



# ***MICRO*Drills**

[www.helion-tools.com](http://www.helion-tools.com)

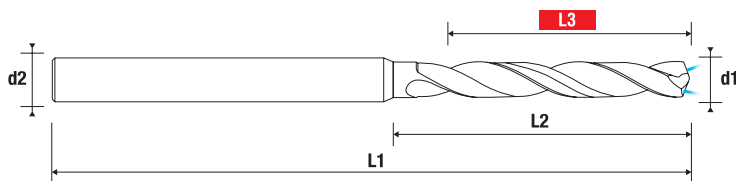
# ICONOGRAPHY / ICONOGRAFÍA

|                                                                                             |  |                                                                           |  |                                                              |  |                                                                               |  |                                                                    |  |                                           |  |                                                                     |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
|---------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------|--|--------------------------------------------------------------|--|-------------------------------------------------------------------------------|--|--------------------------------------------------------------------|--|-------------------------------------------|--|---------------------------------------------------------------------|--|--------------------------------------|--|------------------------------|--|-------------------------|--|---------------|--|-----------------------------------|--|-----------------------------------|--|--------------|--|----------|--|---------------------------------------|--|
| SC                                                                                          |  |                                                                           |  |                                                              |  |                                                                               |  |                                                                    |  | HSS                                       |  | HSS-E                                                               |  | HSSCO                                |  | M42                          |  | HSS-E-PM                |  | CBN SOLID     |  | PM                                |  | TOOL MATERIAL<br>TIPO DE MATERIAL |  |              |  |          |  |                                       |  |
| m7<br>TOLERANCE                                                                             |  | h6<br>TOLERANCE                                                           |  | h7<br>TOLERANCE                                              |  | H7<br>TOLERANCE                                                               |  | h8<br>TOLERANCE                                                    |  | 6HX<br>TOLERANCE                          |  | 6H<br>TOLERANCE                                                     |  | 6G<br>TOLERANCE                      |  | 2B<br>TOLERANCE              |  | TOLERANCE<br>TOLERANCIA |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| HA<br>Without<br>Sin Weldon                                                                 |  | HB<br>With<br>Con Weldon                                                  |  | SHANK DESIGN<br>FORMA DEL MANGO                              |  |                                                                               |  |                                                                    |  |                                           |  |                                                                     |  |                                      |  | 1,5XD                        |  | 2XD                     |  | 3XD           |  | 5XD                               |  | 8XD                               |  | 10XD         |  | 12XD     |  | CUTTING DEPTH<br>PROFUNDIDAD DE CORTE |  |
| Full-slot<br>Ranurado                                                                       |  | Copy<br>Copiado                                                           |  | Side Milling<br>Fresado Lateral                              |  | Ramping<br>Rampa                                                              |  | Interpolation<br>Interpolación                                     |  | Trochoidal<br>Trocoidal                   |  | APPLICATION<br>OPERACIÓN                                            |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| HSC<br>High Speed Cutting<br>Corte de Gran Avance                                           |  |                                                                           |  | HHC<br>High Hard Cutting<br>Corte de Materiales<br>Templados |  |                                                                               |  | HPC<br>High Performance<br>Cutting<br>Corte de Alto<br>Rendimiento |  |                                           |  | MULTI<br>TASK<br>Cutter<br>Multi Task<br>Cutter<br>Corte Multi Área |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| 3D<br>3D Side Trajectory,<br>Ramp and Drilling<br>Trayectoria lateral,<br>rampa y taladrado |  | 2D<br>2D Side Trajectory<br>and Ramping<br>Trayectoria<br>lateral y rampa |  | Axial<br>Trajectory<br>Trayectoria<br>axial                  |  | Side Trajectory<br>Trayectoria lateral                                        |  | TRAJECTORY<br>TRAYECTORIA                                          |  |                                           |  |                                                                     |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| VARIABLE<br>HELIX<br>α β γ<br>Frontal<br>Unequal Angle<br>Ángulo<br>Frontal Desigual        |  | HELIX<br>30°                                                              |  | HELIX<br>35°                                                 |  | HELIX<br>40°                                                                  |  | HELIX<br>42°                                                       |  | HELIX ANGLE<br>ÁNGULO DE LA HÉLICE<br>... |  |                                                                     |  |                                      |  |                              |  |                         |  |               |  | POINT ANGLE<br>ÁNGULO DE LA PUNTA |  |                                   |  |              |  |          |  |                                       |  |
