WACKER

CREATING TOMORROW'S SOLUTIONS

EXPERT SEALANT TECHNOLOGY

GERMAN TECHNOLOGY

ADHESIVES & SEALANTS I SILICONE SEALANTS I INDIA

EASY SEALING WITH WACKER® SILICONE SEALANTS

HIGH-PERFORMANCE SILICONE SEALANTS FOR EXCELLENT RESULTS

A silicone sealant always finds use where a gap requires filling or a joint needs to be sealed. Compared with alternative sealing systems, silicone sealants will last a very long time, thanks to their stable quality. Silicone sealants do not show high shrinkage, as is the case with acrylics, and exhibit excellent movement capability. Therefore, they are ideally suited for walls and floors of buildings or washbasins and bath tubs that are typically exposed to some movement. Furthermore, silicone sealants are very cost-efficient.

Why Use Silicone Sealants from WACKER?

WACKER has a 100-year history and is one of the world's leading construction solution providers. With over 60 years' experience in silicon chemistry, WACKER played a pioneering role in developing silicone sealants and remains a technological leader in this area.

WACKER sealants are indispensable as sustainable products in virtually all key industries.

The WACKER® SILICONE SEALANT brand is the product of choice for construction and industrial applications from connection and expansion joints to sanitary sealing needs.

You make the request – we provide the optimum solution!

GERMAN TECHNOLOGY

Contents

WACKER® GN – Glazing Neutral (Filled/Unfilled)

This is is a one-part, neutral silicone sealant with outstanding adhesion to most building substrates. It further exhibits good weather resistance and workability for glazing.

Applications
- Windows glazing
- Joint sealing for prefabricated building
- Sealing for UPVC, Wooden and AL Window
- Sealing for Alkaline Substrate such as concrete

Colors, Filled
- White
- Grey
- Light Grey
- Ivory
- Wood
- Black
- Bronze
- Cherry
- Oak
- Blue
- Green
- Light Ivory

Colors, Unfilled
- Transparent
- Translucent
- Red
- Gold

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Oxime
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,37 g/cm³ (filled) 0,98 g/cm³ (unfilled)
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	390 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 10 - 30 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	39
Modulus at 100 % (joint)	ISO 8339-A	0,6 N/mm²
Tensile strength (joint)	ISO 8339-A	0,68 N/mm²
Ultimate elongation (joint)	ISO 8339-A	250 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,57 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	1,1 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	470 %
Movement capability	ISO 9047	20 %

WACKER® GP – General Purpose

This is a one-part, acetoxy silicone sealant for many applications. It cures at room temperature in the presence of atmospheric moisture to give a permanently flexible silicone rubber.

Applications
- Window Glazing
- Stainless Sach
- Plumbing

Colors
- Transparent S1
- White S1
- Black S1
- Bronze S1
- Grey S3
- Aluminium 03

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Acetoxy
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	0,97 g/cm³
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	800 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 25 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	18
Modulus at 100 % (joint)	ISO 8339-A	0,36 N/mm²
Tensile strength (joint)	ISO 8339-A	0,5 N/mm²
Ultimate elongation (joint)	ISO 8339-A	150 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,29 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	1,22 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	520 %

WACKER® SN – Sanitary Neutral (Filled/Unfilled)

This is a one-part, neutral silicone sealant with good adhesion.
It is mildew- and fungus-resistant and therefore particularly suitable for sanitary applications.

Applications

- Bath and Kitchen sink
- Internal joint at humid area
- Basin, shower room, mirrors, drain and ventilation fan joint

Colors

- Transparent
- White
- Ivory

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Oxime
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,01 g/cm^3 (filled) 1,00 g/cm^3 (unfilled)
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	450 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 30 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	24
Modulus at 100 % (joint)	ISO 8339-A	0,30 N/mm^2
Tensile strength (joint)	ISO 8339-A	0,4 N/mm^2
Ultimate elongation (joint)	ISO 8339-A	160 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,38 N/mm^2
Tensile strength (S2-dumbbell)	ISO 37	1,5 N/mm^2
Ultimate elongation (S2-dumbbell)	ISO 37	540 %
Movement capability	ISO 9047	25 %

WACKER® WN – Weatherseal Neutral (Filled/Unfilled)

This is a one-part, neutral silicone sealant that exhibits good adhesion to exterior joints and displays outstanding weather resistance and durability.

Applications

- Joint for window perimeter
- Joint for cleanroom panel
- Internal/external joint of building
- Joint for aluminum panel
- External joint of curtain wall building

Colors

- Transparent
- White
- Grey
- Black
- Bronze

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Oxime
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,37g/cm^3 (filled) 1,00g/cm^3 (unfilled)
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	220 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 10 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	31
Modulus at 100 % (joint)	ISO 8339-A	0,52 N/mm^2
Tensile strength (joint)	ISO 8339-A	0,65 N/mm^2
Ultimate elongation (joint)	ISO 8339-A	155 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,53 N/mm^2
Tensile strength (S2-dumbbell)	ISO 37	1,4 N/mm^2
Ultimate elongation (S2-dumbbell)	ISO 37	350 %
Movement capability	ISO 9047	25 %

WACKER® WS – Weatherseal Superior

This is a one-part, neutral silicone sealant that will not stain exterior substrates.
It performed good adhesion without a primer on most building materials and outstanding weather resistance and durability.

