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## WIPER BLADE

- Conventional type
- Hybrid type
- Hybrid silicone type

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## GENUINE PRODUCT MADE IN KOREA

## WIPER BLADE

#### PHC, Korea No.1 Aftermarket Auto Part Brand

Through special design features, proper materials selection and OEM quality, PHC Wiper Blades provide drivers with a safe, comfortable field of vision whatever the weather conditions are.

PHC supplies wiper blades, which are supplied as OEM products to the Korean, Japanese, European and American markets, to the global aftermarket.

PHC provides three types of wiper blades to choose from depending on the market environment and individual preferences.

#### **TYPES:**





CONVENTIONAL

#### HYBRID

HYBRID SILICONE

GENUINE PRODUCT EXCELLENT WIPING PERFORMANCE MADE IN KOREA



\* Manufacturer's patent
- Patent application in
Korea, USA, Japan, China, German

#### FEATURES OF CONVENTIONAL TYPE









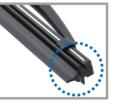
• OEM wiper blade.

• Quality certified product with the highest wiping performance by vehicle manufacturers.

FITMENT : J HOOK (U HOOK)

1	KANGE														
	Inch	12	13	14	15	16	17	18	19	20	21	22	24	26	28
	mm	300	325	350	375	400	425	450	475	500	525	550	600	650	700

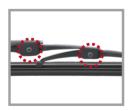
#### FEATURES OF CONVENTIONAL TYPE



#### **Rubber features**

- Graphite coated rubber.
- Excellent resilience and durability.
- Superior weathering performance.
- Great water repellent effect.
- Low noise, low chattering.

#### **Tournament structure**



- Smooth rotational movement around the joint for increasing curvature followability.
- Transmits a uniform load to each point so that the entire surface of the glass can be wiped.

#### CONVENTIONAL TYPE OEM APPLICATION



Hyundai i30



Hyundai Tucson (NX4)



Hyundai Santafe (TM)



Hyundai Santafe (EN)



Hyundai Veloster (FS)



Hyundai Elantra (CN7)



Hyundai H1 (US4)



Kia Sportage (QL)



Kia Carens (RP)



Kia Carnival (KA4)



Kia Seltos (KA4)



Kia Telluride (ON)



Kia Sportage (NQ5)



Opel Vectra



Kia Sorento (MQ4)



Ford Fiesta



Citroen C3



Ford Ranger



Ford Figo



Honda Fit

#### FEATURES OF HYBRID TYPE









- OEM wiper blade.
- Excellent adhesion.
- Excellent curvature acceptance.
- Sporty design.
- Urethane coated rubber.

FITMENT : J HOOK (U HOOK)

#### RANGE

Inch	14	16	18	20	22	24	26	28
mm	350	400	450	500	550	600	650	700

\* Refillable rubber available

#### FEATURES OF HYBRID TYPE



#### Aerodynamic design

It is manufactured in a streamlined shape to minimize wind resistance and eliminates the lifting phenomenon of the wiper and blocks noise while driving.



#### Joint structure design

Through the joint structure design, the rubber is adhered well to the glass, and the wiping ability is improved.



#### **Rubber features**

The urethane coated rubber smoothly removes moisture from the glass and minimizes operating noise.



#### USA "ARDL" TEST : Durability 1.5 million times

Test description	Sample (EA)	Pass	Fail	Note
Ozone resistance test	3 EA	ALL	0	
Chemical resistance	3 EA	ALL	0	If the weight gain is more than 2%, it will be rejected.
Initial wiping	6 EA	ALL	0	
Permanent deformation	5 EA	ALL	0	
Durability test				

#### Compare with competitors

Test Description	РНС	Competitor 1	Competitor 2	Competitor 3	Competitor 4
Initial wiping	8 / 10	8 / 10	8 / 10	8 / 10	8 / 10
Noise	8 / 10	8 / 10	8 / 10	8 / 10	8 / 10
Floating	165 Km/h	160 Km/h	145 Km/h	160 Km/h	175 Km/h
Water dragging	PHC >	competitor 2 > co	mpetitor 4 > com	petitor 1 > compe	titor 3
Curvature receptivity	Excellent	Inadequate	Good	Inadequate	Good

#### HYBRID TYPE OEM APPLICATION



Hyundai Santafe (TM)



Hyundai Santafe (EN)



Hyundai Tucson (NX4)