| 90° Cut-<br>ting Edge<br>Canto Vivo                                                         |  | Toric<br>Tórica                                                           |  | 45°<br>Chamfer<br>Chafán                                     |  | Ball Nose<br>Esférica                                                         |  | Corner Radius<br>Radio de Canto                                    |  | EGDE SHAPE<br>FORMA DE LA ARISTA          |  |                                                                     |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| MQL<br>Minimum Quantity<br>of Lubricant<br>Micro Lubricación                                |  | AIR<br>Air Cooling<br>Refrigeración por Aire                              |  |                                                              |  | Dry or With Coolant<br>Machining<br>Mecanizado en seco o<br>con Refrigeración |  |                                                                    |  | With Coolant<br>Con Refrigeración         |  |                                                                     |  | Without Coolant<br>Sin Refrigeración |  | COOLANT<br>REFRIGERACIÓN     |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| INTERNAL COOLANT<br>REFRIGERACIÓN<br>INTERNA                                                |  | Blind<br>Hole<br>Agujero<br>Ciego                                         |  | Through<br>Hole<br>Agujero<br>Pasante                        |  | HOLE TYPE<br>TIPO DE<br>AGUJERO                                               |  | FORM<br>B<br>Px4                                                   |  | FORM<br>C<br>Px2,5                        |  | FORM<br>D<br>Px3                                                    |  | FORM<br>E<br>Px1,5                   |  | HEAD SHAPE<br>FORMA DE PUNTA |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| HELION NORM<br>NORMA HELION                                                                 |  | DIN 13                                                                    |  | DIN 212E                                                     |  | DIN 327                                                                       |  | DIN 333                                                            |  | DIN 335                                   |  | DIN 338                                                             |  | DIN 371                              |  | DIN 374                      |  | DIN 376                 |  | DIN 371 / 376 |  | ISO NORM<br>NORMA ISO<br>...      |  |                                   |  |              |  |          |  |                                       |  |
| RACER                                                                                       |  | RACER PLUS                                                                |  | VOLCANO                                                      |  | VOLCANO PLUS                                                                  |  | VOLCANO GOLD                                                       |  | DEEP BLUE                                 |  | SPEED                                                               |  | SPEED ZR                             |  | DRILLANT                     |  | DSC                     |  | SHARK         |  | TIN Up                            |  | DIAMOND                           |  | BLACK HVA    |  | BRIGHT   |  | COATINGS<br>RECUBRIMIENTOS            |  |
| NEW<br>New Product<br>Nuevo Producto                                                        |  | UNI<br>Universal Application<br>Aplicación Universal                      |  |                                                              |  | Micro Tools<br>Micro Herramientas                                             |  | POLISHED<br>Polished<br>Pulido                                     |  | OTHERS PICTOGRAMS<br>OTROS ICONOS         |  |                                                                     |  |                                      |  |                              |  |                         |  |               |  |                                   |  |                                   |  |              |  |          |  |                                       |  |
| 600<br>1200<br>N/mm²                                                                        |  | 45<br>HRC                                                                 |  | 55<br>HRC                                                    |  | 60<br>HRC                                                                     |  | 70<br>HRC                                                          |  | INOX                                      |  | GG(G)                                                               |  | ALU<br>NE                            |  | PLASTIC                      |  | GFK<br>CFK              |  | BRONZE        |  | SI ≥ 7%                           |  | TITAN<br>INCONEL                  |  | NI<br>ALLOYS |  | GRAPHITE |  | MATERIALS<br>MATERIALES<br>...        |  |

