl, or 0.3 lbs/100 bbls - 0.75 lbs/100 bbls).

Startup®

A non-DAP containing nutrient blend of vitamins and minerals, Startup provides the balanced nutrition for complete fermentation. It is also useful for stimulating slow or sluggish fermentations.

Superfood®

Superfood (contains ~30% DAP) is a blend of vitamins and minerals, rich in the complex nutrients needed for complete fermentation.

Pack size	Application rate
1 kg, 5 kg	60 ppm (6 g/hl or 1.5lbs/100 bbls).



YEAST NUTRIENTS

Yeastex® 82

A formulation of specific yeast nutrients to increase yeast viability and activity during fermentation, allowing the end attenuation to be reached in a shorter time, and promoting consistent fermentation profiles. This formulation contains high levels of both inorganic and organic nitrogen and vitamins and is particularly useful for low FAN malts, high gravity brewing. It should be slurried in a few gallons of water and added to the kettle about 15 minutes before strike-out.

Pack size	Application rate
5 lbs, 88.2 lbs	30-50 ppm (3 g/hl-5 g/hl, or 0.75lbs/100 bbls - 1.25 lbs/100 bbls).

Yeastex® 61

A formulation of specific yeast nutrients to increase yeast viability and activity during fermentation, allowing the end attenuation to be reached in a shorter time, and promoting consistent fermentation profiles. This formulation contains high levels of inorganic nitrogen and is particularly useful for low FAN malts, high gravity brewing, wine, cider and alternative beverages. Yeastex 61 should be slurried in a few gallons of water prior to its addition to the boiling kettle wort. It is added to the wort in the kettle shortly before “knock-out”. Choose Yeastex 61 for cider, distilling processes and high sugar adjunct brewing.

Pack size	Application rate
5 lbs, 35 lbs	40-100 ppm (4 g/hl-10 g/hl, or 1.0 lbs/100 bbls - 2.5 lbs/100 bbls).



As consulting brewers and manufacturing chemists, we can provide you with all of the necessary brewing processing aids.

As consulting brewers and manufacturing chemists, Murphy & Son, Ltd. can provide you with all of the necessary brewing processing aids. All of our products are formulated and manufactured to perform to the highest standard and will give you the consistent results you require every time you brew.

ENZYMES

Alpha Acetolactate Decarboxylase

Alpha Acetolactate Decarboxylase (ALDC) is produced from a submerged culture of *Bacillus subtilis*. ALDC causes the direct decarboxylation of alpha acetolactate to acetoin, thus avoiding the production of diacetyl.

YEAST FOODS PRODUCTS

Alcotene Special

Alcotene Special consists of a carefully formulated blend of soluble inorganic salts, vitamins, amino acids, yeast growth factors and trace elements designed to ensure correction of nutrient deficiencies in wort.

Yeast Vit

Yeast Vit is a specifically formulated powdered yeast nutrient and is used both where there are severe yeast nutritional deficiencies and as a yeast maintenance food.

CARAGEENAN PRODUCTS

Koppakleer (Refined)

Available in tablets. The refined grade carrageenan kettle finings are used to fine difficult worts. For use in the whirlpool.

ISINGLASS PRODUCTS

Magicol

Magicol powder is the most concentrated form of isinglass and can be easily dissolved to make a ready-for-use isinglass solution for treatment of brewery and cask conditioned beers. Longest shelf life and reduces storage space.

More info can be found at www.murphyandson.co.uk



KETTLE FININGS

Whirlfloc® BWS (Pack Size 5 lbs, 55 lbs)

Action

Powdered kettle fining agent derived from Euchema cottonii. It is positively charged which agglomerates the negatively charged yeast, etc., leading to improved trub compaction, enhanced beer clarity & longer filter runs.

Typical Dosage Rate
20 - 50 ppm ~ 2.5 - 6 g/bbl

Additional Notes

Whirlfloc BWS must be hydrated prior to addition & added 15 minutes prior to the end of boil.

