



PRODUCT OVERVIEW | SILICONES

# SILICONES FOR RELEASE AGENT FORMULATION – PARTING WAS NEVER EASIER

WACKER offers a well-balanced portfolio of silicones for formulating aqueous and solvent-based release agents. For decades, our products have enabled the industry to formulate release agents with excellent release properties. We work tirelessly on improving our portfolio to ensure that it meets market needs.



# WE HAVE THE RIGHT SILICONE FOR EVERY RELEASE CHALLENGE

We offer a broad range of silicones with customized properties that meet the needs of modern diecasting, polyurethane and rubber processing, and composite demolding.

## Silicone Fluids

Silicone Fluids AK are linear polydimethylsiloxanes ranging in viscosity from 0.65 to 1 000 000 mm<sup>2</sup> s<sup>-1</sup>. They possess excellent spreading properties, provide outstanding release, do not lead to buildup in the mold, and are chemically inert. To improve mold anchorage and reduce transfer to molded parts, they are best combined with silicone resins. Higher-viscosity grades provide improved lubricity and ensure excellent release for complex undercuts.

## Organo-Modified Silicone Fluids

Our portfolio of organo-modified silicone fluids is designed to meet the need for lubricity, heat stability, paintability and bondability, especially for diecasting. Amino-functional products WACKER® TPD and WACKER® L 653 as well as fluid emulsion E 1656 are proven solutions for mirror-finish PU surfaces.

## Solids

Our resin and wax products offer you great formulation latitude. WACKER® MQ resin powder 803 TF is compatible with most silicone fluids and many solvents. This colorless powder is mainly used with polyester and polyether release agents. Low-melting WACKER® Wax W 23 is recommended for release applications at low mold temperatures.

## Silicone Blends

Our silicone blends combine the advantages of resins with those of silicone fluids. They feature stronger anchorage in the mold, low buildup, high release efficiency and satisfactory overpainting and bonding properties. Their main application areas are in RIM and release formulations for shoe soles.

## Silicone Resin Solutions

WACKER® 1035 is a 50% solution of a specialty silicone resin in aromatic-free hydrocarbons. The product is designed to provide optimum release and film-forming properties when combined with low to medium viscosity Silicone Fluids WACKER® AK. WACKER® 1035 is an excellent formulation basis for composite demolding.

## Silicone Emulsions

Aqueous formulations have an essential role to play in the development of more sustainable release solutions that are environmentally and health friendly. Our versatile portfolio of silicone emulsions will help you to reach these goals. All of our technical emulsions feature high storage, pumping and dilution stability. We carefully select emulsifier systems that combine outstanding stability and superior compatibility, especially with PU foam. However, compatibility testing is still essential.

If you wish to know more about our global as well as regional products, please reach out to your local sales manager or the WACKER Infoline.



# PRODUCT OVERVIEW

WACKER® Product															WACKER® Product	
Active content %	Basis	Modification Type	Emulsifier	Applications				Technology Characteristics				Processing Characteristics				
				All-Purpose Release	Diecasting	PU	Rubber	Painting or Bonding	Heat Resistance	Lubricity	Multi-Release	Gloss/Shine	Water-Dilutable	Low Buildup		
<b>Silicone fluids</b>															Silicone fluids	
WACKER® AK xxx	100	PDMS	-	-			●						●		●●	WACKER® AK xxx
<b>Organo-modified silicone fluids</b>															Organo-modified silicone fluids	
WACKER® TN	100	modif. PDMS	alkyl/aryl	-	●	●	●		●			●			●	WACKER® TN
WACKER® GM 166	100	modif. PDMS	alkyl	-		●			●		●●	●			●	WACKER® GM 166
WACKER® GM 196	100	modif. PDMS	alkyl/aryl	-		●			●●	●●	●				●	WACKER® GM 196
WACKER® TPD	100	modif. PDMS	amino	-			●						●●			WACKER® TPD
WACKER® L 653	100	modif. PDMS	amino	-			●						●●			WACKER® L 653
<b>Silicone solids</b>															Silicone solids	
WACKER® MQ resin powder 803 TF	100	Resin	-	-			●		●						●●	WACKER® MQ resin powder 803 TF
WACKER® Wax W 23	100	modif. PDMS	alkyl	-	●		●		●			●			●	WACKER® Wax W 23
<b>Silicone blends</b>															Silicone blends	
WACKER® TPR	100	Resin, PDMS	-	-			●					●			●	WACKER® TPR
WACKER® 1038	100	Resin, PDMS	-	-			●					●			●	WACKER® 1038
<b>Silicone resin solutions</b>															Silicone resin solutions	
WACKER® 1035	50	Resin	-	-			●								●	WACKER® 1035
<b>Silicone fluid emulsions</b>															Silicone fluid emulsions	
WACKER® E 2	40	mv PDMS	-	n	● <sup>1</sup>								●	●		WACKER® E 2
WACKER® E 10	35	mv PDMS	-	n	●		●	●					●	●		WACKER® E 10
WACKER® E 3154	60	mv PDMS	-	n			●						●	●		WACKER® E 3154
WACKER® E 3155	60	mv PDMS	-	n			●						●	●		WACKER® E 3155
WACKER® NE 4720	40	mv PDMS	-	a			●	●					●	●		WACKER® NE 4720
WACKER® E 3157	60	mv PDMS	-	n			●						●	●		WACKER® E 3157
WACKER® E 1044	35	hv PDMS	-	n			●						●	●		WACKER® E 1044
WACKER® E 22	35	hv PDMS	-	n, a				●					●	●		WACKER® E 22
<b>Organo-modified silicone fluid emulsions</b>															Organo-modified silicone fluid emulsions	
WACKER® TNE 50	50	modif. PDMS	alkyl/aryl	n	●	●	●		●			●		●		WACKER® TNE 50
WACKER® E 3166	50	modif. PDMS	alkyl	n		●			●		●●	●		●		WACKER® E 3166
WACKER® E 3173	50	modif. PDMS	alkyl	n, a		●			●		●●	●		●		WACKER® E 3173
WACKER® E 3196	50	modif. PDMS	alkyl/aryl	n		●			●●	●●	●	●		●		WACKER® E 3196
WACKER® E 32	35	modif. PDMS	alkyl	n			●					●		●		WACKER® E 32
WACKER® E 1656	60	modif. PDMS	amino	n			●						●● <sup>2</sup>	●		WACKER® E 1656
<b>Silicone blend emulsions</b>															Silicone blend emulsions	
WACKER® E 37	35	Resin, PDMS	-	n, a			●					●		●		WACKER® E 37

mv = medium viscosity (100 – 1000 mm<sup>2</sup>s<sup>-1</sup>)  
 hv = high viscosity (10 000 – 100 000 mm<sup>2</sup>s<sup>-1</sup>)  
 n = non-ionic  
 a = anionic

Legend for performance attributes  
 ● Good ●● Improved




<sup>1</sup> suitable for food contact according to 10/2011/EU

<sup>2</sup> gloss can be adjusted by blending with WACKER® E 1044

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