## SOLID CARBIDE DRILL 5XD INTERNAL COOLANT

Broca en metal duro 5xD con refrigeración interior

# 50.6805



| Cod.       | d1  | d2 | L1 | L2 | L3   |
|------------|-----|----|----|----|------|
| 5068050100 | 1   | 3  | 55 | 10 | 8,5  |
| 5068050110 | 1,1 | 3  | 55 | 12 | 10,4 |
| 5068050120 | 1,2 | 3  | 55 | 12 | 10,2 |
| 5068050130 | 1,3 | 3  | 55 | 12 | 10,1 |
| 5068050140 | 1,4 | 3  | 55 | 12 | 10   |
| 5068050150 | 1,5 | 3  | 55 | 12 | 9,8  |
| 5068050160 | 1,6 | 3  | 55 | 16 | 13,6 |
| 5068050170 | 1,7 | 3  | 55 | 16 | 13,5 |
| 5068050180 | 1,8 | 3  | 55 | 16 | 13,3 |
| 5068050190 | 1,9 | 3  | 55 | 16 | 13,2 |
| 5068050200 | 2   | 3  | 57 | 21 | 18   |
| 5068050210 | 2,1 | 3  | 57 | 21 | 17,9 |
| 5068050220 | 2,2 | 3  | 57 | 21 | 17,7 |
| 5068050230 | 2,3 | 3  | 57 | 21 | 17,6 |
| 5068050240 | 2,4 | 3  | 57 | 21 | 17,4 |
| 5068050250 | 2,5 | 3  | 57 | 21 | 17,3 |
| 5068050260 | 2,6 | 3  | 57 | 21 | 17,1 |
| 5068050270 | 2,7 | 3  | 57 | 21 | 17   |
| 5068050280 | 2,8 | 3  | 57 | 21 | 16,8 |
| 5068050290 | 2,9 | 3  | 57 | 21 | 16,7 |

SC

m7  
TOLERANCE

5XD

140°

600  
1200  
N/mm²

RACER

600  
1200  
N/mm²

55  
HRC

GG(G)

INOX

UNI

HSC

HSC

HPC

HA

Helion

Helion

## 50.6005

### SOLID CARBIDE DRILL 5XD

Broca en metal duro 5xD

SC

m7  
TOLERANCE

5XD



RACER

600  
1200  
N/mm²

55  
HRC

GG(G)

INOX

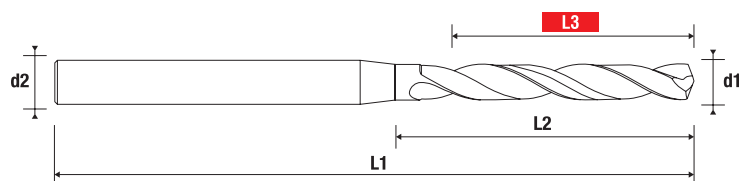
UNI



HA

HSC

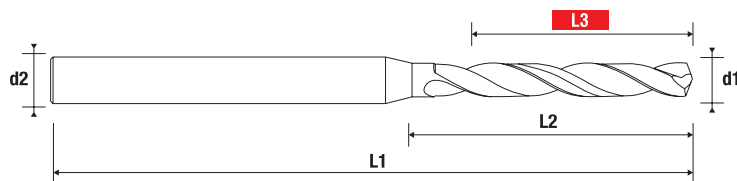
HPC



| Cod.       | d1  | d2 | L1 | L2 | L3   |
|------------|-----|----|----|----|------|
| 5060050050 | 0,5 | 3  | 50 | 10 | 9,3  |
| 5060050060 | 0,6 | 3  | 50 | 10 | 9,1  |
| 5060050070 | 0,7 | 3  | 50 | 10 | 9    |
| 5060050080 | 0,8 | 3  | 50 | 10 | 8,8  |
| 5060050090 | 0,9 | 3  | 50 | 10 | 8,7  |
| 5060050100 | 1   | 3  | 55 | 10 | 8,5  |
| 5060050110 | 1,1 | 3  | 55 | 12 | 10,4 |
| 5060050120 | 1,2 | 3  | 55 | 12 | 10,2 |
| 5060050130 | 1,3 | 3  | 55 | 12 | 10,1 |
| 5060050140 | 1,4 | 3  | 55 | 12 | 9,9  |
| 5060050150 | 1,5 | 3  | 55 | 12 | 9,8  |
| 5060050160 | 1,6 | 3  | 55 | 16 | 13,6 |
| 5060050170 | 1,7 | 3  | 55 | 16 | 13,5 |
| 5060050180 | 1,8 | 3  | 55 | 16 | 13,3 |
| 5060050190 | 1,9 | 3  | 55 | 16 | 13,2 |
| 5060050200 | 2   | 3  | 57 | 21 | 18   |
| 5060050210 | 2,1 | 3  | 57 | 21 | 17,9 |
| 5060050220 | 2,2 | 3  | 57 | 21 | 17,7 |
| 5060050230 | 2,3 | 3  | 57 | 21 | 17,6 |
| 5060050240 | 2,4 | 3  | 57 | 21 | 17,4 |
| 5060050250 | 2,5 | 3  | 57 | 21 | 17,3 |
| 5060050260 | 2,6 | 3  | 57 | 21 | 17,1 |
| 5060050270 | 2,7 | 3  | 57 | 21 | 17   |
| 5060050280 | 2,8 | 3  | 57 | 21 | 16,8 |
| 5060050290 | 2,9 | 3  | 57 | 21 | 16,7 |