An optimization is recommended to determine proper rate of use.

Whirlfloc® G (Pack Size 5 lbs, 44 lbs)

Action

Granular kettle fining agent derived from Euchema cottonii. It is positively charged which agglomerates the negatively charged yeast cells, etc., leading to enhanced wort clarity, improved beer filtration, enhanced post filter beer clarity & enhanced colloidal stability.

Typical Dosage Rate
20 - 50 ppm ~ 2.5 - 6 g/bbl

Additional Notes

Whirlfloc G need not be hydrated prior to addition & is added 10 - 20 minutes prior to the end of boil. Although this is the most economical of all kettle finings it is best suited for brews in excess of 40 bbls.

An optimization is recommended to determine proper rate of use.

Whirlfloc® T (Pack Size 5 lbs, 55 lbs)

Action

A semi-refined kettle fining agent derived from Euchema cottonii. It is positively charged which agglomerates the negatively charged yeast, etc., leading to improved trub compaction, enhanced beer clarity & longer filter runs.

Additional Notes

Whirlfloc T is in a convenient rapidly dissolving tablet form which eliminates the need for hydration prior to addition, which in turn makes it convenient for smaller kettle sizes. It is optimally added 15 minutes prior to the end of boil. Typical dosage rate is 2 tablets/bbl of a 10 Plato Wort.



Bioglucanase GB

Bioglucanase GB is a beta-glucanase enzyme preparation derived from *Trichoderma longibrachiatum* (formerly *Trichoderma reesei*) which also contains cellulase and hemicellulase activities. The activities present in Bioglucanase GB are effective in the degradation of the complex carbohydrates found in plant cell walls.

Treatment with Bioglucanase GB in the brewing process results in the degradation of high molecular weight non starch polysaccharides such as beta-glucan and arabinoxylan. Benefits of using Bioglucanase GB include reduced wort viscosity, increased extract, increased run off rates and reduction of beer haze problems.

Pack Size: 55 lbs

Application rate:

0.005-0.015% on grist weight, =50-150 ppm, ≈50-150 mL/MT grist*

*Assuming density of water for liquid enzyme

Bioglucanase® TX

Bioglucanase TX is a high performance **glucanase** enzyme system derived from *Trichoderma reesei* which contains hemicellulase side activities. It is used to improve run-off and filtration for grists containing high molecular weight glucan, or for grists containing a portion of unmalted grains.

Pack Size: 55 lbs

Application rate:

0.01-0.25% on grist weight, =100-250ppm, ≈100-250mL/MT grist*

*Assuming density of water for liquid enzyme

Bioferm L

Bioferm L is a **fungal alpha-amylase** available in liquid form used in cereal extraction during mash saccharification, where grists contain up to 100% unmalted grains or during fermentation to increase wort attenuation or to eliminate starch haze and improve beer filterability. Less aggressive than Convertase AG300, it does not break the Alpha 1-6 bond. **(1 L approx. 3 #)**

Pack Size: 55 lbs, 1 L

Application rate:

When used in mash: 0.06-0.15% on grist weight, =600-1500ppm, ≈600-1500 mL/MT grist*

*Assuming density of water for liquid enzyme

When used in fermentation: 1-5 mL/hL

When used in maturation: 1-3 mL/hL

Amylo™ 300

Amylo 300 is an amyloglucosidase enzyme derived from a selected strain of *Aspergillus niger*.

Amylo 300 can hydrolyse sequentially both exo alpha 1,4 and alpha 1,6 glycosidic linkages and can therefore be used to degrade starch polymers and maltose to glucose, for the production of high alcohol and low carbohydrate beers.

Pack Size: 55 lbs, 1 L

Application rate: 1-5 mL/hL, =10-50 ppm

Promalt™ 295

Promalt is a **glucanase** preparation which also contains **protease and alpha amylase activities**. It is useful when using unevenly modified barley, grists with a high beta glucan content or grists containing high levels of adjuncts.

