



Power harrow
TINE WITH TUNGSTEN CARBIDE PLATES

PRODUCT INFORMATION



TINE WITH TUNGSTEN CARBIDE PLATES,
DISCOVER WHAT MAKES IT DIFFERENT.

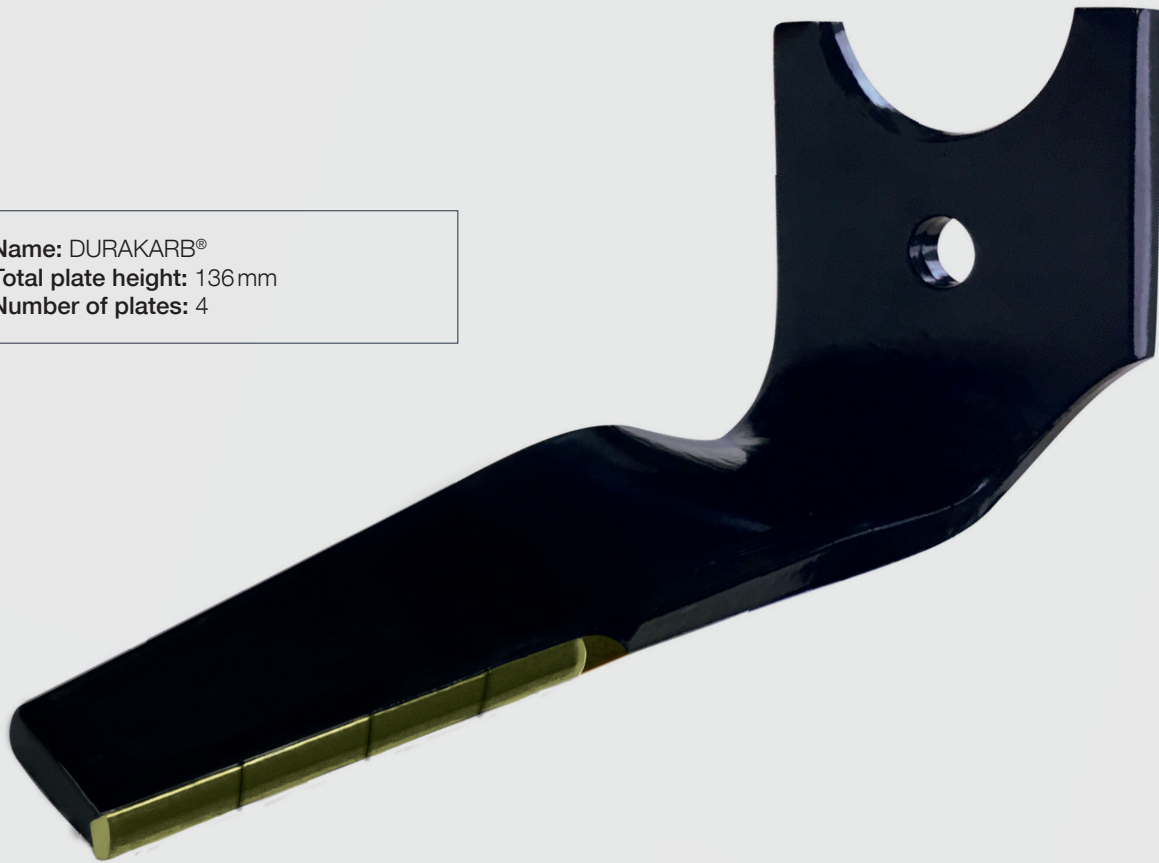
HR Power harrow tines with tungsten carbide plates

UNBEATABLE PERFORMANCE!



Tungsten carbide plates are made from tungsten and carbon powder which is heated and compressed with other chemical components. The very strict manufacturing process enables us to obtain a very hard and highly wear resistant material.

- **Name:** DURAKARB®
- **Total plate height:** 136mm
- **Number of plates:** 4



We have combined this technology with our power harrow tines designed and developed by KUHN, in order to quickly provide a fast return on investment even in the most extreme conditions such as very stony conditions. You can count on our experience of more than 40 years in the field of power harrows, our thousands of machines in service and the feedback of millions of hectares worked for decades by KUHN power harrows.

Three goals were selected to create this new power harrow tine with tungsten carbide plates:

- robustness in stony conditions: V-shaped profile plate brazed in the tine allows a large contact area between the plate and the holder as well as 100% hold of this plate. This limits considerably the risk of plate breakage in case of a shock.
- a low-drag tine profile with the plates embedded in the milled part of the tine means no additional material thickness.
- limited wear made possible thanks to the rounded front profile of the plates allowing to split the soil flow in order to limit wear on the tine sides while ensuring a good soil mixing.

YOU NEED PROOF? THIS FARMER TESTED IT FOR YOU.



Machine: KUHN HR 4004 DR power harrow of 4 meters, 26 tines

Location: Switzerland

Period: Autumn 2019

Tractor power: 240 hp

Groundspeed: 7 to 8 kph

Working conditions: stony sandy loam comprising stones ranging from gravel to blocks exceeding 10 kg.