Hyundai Elantra (CN7)



Hyundai H1 (US4)



Hyundai Azera (GN7)



Hyundai Nexo (FE)



Kia Sportage (QL)



Kia Carens (RP)



Kia Carnival (KA4)



Kia Seltos (KA4)



Kia Telluride (ON)



Kia Sportage (NQ5)



Kia Sorento (MQ4)



Kia K8 (GL3)



Kia OPTIMA (DL3)



Genesis GV80



Genesis G80



Genesis GV70



Genesis G90







FITMENT : J HOOK (U HOOK)



**Option : Multi adapter** 

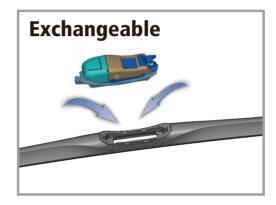
- Water-repellent coating on the windshield after 5 minutes of operation.
- Visibility can be secured without wiper operation during high-speed driving.
- Excellent adhesion, high quality design.

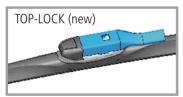
#### RANGE

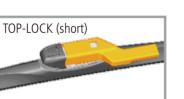
Inch	14	16	18	20	22	24	26
mm	350	400	450	500	550	600	650

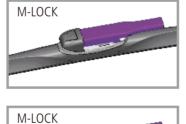
#### **Option : Multi adapter**





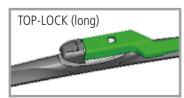


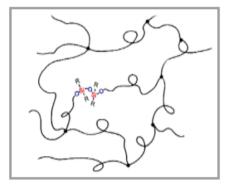












#### Material

- Excellent heat/cold resistance performance. (-100  $\,^\circ\!\!C$  flexibility maintenance and 250  $\,^\circ\!\!C$  thermal stability)
- Superior weathering performance.
- Excellent ozone resistance.
- Preventing permanent deformation performance.



#### Performance

- Excellent water repellency.
- Driving without wiping in rainy weather.
- Excellent moisture and dust removal effect.

#### How to use Silicone wiper

- 1. Removing foreign substances & moisture on the windshield.
- 2. After installing the product, operate it for more than 5 minutes (about 300 times) in dry mode without water.

#### Silicone wiper



#### Normal wiper





- Preventing adhesion of rainwater by coating the car glass surface.
- The water-repellent coating dramatically improves the driver's field of view.



- With a hydrophilic surface, rainwater adheres and sticks to the glass surface.
- Difficulty securing driving field of view compared to silicon wiper.

#### PHC Silicone Wiper Performance evaluation

Test De	scription	Result	Photo	Note
	Water repellency(%)	100%		
Initial	Wipe	9/10		
Performance	Vibration	8/10		
	Noise	8/10		
	Water repellency(%)	90%		
Performance	Wipe	9/10		Internal evaluation
50,000 times	Vibration	8/10		criteria
	Noise	8/10		
	Water repellency(%)	90%		
Performance	Wipe	8/10	ALAN A	
100,000 times	Vibration	7/10		
	Noise	7/10		

#### **PHC Silicone Wiper Performance evaluation**

		Competitor's products							
Tact Day	cription	РНС		Korea					
Test Description		rnc	А	В	С	D			
	Water repellency(%)	100%	70%	50%	80%	100%			
Initial Performance	Vibration	8/10	8/10	8/10	7/10	8/10			
	Noise	9/10	8/10	8/10	8/10	9/10			
	Water repellency(%)	70%	60%	50%	60%	60%			
Performance 50,000 times	Vibration	8/10	6/10	8/10	6/10	8/10			
	Noise	8/10	8/10	8/10	8/10	7/10			
Diffuse reflection remaining time (second)		2.0	3.0	1.3	3.1	2.0			
Wax	Vibration	5/10	5/10	6/10	4/10	5/10			
performance	Noise	5/10	7/10	7/10	4/10	5/10			
Diffuse reflectior (sec	n remaining time ond)	1.0	2.0	1.0	1.5	1.0			
Res	sult	<b>PHC</b> > <b>D</b> > <b>B</b> > <b>A</b> > <b>C</b>							



**Contact us** Tel. +82-2-734-3711 / +82-54-930-0543 E-mail. marketing-vphi@vph.com

#### Website

Web page: www.koreavaleo.com Web catalog: www.phcvaleo-webcat.com



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