Pack Size: 55 lbs

Application rate:

When used with poor quality malt: 0.025-0.05% on grist weight, =250-500 ppm, ≈250-500 mL/MT of grist*

*Assuming density of water for liquid enzyme

When used in a mash with a high adjunct ratio: 0.05-0.2% on grist weight, = 500-2000 ppm, ≈500-2000 mL/MT grist*

*Assuming density of water for liquid enzyme

When used with 100% un-malted grains: 0.1-0.5% on grist weight, =1000-5000ppm, ≈1000-5000 mL/MT grist*

*Assuming density of water for liquid enzyme



ENZYMES

Hitempase®2XL

Used in the brewing industry for effective liquefaction of starch in grists containing up to 100% unmalted cereal (**0.05-0.1% on weight of dry grist**) . It is also used during wort boiling in beer production for the elimination of starch positive worts and to prevent alpha glucan hazes - dose rate **0.01-0.025% on volume of wort**.

Pack Size: 55 lbs

Application rate:

.05-0.1% on weight of grist, ≈500-1000ppm on weight of grist, ≈500-1000mL/MT grist*

*Assuming density of water for liquid enzyme

0.25-0.5% on volume of wort, ≈250-500ppm on volume of wort, ≈25-50mL/hL wort*

*Assuming density of water for liquid enzyme

Profix® 100L

Used for chill proofing of beers, preventing the formation of protein hazes. Profix 100L should be diluted with water or beer and added to the beer in the storage vessel. Alternatively, it may be added at the filter, either directly or via a separate dosing tank.

Pack Size: 55 lbs

Recommended range:

1-4g/hL (≈1-4mL/hL*) **

-diluted in water or beer and added to storage vessel

*Assuming the density of water for liquid enzyme

**optimization recommended

NOTES:





SUGARS
SPICES
CACAO NIBS

THE ORIGINAL BELGIAN CANDI SYRUP AND SUGARS



Sourced directly from Belgium, BSG offers authentic Belgian Candi Sugars in your choice of syrup, rock, or soft. Suitable for use in many beer styles as well as different points in process, these sugars deliver extract, color, and flavor that simply can not be duplicated.

Belgian Candi Sugar	Pack Size
Liquid Candi Sugar	
Dark	25kg
Amber	25kg
Clear	25kg
Rock Candi Sugar	
Clear (0°L)	25kg
Dark (275°L)	25kg
Soft Candi Sugar	
Brown	55 lbs
Blonde	55 lbs

TCHO

TCHO (pronounced “cho”), is a “pod to palate” chocolate company, located on Pier 17 in San Francisco. BSG CraftBrewing is the exclusive distributor of TCHO cacao nibs to breweries. Cacao nibs are small pieces of crushed roasted cacao beans.

Cacao nibs are the easiest and most natural way of incorporating a rich chocolate flavor into specialty beers. A simple post fermentation addition in the fermentor and a week of contact time is all that is required prior to filtration or fining/racking. Adding the nibs is similar to adding hops for a dry hop addition. Consider it “dry nibbing”!

TCHO cacao nibs are special because they are of the highest quality and when possible, they are sourced from “beyond fair trade” farms. The TCHO source farmers are taught to grow and ferment better beans, so they can escape commodity production and become premium producers.

The sourcing of the various types of TCHO cacao nibs is “flavor driven” and based on specific flavor characteristics of the cacao beans, like Fruity, Nutty, Citrusy and Chocolatey.



CURRENTLY AVAILABLE	
Pack Size	Source
1.5 kg	Ecuador F/T Organic
11 kg	Ecuador F/T Organic
1.5 kg	Ghana
11 kg	Ghana
<i>Please call for availability and price</i>	



Cacao nibs are super high in natural anti-oxidants. According to the USDA, ounce for ounce, dark chocolate has 6X more antioxidants than Blueberries. A dark chocolate bar has twice the anti-oxidants of red wine, and seven times that of green tea. The antioxidants in dark chocolate come from the nibs, so pure nibs are even more concentrated!