A wear comparison has been done between the new KUHN tine and a tine with adaptable carbide plates. For this test carried out by a Swiss farmer, both tine types were fitted on the same machine at the same time. The goal was to analyse the behaviour of these two tines in identical working conditions.

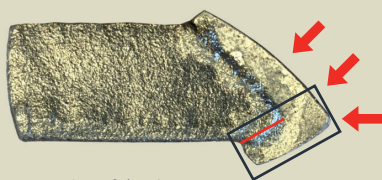
Conclusions:

	ADAPTABLE TINES	KUHN TINES
After 50 hectares	First breakage of plates	No plate breakage on the 12 tines
After 120 hectares	8 of 14 tines have broken plates	No plate breakage on the 12 tines
After 200 hectares	11 of 14 tines have broken plates	No plate breakage on the 12 tines

Explanations:

ADAPTABLE TINE

During work, stones hit the plates in the direction of the arrows (see below). On this tine, the angle of the plate (grey box) is held in place on the holder only on a surface of a few millimeters (red line). This brazing is not enough and repeated shocks inevitably cause the plate to break, providing a very short service life.



Cross section of the tine

KUHN TINE

During work, stones also hit the plates in the direction of the arrows (see below). The KUHN tine plate is perfectly held in place on its holder (red lines) and the latter helps contain shocks and avoid plate breakage.



Cross section of the tine



Photos after 200 hectares on a 4 meter machine. Adaptable tine on the left / KUHN tine on the right.

Tines with more possibilities

With good seedbed preparation, you meet three major goals for your crops to get off to a good start:

- small clods on top and fine tilth around the seed,
- deep consolidation,
- precise levelling to ensure even germination

Moreover, the tine's dimensions and profile are identical to the standard and DURAKUHN® versions. This new tine can be fitted in place of the latter versions.



Standard tine, DURAKUHN tine, DURAKARB tine

HR Power harrow tines with tungsten carbide plates

Technical specifications

103 / 1003 and 104 / 1004 series

Models	HR 303 D/M* HR 304 D/M HR 3003 D/NC* HR 3004 D/NC	HR 3503 D* HR 3504 D	HR 403 D/M* HR 404 D/M HR 4003 D/NC* HR 4004 D/NC	HR 4003 DR* HR 4004 DR	HR 4503 D* HR 4504 D	HR 4503 DR* HR 4504 DR/ DRC VENTA NCR4500 HR	HR 5003 DR* HR 5004 DR/ DRC VENTA NCR5000 HR	HR 6003 D/DR/ CSR* HR 6004 DR/ DRC/CSR VENTA CSC6000 HR/ NV
Working width (m)	3	3.50	4	4	4.50	4.50	5	6
Quantity right tine	10	12	14	14	16	16	16	20
Quantity left tine	10	12	14	12	16	14	16	20
Reference right tine with carbide plates	K2518460							
Reference left tine with carbide plates	K2518450							
Compatible KUHNSET fastening	KUHNSET FAST-FIT fastening generation 1, reference K2517170 / KUHNSET FAST-FIT pin, reference K2517160							
1020 / 1030 series								
Models	HR 3020 HR 3030	HR 3520 HR 3530	HR 4020 HR 4030	HR 4530				
Working width (m)	3	3.50	4	4.50				
Quantity right tine	10	12	14	16				
Quantity left tine	10	12	14	16				
Reference right tine with carbide plates	K2518490							
Reference left tine with carbide plates	K2518500							
Compatible KUHNSET fastening	KUHNSET FAST-FIT fastening generation 2, reference K2517180 / KUHNSET FAST-FIT pin, reference K2517160							
1040 series								
Models	HR 3040	HR 3540	HR 4040	HR 4540	HR 6040 R HR 6040 RCS	HR 7040 R	HR 8040 R	
Working width (m)	3	3.50	4	4.50	6	7	8	
Quantity right tine	10	12	14	16	20	24	28	
Quantity left tine	10	12	14	16	20	24	28	
Reference right tine with carbide plates	K2518470							
Reference left tine with carbide plates	K2518480							
Compatible KUHNSET fastening	KUHNSET FAST-FIT fastening generation 2, reference K2517180 / KUHNSET FAST-FIT pin, reference K2517160							

* Depending the serial number on the machine.

KUHNSET: New composition, new design

When changing wear parts on a machine, it is important to check the condition of the fastening parts. That's why we offer these three KUHNSETs that you can keep at your fingertips in order to intervene quickly on the machine and thus limit downtime.

20 FAST-FIT PIN K2517160	K2517170 KUHNSET FAST-FIT FASTENING GENERATION 1	K2517180 KUHNSET FAST-FIT FASTENING GENERATION 2
20 automatic pins 50086310	2 washers 50013100	2 washers 50013100
1 key 52598210	2 screws 50069300	2 screws K2512030
	2 connecting parts 52596600	2 connecting parts K2510890
	2 automatic pins 50086310	2 automatic pins 50086310
	1 key 52598210	1 key 52598210



KUHN SAS - 4 Impasse des Fabriques - BP 50060 F-67706 Saverne CEDEX - France - www.kuhn.com

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