## SOLID CARBIDE DRILL 3XD

Broca en metal duro 3xD



| Cod.       | d1  | d2 | L1 | L2 | L3   |
|------------|-----|----|----|----|------|
| 5060030100 | 1   | 3  | 38 | 8  | 6,5  |
| 5060030110 | 1,1 | 3  | 38 | 8  | 6,4  |
| 5060030120 | 1,2 | 3  | 38 | 8  | 6,2  |
| 5060030130 | 1,3 | 3  | 38 | 8  | 6,1  |
| 5060030140 | 1,4 | 3  | 38 | 8  | 5,9  |
| 5060030150 | 1,5 | 3  | 50 | 8  | 5,8  |
| 5060030160 | 1,6 | 3  | 50 | 8  | 5,6  |
| 5060030170 | 1,7 | 3  | 50 | 10 | 7,5  |
| 5060030180 | 1,8 | 3  | 50 | 10 | 7,3  |
| 5060030190 | 1,9 | 3  | 50 | 10 | 7,2  |
| 5060030200 | 2   | 3  | 50 | 16 | 13   |
| 5060030210 | 2,1 | 3  | 50 | 16 | 12,9 |
| 5060030220 | 2,2 | 3  | 50 | 16 | 12,7 |
| 5060030230 | 2,3 | 3  | 50 | 16 | 12,6 |
| 5060030240 | 2,4 | 3  | 50 | 16 | 12,4 |
| 5060030250 | 2,5 | 3  | 50 | 20 | 16,3 |
| 5060030260 | 2,6 | 3  | 50 | 20 | 16,1 |
| 5060030270 | 2,7 | 3  | 50 | 20 | 16   |
| 5060030280 | 2,8 | 3  | 50 | 20 | 15,8 |
| 5060030290 | 2,9 | 3  | 50 | 20 | 15,7 |

# 50.6003

SC

m7  
TOLERANCE

3XD



RACER

600  
1200  
N/mm²

55  
HRC

GG(G)

INOX

UNI



HA

HSC

HPC



# GENERAL CUTTING CONDITIONS • CONDICIONES DE CORTE GENERALES

## 50.6805 I SOLID CARBIDE DRILL 5XD INTERNAL COOLANT

|           |                                                   | d1      |        | d1      |
|-----------|---------------------------------------------------|---------|--------|---------|
|           |                                                   | 1 - 1,9 |        | 2 - 2,9 |
|           |                                                   | Vc      | fz     | fz      |
| Steel     | General steels <500 N/mm <sup>2</sup> (<150 HB)   | 120     | 0,0400 | 0,0900  |
|           | General steels <700 N/mm <sup>2</sup> (<205 HB)   | 110     | 0,0400 | 0,0900  |
|           | Tempering steel <850 N/mm <sup>2</sup> (<25 HRC)  | 100     | 0,0400 | 0,0900  |
|           | Tempering steel <1000 N/mm <sup>2</sup> (<32 HRC) | 85      | 0,0400 | 0,0800  |
|           | High alloyed steel <1400 N/mm <sup>2</sup>        | 70      | 0,0300 | 0,0600  |
|           | Hardened steel 45-55 HRC                          | 50      | 0,0200 | 0,0400  |
| Cast Iron | Grey Cast Iron <180HB GG                          | 120     | 0,0500 | 0,1000  |
|           | Malleable Cast Iron >250 HB - GG                  | 90      | 0,0500 | 0,1000  |
|           | Nodular Cast iron <350HB GGG                      | 90      | 0,0400 | 0,0900  |