SPICES



Spices	Pack Size
Sweet Orange Peel	2 lb bag
Curacao (Bitter) Orange Peel	2 lb bag
Blue Juniper Berry	1 lb bag
Chamomile	1 lb bag
Cardamon Seed	2 lb bag
Coriander Seed	2 lb bag
Lemon Grass	1 lb bag
Lemon Peel	2 lb bag
Rose Hips (seedless)	1 lb bag
Star Anise	1 lb bag
Spice Bags	Size
1 Pound Capacity	11" x 8"
2 Pounds Capacity	15" x 8"
3 Pounds Capacity	15" x 10"

Some Spices also available in powdered/granular form. Inquire about other pack sizes.

Adjuncts	Use Rate	Pack Size
<i>Other grains are available - please inquire. For current list please check our website.</i>		
Barley Flakes	10-25%	50 lb bag
White Wheat Flakes	to 40%	50 lb bag
Torried (toasted) Wheat	to 20%	55 lb bag
Raw (unmalted) Wheat	to 20%	50 lb bag
Rye Flakes	10-40%	50 lb bag
Oat Flakes (Rolled Oats)	5-25%	50 lb bag
Yellow Flaked Maize (corn)	5-40%	50 lb bag
Rice Flakes	to 40%	55 lb bag
Dextrin & Non-fermentable sugars		Pack Size
Lactose (Milk Sugar)		55 lb bag
Malto Dextrin		50 lb bag

FERMENTABLES

Fermentables	Pack Size
Corn Sugar (Dextrose)	50 lb bag
Brewer's Crystals (2.687 lbs raises 1 bbl wort by 1° Plato)	55 lb bag

KEGS, GROWLERS & CASK ACCESSORIES

Item	Product Material
Growler caps & sleeves	Metal & Shrink plastic
Keg Toppers	Plastic (various colors)
Reg. Bungs (1 ⁷ / ₈ "	Wood
Large Bungs (1 ¹⁵ / ₁₆ "	Wood

Item	Product Material
Shives	Wood or plastic
Keystones	Wood or plastic
Spiles (hard)	Wood
Spiles (soft)	Wood

Hop Bags	Product Material
Dry Hop Sack (2"x24")	Nylon Medium Mesh
Hop Pellet Bag (8"x6")	Nylon Fine Mesh
Hop Pellet Bag (12"x9")	Nylon Fine Mesh
Winemaking Bag (24"x24")	Nylon Mesh

Spice Bags	Product Material
1 pound (11"x8")	Nylon
2 pound (15"x8")	Nylon
3 pound (15"x10")	Nylon





FILTER AIDS
STABILIZERS
DE FILTRATION
WATER TREATMENT

FOAM CONTROL



FermCap® AT

FermCap AT is a unique emulsion of an extremely effective surface active agent Dimethylpolysiloxane which prevents foam formation by reducing surface tension. FermCap AT is classified as a “Process Aid” because of its novel feature of being completely removed from the beer under normal processing conditions. It is adsorbed onto the surface of the yeast, vessel walls and filter media.

Analytical techniques accurate to 0.005 ppm cannot detect FermCap AT in finished beer.

To be used as an antifoam agent during the wort boiling and fermentation step of the brewing process. The dose rate depends on brewing conditions, wort gravity, yeast cell counts and temperature. The ingredients of this product may settle. For best results, the closed package should be shaken vigorously before use. Do not freeze, store below 32°C (90°F).

Pack size	Application rate
1 L, 4 L, 25 L	1 - 6 ml/hL

FermCap® S

FermCap S is a unique emulsion of an extremely effective surface active agent Dimethylpolysiloxane which prevents foam formation by reducing surface tension. It is used to control foam in kettle and during fermentation, and is completely removed from the beer after fermentation by the yeast and filtration. As a result of preserving hydrophobic beer proteins in solution it actually improves beer foam retention in the finished beer.

