Why and how to use a blast chiller?

Originally the blast chillers for trays, GN containers and trolley’s were created to meet the regulatory obligations imposed by French decrees on the 9 May 1995 and the 29 September 1997 for the commercial and social food services.

These regulations aim to control microbiological dangers during the cooling down food temperatures after cooking. Most of the pathogenic bacteria are killed at a temperature of +63 °C and they are blocked at a temperature lower than +10 °C. The critical range is between +10 °C and +63 °C when bacterial multiplication and environmental contamination, including from equipment and staff is present. Therefore it is important that this temperature range passes through quickly to minimize microbial growth.

WHAT THE LAW SAYS
The decree from the 29 September 1997 states:

“Blast chilling of foods must be performed in a way that the core temperature does not remain between +63 °C and +10 °C values for more than two hours. An exception is possible (Article 5) if the risk analysis shows that a lowerblast chilling time is still sufficient to ensure food safety. After cooling down, these foods must be stored in a chamber in which the temperature value is between 0 °C and +3 °C.

Art. 22 – The regeneration temperature of food preparation to serving hot must be performed in a way that the temperature does not remain for more than one hour between the value +10 °C and the consumer service temperature. In any case, this temperature cannot be lower than +63 °C. An exception is possible (Article 5) if the risk analysis shows that a lower temperature does not present a risk to consumer health. These culinary preparations must be eaten on the same day they were reheated for the first time.”

To certify that a dish was treated by blast chilling according to the legislation rules, a record of temperatures before and after cooling must be completed by all kitchen staff on a reference document. It must be archived. Note: these documents may be requested during a hygiene services inspection.
### BLAST CHILLING TRACKING SHEET EXAMPLE (TIME AND TEMPERATURE)

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<th>Conformity (yes / no)</th>
<th>Duration of cooling down</th>
<th>Preparation after cooling down</th>
<th>Time</th>
<th>Temp °C</th>
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<th>Qty</th>
<th>Preparation after cooking</th>
<th>Time</th>
<th>Temp °C</th>
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<tr>
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WHY AND HOW TO USE A BLAST CHILLER?

WHAT DISHES TYPES MUST TREATED BY FAST COOLING?
• Dishes which are cooked by the Cook and Chill process (e quiches, lasagna, meat, vegetables ...)
• Desserts / pastries that require cooling (eg creams desserts, pies, cakes, puddings ...)
• Dishes using hot preparations which are processed in Cook & Serve

In general, all meat preparations, unprocessed in Cook & Serve, have to process a blast chilling process.

BLAST CHILLING RULES TO FOLLOW
• Complete the blast chilling tracking sheet before cooling
• If necessary, transfer immediately after cooking all hot dishes in Gastro containers or fitted plates.
• Place the plates or GN containers on the blast chiller
• Close the door
• Set a fast cooling cycle (time or temperature to reach)
• Check the core temperature with a core probe. If the heart temperature set point is reached, stop cooling.
• Complete the blast chilling tracking sheet. If the temperature and time parameters are correct, immediately store preparations in positive cold room / storage system at + 3 °C maximum (DLC D+ 3). Remember to indicate production date and to cover with film if possible.

Note: Like all appliances in the kitchen, the blast chiller should be cleaned / disinfected before and after use. Maintenance operations must be performed regularly to increase its lifespan and ensure its effectiveness.

CAUTION
• The cooling time transition from + 63 ° C to + 10 ° C must be less than 120mn. No difference is allowed. It is not an obligation but this does provide the best results.
• Do not let the core temperature of the food product wait for the blast chilling to fall below 63 ° C.
• Avoid too many thick layers of the food product to facilitate the cold penetration.
• Do not substitute a blast chiller by a cold chamber because heat and steam will impact the quality of other foods contained inside.
WHY AND HOW TO USE A BLAST CHILLER?

OTHER USES
Besides its bacteriological interest, blast chilling helps to preserve the organoleptic product qualities. Indeed, the more quickly cooling is, the less water evaporation there is. Therefore, products lose less weight and oxidize less. Flavors and textures are better preserved. Accordingly, it is also an indispensable tool for pastry and cooking because it helps to quickly solidify mousses, icings and jelly preparations.

Another significant advantage is its dual function: all Hengel blast chillers also offer a deep-freezing function. One device with 2 important functions!

When food products are cooled, they can be frozen and then stored in a cold chamber or refrigerating storage system. Hence, you are able to mass-produce and gain on supply costs which lead to increased productivity.

We offer blast chillers and freezers, shock freezers, models for trays, GN containers and trolleys to meet all needs, so don't hesitate to contact us.

Sources:
http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000169225
http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000750248
http://www.lhotellerie-restauration.fr/lhotellerie/Articles/M_2578_10_Septembre_1998/ToutSavoirEn10Points.html