## 50.6005 I SOLID CARBIDE DRILL 5XD

|           |                                                   | d1        |        | d1      |
|-----------|---------------------------------------------------|-----------|--------|---------|
|           |                                                   | 0,5 - 0,9 |        | 1 - 1,9 |
|           |                                                   | Vc        | fz     | fz      |
| Steel     | General steels <500 N/mm <sup>2</sup> (<150 HB)   | 96        | 0,0200 | 0,0400  |
|           | General steels <700 N/mm <sup>2</sup> (<205 HB)   | 88        | 0,0200 | 0,0400  |
|           | Tempering steel <850 N/mm <sup>2</sup> (<25 HRC)  | 80        | 0,0200 | 0,0400  |
|           | Tempering steel <1000 N/mm <sup>2</sup> (<32 HRC) | 68        | 0,0200 | 0,0400  |
|           | High alloyed steel <1400 N/mm <sup>2</sup>        | 56        | 0,0200 | 0,0300  |
|           | Hardened steel 45-55 HRC                          | 40        | 0,0100 | 0,0200  |
| Cast Iron | Grey Cast Iron <180HB GG                          | 96        | 0,0200 | 0,0500  |
|           | Malleable Cast Iron >250 HB - GG                  | 72        | 0,0200 | 0,0500  |
|           | Nodular Cast iron <350HB GGG                      | 72        | 0,0200 | 0,0400  |

## 50.6003 I SOLID CARBIDE DRILL 3XD

|           |                                                   | d1      |        | d1      |
|-----------|---------------------------------------------------|---------|--------|---------|
|           |                                                   | 1 - 1,9 |        | 2 - 2,9 |
|           |                                                   | Vc      | fz     | fz      |
| Steel     | General steels <500 N/mm <sup>2</sup> (<150 HB)   | 96      | 0,0420 | 0,0945  |
|           | General steels <700 N/mm <sup>2</sup> (<205 HB)   | 88      | 0,0420 | 0,0945  |
|           | Tempering steel <850 N/mm <sup>2</sup> (<25 HRC)  | 80      | 0,0420 | 0,0945  |
|           | Tempering steel <1000 N/mm <sup>2</sup> (<32 HRC) | 68      | 0,0420 | 0,0840  |
|           | High alloyed steel <1400 N/mm <sup>2</sup>        | 56      | 0,0315 | 0,0630  |
|           | Hardened steel 45-55 HRC                          | 40      | 0,0210 | 0,0420  |
| Cast Iron | Grey Cast Iron <180HB GG                          | 96      | 0,0525 | 0,1050  |
|           | Malleable Cast Iron >250 HB - GG                  | 72      | 0,0525 | 0,1050  |
|           | Nodular Cast iron <350HB GGG                      | 72      | 0,0420 | 0,0945  |

# SALES TERM I CONDICIONES DE VENTA

## PAYMENT · PAGO

Payment shall be made in accordance with terms and conditions notified to the buyer. In case of not payment on the agreed date, we will apply the delay interest. El pago se efectuará de conformidad con los términos y condiciones notificadas al comprador. En caso de impago en la fecha acordada, se devengará el interés legal de demora.

## PASSING OF PROPERTY · RESERVA DE DOMINIO

The property of the goods does not pass to the buyer until it becomes entirely his payment. The Company reserves the right to repossess any goods in respect on which payment is overdue and the buyer shall co-operate in the event of the Company notifying its intentions of repossess. La propiedad de los bienes no se transmitirá al comprador hasta que se haga efectivo por completo su pago. La Empresa se reserva el derecho de tomar posesión de los bienes respecto de los cuales exista mora en el pago.

## TRANSPORT · TRANSPORTE

Will be paid by the buyer. Será a cargo del comprador.