The desired level of foam control can be best achieved by experimental use of FermCap S to achieve optimum control by the brewer.

Addition rates from 1 - 8 ml/hl are normally required, but more than one addition and/or higher rates of use may be required when any or all “high foam” factors are present. (see side panel)

To be used as an antifoam agent during the fermentation step of the brewing process, the dose rate is dependent on wort composition, gravity and fermentation conditions

The ingredients of this product may settle. For best results, the closed package should be shaken vigorously before use. Do not freeze, store below 32°C (90°F).

Pack size	Application rate
1 L, 4 L, 25 L	1 - 8 ml/hL

Biofoam® K

Biofoam K is the trade name for a specially prepared food grade Propylene Glycol Alginate for use in the brewing industry. Biofoam is the propylene glycol ester of Alginic acid which is a linear polymer of 1-4Beta D-Mannuronic acid and 1-4Alpha L-Guluronic acid residues extracted from marine brown algae (Phaeophyceae).

Biofoam is a highly purified propylene glycol alginate in powdered form used as a foam stabilizer by enhancing the natural foam components of beer.

Pack size	Application rate
25 kg (55 lbs)	3.5 - 9.5 grams/bbl

Biofoam® CL

Biofoam CL is the trade name for a specially prepared food grade natural foaming agent for use in the brewing and beverage industry. Biofoam CL is a complex compound produced by the **controlled hydrolysis of cereal and yeast proteins** that are used in brewing. It is specifically designed to enhance and stabilize the foam in beer and beverages.

Biofoam CL is dry powder product. It is recommended to prepare a 1 or 2% solution in water for dosing.

Pack size	Application rate
1 kg, 5 kg, 15 kg	3 - 8 grams/hL (30-80 ppm)

FILTER AIDS

Micro-Media® Filter Pads

The addition of filter aids and wet strength resin is unique to the Micro-Media® Series. The addition of these ingredients improves retention efficiencies by adding internal surface area and the positive charge known as Zeta-Potential.

Zeta-Potential is the positively charged site within the matrix of fibers and filter aids which attracts negatively charged particles which may be smaller than the pore sizes available in the filter pad.

Wet strength resins are steam sterilizable and are all free of formaldehyde. Filter aids used are Harborlite and/or Celite which also help to improve filtration efficiencies.

Ertel Filter Sheets (Micro-Media® Filter Pads)			
All sheets 40 cm sq, 100 sheets per case			
Ertel M10 (10 µm)	Ertel M40 (5.0 µm)	Ertel M45 (2.5 µm)	Ertel M70 (0.5 µm)

Beer Filter Medium (Harborlite)	Pack Size
Grade 3 (7 µm - coarse)	25 lb bag
Grade 7 (3 µm - fine)	40 lb bag

Lautering Aids	Pack Size
Rice hulls	50 pound bag
Oat hulls	20 pound bag

SILICA GELS

HYDROGEL - Britesorb A100 (Pack Size 50 lbs) AKA Chill-Garde	
<p>Action Hydrogel has a molecular moisture content of ~ 67%. It adsorbs haze forming proteins which eliminates that fraction from the Protein/Tannoid Complex, the major cause of non-biological post-filtration turbidity.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Typical Dosage Rate 12 - 15 lbs/100 bbls</p> </div>	<p>Additional Notes Optimal addition would be after the aging vessel before the filter, however, it can also be added to the aging vessel provided a sufficient sedimentation period is assured. Optimal dosage temperature is 32° F or below with good dispersion and a minimum contact time of 20 minutes. This product is non-dusty.</p>
<p><i>Application rates should be determined by brewery scale trials. BSG can perform colloidal stability analysis & make dosage recommendations.</i></p>	

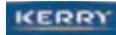
XEROGEL - Britesorb D300 (Pack Size 44 lbs, 50 lbs) AKA Lucilite XLC	
<p>Action Xerogel has a molecular moisture content of <10%. It adsorbs haze forming proteins which eliminates that fraction from the Protein/Tannoid Complex, the major cause of non-biological post-filtration turbidity.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Typical Dosage Rate 6 - 8 lbs/100 bbls</p> </div>	<p>Additional Notes Optimal addition would be after the aging vessel before the filter, however, it can also be added to the aging vessel provided a sufficient sedimentation period is assured. Optimal dosage temperature is 43° F or below with good dispersion and a minimum contact time of 4 minutes. This product is dusty.</p>
<p><i>Application rates should be determined by brewery scale trials. BSG can perform colloidal stability analysis & make dosage recommendations.</i></p>	

BEER FININGS

Biofine® P019 (Pack Size 1 lb, 5 lbs, 55 lbs)

Action

Biofine® P019 is a refined isinglass collagen which has superior dissolution properties. The active ingredient in isinglass is a protein called collagen, a triple helical coil with many sites of positive charge. It is a large molecule which will attract the much smaller negatively charged yeast, etc., and they will participate out.



Additional Notes

When dissolved in water and added to the beer it causes yeast and suspended proteins to settle rapidly. At higher dosage rates filtration may not be necessary. Optimum addition would occur into the beer in the transfer to the aging tank for good dispersion. However, treatment may be made directly into the aging vessel with a CO₂ purge going. A minimum sediment period of no less than 24 hours. Make a 0.5% solution using a high shear mixer with cold water. Typical dosage rate 1/0% v/v of a 0.5% solution.

Application rates should be determined by brewery scale trials.

Biofine® Clear (Pack Size 1 L, 4 L, 5 gallons, 55 gallons)

Action

Biofine® clear is a purified colloidal solution of silicic acid, (SiO₂), in water that has been specifically formulated for the rapid sedimentation of yeast and other haze forming particles in beer. It is Vegan friendly.



Typical Dosage Rate
40 - 250 ml/hL

Additional Notes

Biofine Clear is extremely rapid acting and optimally added on transfer to the aging tank for optimal dispersion in the beer. Direct addition can be to the aging tank, however, emphasis must be placed on good dispersion, i.e. multiple addition points and a good CO₂ purge to minimize stratification.

Application rates should be determined by brewery scale trials.

Britesorb TR (Pack Size 20 kg/44 lbs)

Action

Britesorb TR adsorbs the haze forming polyphenols which eliminates that fraction from the Protein/Tannoid Complex, the major cause of non-biological post-filtration turbidity.



Typical Dosage Rate
3 - 6 lbs / 100 bbls

Additional Notes

Optimal addition would be after the aging vessel before the filter, however, it can also be added to the aging vessel provided a sufficient sedimentation period is assured. Optimal dosage temperature is 43° F or below with good dispersion and a minimum contact time of 4 minutes. Britesorb TR is minimally dusty and does **not require a 2 hour hydration period prior to use.**

Application rates should be determined by brewery scale trials. BSG can perform colloidal stability analysis and make dosage recommendations.

SPECIALTY BLENDS

Synstar Op3® (Pack Size 7 lbs, 25 lbs)	
<p>Action Synstar Op3 adsorbs both the haze forming protein and haze forming polyphenols which eliminates those fractions from the Protein/Tannoid Complex, the major cause of non-biological post-filtration turbidity.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Typical Dosage Rate 9 - 12 lbs/100 bbls</p> </div>	<p>Additional Notes Optimal addition would be after the aging vessel before the filter, however, it can also be added to the aging vessel provided a sufficient sedimentation period is assured. Optimal dosage temperature is 43° F or below with good dispersion and a minimum contact time of 4 minutes. Synstar Op3 is not dusty and does not require a 2 hour hydration period prior to use.</p>
<p><i>Application rates should be determined by brewery scale trials. BSG can perform colloidal stability analysis & make dosage recommendations.</i></p>	