## RETURN POLICY · POLÍTICA DE DEVOLUCIÓN

The customer will get 5 days from the reception of the goods to inform to HELION TOOLS about any claim of the goods supplied. Passed that period the goods will be considered as accepted by the customer. El cliente dispondrá de un plazo de 5 días a partir de la recepción del producto para enviar a HELION TOOLS cualquier reclamación en relación con el producto suministrado. Después de ese plazo los productos serán considerados como conformes por el cliente.

## THE CLAIM WILL MUST DO IT THROUGH · LA RECLAMACIÓN DEBERÁ REALIZARSE A TRAVÉS DE:

**Logistics Division · Departamento de logística**    [logistics@helion-tools.com](mailto:logistics@helion-tools.com)    +34 93 877 08 69  
**Comercial Division · Departamento comercial**    [export@helion-tools.com](mailto:export@helion-tools.com)    +34 93 877 08 69

HELION TOOLS is not responsible and reserves the rights to refuse returns if the goods are in bad conditions due to improper use or transport damages. HT no se hace responsable y se reserva el derecho de rechazar posibles devoluciones en caso de mercancía en mal estado por uso indebido o daños de transporte.

## \* WILL BE ACCEPTED MATERIAL JUST IN FOLLOWING CASE ·

### SOLO SE ACEPTARÁ DEVOLUCIÓN DE MATERIAL EN LOS SIGUIENTES CASOS:

a) The return of the good non-defective, as a rule, will be not accepted. Anyway, in special situations and as an exception will be accepted the return with previous conformity of HELION TOOLS and once the material will be in HELION TOOLS have been controlled that all the requirements of the goods be correct. Then in the return will be apply an surcharge of 15% of the value of the goods as expenses of management and administration. The transportation cost will be at the customer's expense. La devolución de mercancía no defectuosa como norma no se acepta. Aun así, en casos especiales y como excepción se acepta la devolución, pero siempre con la previa aprobación de HT, y la posterior confirmación una vez recibida la mercancía de que reúne los requisitos exigidos. En estos casos de devolución se aplicará un recargo por gastos de gestión y administración del 15% del valor de la mercancía. Los gastos de transporte irán a cargo del comprador.

b) Material defective at the moment of the reception of it: If the material is defective in the origin, must be informed to HELION TOOLS and once assigned the return number the goods will be dispatched to HELION TOOLS with her original packaging. Will be not accepted the return of goods that are not according with the following specifications: original packaging and materials without using. Material defectuoso al momento de la recepción de este: Si el material está defectuoso de origen, se deberá realizar la comunicación a HT, y una vez asignado el nº de devolución, el producto será enviado a HT con su embalaje original. No se aceptarán devoluciones que no cumplan estos requisitos: embalaje original y sin usar.

All the returns must be together with the invoice or delivery note. Toda devolución debe ir acompañada de la factura o albarán de compra.

## DELIVERY · ENTREGA

Once received the purchase order, we proceed with the production process to supply the order in a short time as possible. Then we will not accept cancellations or modifications in purchase orders of special tools manufactured according with the specifications of the customer. Una vez recibido un pedido, procedemos a la ejecución de este en el plazo más breve posible y a partir de ese momento no se aceptarán cancelaciones ni modificaciones de un pedido que contenga herramientas especiales o fabricadas por petición del cliente.

## GARANTÍA · WARRANTY

The guarantee of all our products will be established by HELION TOOLS. There is no guarantee for products manipulated or modified. The responsibility of HELION TOOLS is limited just to the cost amount of the product and is not liable of damages and their consequences, nor of losses due lost profit of the buyer. La garantía de todos nuestros productos será la establecida por HT. No existe garantía de los productos que hayan sido manipulados o modificados. La responsabilidad de HT queda en todo caso limitada al importe del producto y no se hace responsable de daños y sus consecuencias, ni de pérdidas por lucro cesante del comprador.

## JURISDICTION · JURISDICCIÓN

In case of dispute the Customer Will be subject to the jurisdiction of the courts of Manresa – Barcelona – Spain. En caso de litigio, el cliente estará sujeto a la jurisdicción de los tribunales de Manresa – Barcelona – España.



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