PVPP - Polyvinylpolypyrrolidone (Pack Size 1 lb, 5 lbs, 50 lbs) - SPECIAL ORDER	
<p>Action PVPP adsorbs the haze forming polyphenols which eliminates that fraction from the Protein/Tannoid Complex, the major cause of non-biological post-filtration turbidity.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Typical Dosage Rate 3 - 6 lbs/100 bbls</p> </div>	<p>Additional Notes Optimal addition would be after the aging vessel before the filter, however, it can also be added to the aging vessel provided a sufficient sedimentation period is assured. Optimal dosage temperature is 32° F or below with good dispersion and a minimum contact time of 4 minutes. PVPP is dusty and typically requires a 2 hours hydration period prior to use.</p>
<p><i>Application rates should be determined by brewery scale trials. BSG can perform colloidal stability analysis & make dosage recommendations.</i></p>	

DE FILTRATION

Celite® Z-Grade Low Iron

DE

NEW FROM CELITE CORPORATION

Celite Corporation is the only supplier of high purity and high performance filter aids to the brewing industry. Celite is also the largest global supplier of diatomite and perlite filter aids.

Celite's high purity DE technology was implemented a decade ago at their Lompoc CA site (the only marine diatomite mine in the world) for the pharmaceutical industry. This technology is now available to the brewing industry in a wide selection of diatomaceous earth filter aids, called 'Celite Z grades'.

These Z grades have substantially reduced levels of Beer Soluble Iron, (BSI), in comparison to those standard grades. BSI has a negative effect on beer flavor stability, colloidal stability and gushing is well documented in the literature. However, of paramount importance to the brewer is flavor stability. Huige, states that beer flavor instability is caused by the formation of volatile, long chain unsaturated carbonyls with low flavor thresholds and unpleasant flavors. One of various methods discussed by Huige to minimize the oxidation reaction is by minimizing copper and iron pickup. (See literature sited note).

Schmidt & Kluba commented that ferrous ions may be imparted to the beer by certain processing aids such as diatomaceous earth or filter pads. (See literature sited note)

This is where the Z grade pre-coat & body-feed filter aids from the Celite Corporation truly stand alone with BSI levels as low as 20 ppm. These low BSI levels are maintained while still offering similar flow throughput characteristics offered by the high iron counterparts. Dosage rates will be equal to the standard CELITE grades on a grade to grade basis.

Celite® Standard Super-Cel Z		Celite® 512 Z		Celite® Hyflo Super Cel Z	
Permeability	0.3 darcies	Permeability	0.5 darcies	Permeability	1.0 darcies
Median pore size	3.5 μ	Median pore size	5.0 μ	Median pore size	7.0 μ
BSI, (ASBC)	≤ 30.0 ppm	BSI, (ASBC)	≤ 20.0 ppm	BSI, (ASBC)	≤ 50.0 ppm

Literature Cited

Huige, N.J. *Beer and Wine Production, Analysis, Characterization and Technological Advances, ACS Symposium, Series 536, 1993, pp. 64-97.*

Schmidt, T.R.; Kluba, R.M. *The Practical Brewer, Beer Quality and Taste Methodology 3rd Edition, 1999, pp. 380-412*



WATER TREATMENT

Brewers' Gypsum

Hydrated calcium sulfate is used to correct mineral deficiencies in water which is to be used for brewing. It is used in de-mineralized or soft to medium hard water to increase permanent hardness. Used as directed, **Brewers' Gypsum** is effective in eliminating the variations in composition often encountered in water from surface sources. It will help establish proper pH of the mash and the wort and provide sufficient calcium ions essential for enzyme function, kettle protein coagulation and yeast metabolism.

Pack size	Application rate
50 lbs	See below

Brewers' Calcium Chloride

Hydrated calcium chloride is used to correct mineral deficiencies in water which is to be used for brewing. It is used in de-mineralized or soft to medium hard water to increase permanent hardness. Used as directed, **Brewers' Calcium Chloride** is effective in eliminating the variations in composition often encountered in water from surface sources. It will help establish proper pH of the mash and the wort and provide sufficient calcium ions essential for enzyme function, kettle protein coagulation and yeast metabolism.

Pack size	Application rate
50 lbs	See below

Brewers' Gypsum & Brewers' Calcium Chloride

Prepare a 1% solution of Brewers' Gypsum in cold water in a separate tank with vigorous mixing. Calcium salts are more soluble in cold water, and the mixing will help dissolve the salt more completely. Dilute the Brewers' Gypsum solution into water being heated for mashing or for sparging. The final concentration of salts should be in the range of **100 to 1000 ppm** (mg/L). This will require 2.5 to 25 lb/100 Bbl (10 to 100 g/hl). If a tank is not available for making a solution ahead of time, the Brewers' Gypsum can be added directly to mash water or sparge water with as much mixing as possible to assure dispersion.

Water Treatment Agent	Pack Size	Water Treatment Agent	Pack Size
Calcium carbonate	50 # bag	Water Treatment	50 # bag
Sodium bicarbonate	50 # bag	Citric acid	50 # bag, 5 # pail
Sodium chloride	50 # bag	Lactic acid	1 gallon

FLAVOR STABILITY

Antiox C

Antiox C provides dual protection from oxygen for beer. Immediate acting, the **potassium metabisulfite** component of the antioxidant immediately combines with dissolved oxygen as soon as it is added after fermentation. The **ascorbate** component of the antioxidant reacts with oxygen at a slower rate than does metabisulfite. When the metabisulfite is totally reacted, the slower acting ascorbate continues protecting against oxidation.

Protection against dissolved and head space oxygen continues during the complete brewing and packaging operations. Resulting packaged beers possess improved flavor stability, colloidal stability, and prolonged shelf-life. **Antiox C** treated beers retain their fresh taste, palatability, and brilliance.

To optimize the use of **Antiox C**, we recommend trials prior to the routine use of the antioxidant. This assures optimum protection and uniform beer quality. **Antiox C** is normally added at 20-30 ppm (0.50 to 0.75 lb./100 bbl.; 2-3g/hl). Maximum addition depends upon application but should not generally exceed 100ppm

To judge the effectiveness of **Antiox C**, the flavor and physical stability of treated beer should be compared with that of an untreated beer control over an extended shelf storage period.

Pack size	Application rate
10 lbs	20-30 ppm (0.50-0.75 #/100 bbl)

Potassium Metabisulfite (PMBS)

Potassium metabisulfite is used as an antioxidant in beer. May be used at modest levels (10ppm free SO₂) to provide protection from headspace oxygen.

To optimize the use of **PMBS**, we recommend trials prior to the routine use of the antioxidant. This assures optimum protection and uniform beer quality. **PMBS** is normally added at 10-20 ppm is (0.25 to 0.50 lb./100 bbl.; 1-2g/hl). Maximum addition depends upon application but should not generally exceed 100ppm.

Pack size	Application rate
55 lbs	10-20 ppm (0.25-0.50#/100 bbl)

Antioxidant Use

For complete protection, proportion the antioxidant solution into the beer line during transfer from fermentation to storage. Proportioning to solution under carbon dioxide pressure avoids oxygen pickup. If proportioning equipment is not available, force the antioxidant solution with carbon dioxide or introduce it by suction into the beer line after transferring 50 to 100 barrels to storage. Do not add the ANTIOX C solution to an empty storage tank. The initial flow of beer may be accompanied by a significant amount of air which can immediately react with and use up the antioxidant. In beers of low air content it may cause a "reduced" flavor.

Ascorbic Acid

Ascorbic acid is also available in 1 kg, 5 kg and 25 kg units.



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