Applications
- Internal/external non-stain joints of building
- Sealing around the window
- Joints of stone and ceramic materials
- Joints of aluminum composite panel
- Sealing joints between natural stones

Colors
- White
- Grey
- Black
- Beige
- Cherry Red

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Oxime, filled
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,37 g/cm³
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	144 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 20 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	30
Modulus at 100 % (joint)	ISO 8339-A	0,49 N/mm²
Tensile strength (joint)	ISO 8339-A	0,61 N/mm²
Ultimate elongation (joint)	ISO 8339-A	270 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,51 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	1,3 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	590 %
Movement capability	ISO 9047	25%

WACKER® SG 79 – Structural Glazing

This is a high-strength onepart neutral cure sealant for structural glazing and curtain wall expansion joints.

Applications
- Structural Glazing

Colors
- Black

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Alkoxy, filled
Uncured / unvulcanized paste		
Density		1,28 - 1,32 g/cm³
Color		black
Consistency	ISO 7390	non-sag
Extrusion rate at 6 bar	internal method	200 - 300 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 60 - 90 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	40
Modulus at 100 % (joint)	ISO 8339-A	0,6 N/mm²
Tensile strength (joint)	ISO 8339-A	1,5 N/mm²
Ultimate elongation (joint)	ISO 8339-A	350 %
Movement capability	ASTM C 719	50 %

WACKER® PS – Paintable Acrylic Sealant

This is a one-part, water-based, acrylic sealant suitable for internal and external cracks exposed to little or no movement, as well as building repair. Once dried, it can be painted if desirable.

Applications
- Internal crack repair
- Joint around indoor
- Plaster of building

Colors, Filled
- White

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Acrylic
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,63 g/cm³
Consistency	ISO 7390	non-sag
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 60 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	35
Ultimate elongation (joint)	ISO 8339-A	50 - 100 %
Movement capability	ISO 9047	12,5 %

WACKER® HS(N35) – Hybrid Sealant

This is a high-modulus, paintable, all-purpose sealant suitable for sealing a variety of different substrates.

Applications
- Connection joints that are subsequently painted
- Fixation where flexibility of the sealant is still required
- Sealing joints between a wide variety of materials, such as wood, glass, metals, plastics and mineral-based substrates
- Stress-relieving bonding and fixation

Colors
- White
- Gray
- Black

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Hybrid
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,4 g/cm³
Consistency	ISO 7390	non-sag
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 20 - 40 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	35
Modulus at 100 % (joint)	ISO 8339-A	0,7 N/mm²
Tensile strength (joint)	ISO 8339-A	2,2 N/mm²
Ultimate elongation (joint)	ISO 8339-A	600 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,85 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	2,3 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	520 %

WACKER® HC – Hybrid Crystal

WACKER® HC CRYSTAL is a crystal-clear multi-purpose sealant with outstanding adhesive properties. Suitable for indoor applications and ideal for bonding and sealing invisible, transparent joints.

Applications

- Transparent indoor joints and invisible bonding
- Decorative and furniture assembly
- Glass display units

Product Properties		
Specification data	**Inspection Method**	**Value**
Cure type		Hybrid
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,0 g/cm³
Consistency	ISO 7390	non-sag
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 10 - 50 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	35
Modulus at 100 % (joint)	ISO 8339-A	0,6 N/mm²
Tensile strength (joint)	ISO 8339-A	1,5 N/mm²
Ultimate elongation (joint)	ISO 8339-A	200 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,57 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	1,72 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	190 %

WACKER® HA(N70) – Hybrid Adhesive

This is a high-strength, solvent-free, all-purpose adhesive suitable for bonding and repairing many different substrates.

Applications

- Bonding of a wide variety of materials, such as wood, glass, metals, plastics and mineral-based substrates
- Equally suitable for decorative frames, skirting boards, cable ducts, curtain walls and insulation panels in the construction industry
- Repair bonding in do-it-yourself and trade sectors
- Bonds that require paint and need to be sanded

Colors

- White

Product Properties		
Typical general characteristics	**Inspection Method**	**Value**
Cure type		Hybrid
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,6 g/cm³
Consistency	ISO 7390	non-sag
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 10 - 30 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	80
Modulus at 100 % (joint)	ISO 8339-A	3,0 N/mm²
Tensile strength (joint)	ISO 8339-A	3,1 N/mm²
Ultimate elongation (joint)	ISO 8339-A	100 %
Modulus at 100 % (S2-dumbbell)	ISO 37	3,50 N/mm²
Tensile strength (S2-dumbbell)	ISO 37	4,0 N/mm²
Ultimate elongation (S2-dumbbell)	ISO 37	70 %

WACKER® PU Foam - Expandable Polyurethane Foam

This is a high quality one component installation foam which has good discharge and sealing properties providing thermal and sound insulation.

Applications

- Assembly and Sealing of door and window frames
- Filling, moisture proofing, coaking of crack
- Filling of cavities
- Soundproofing of vibration area
- Joint sealing of ALS and concrete
- Sealing and insulating between different constructional elements and building materials
- Sealing for heating pipes, ducts

Salient Features

- Good for keep warmth in space, soundproof, and waterproof by microscopic foaming particle
- Good adhesion on the finished construction material
- Good resistance against water, oil, grease, etc.
- Good electrical insulation
- Quick hardening and closely filling in the joint
- Easy using and injection quantity control
- No decay and contraction after hardening

Product Properties	
Working Temperature	+ 5°C ~ +30°C (Optimal +20°C)
Tack Free Time(T.20°C/M.60%)	10 ~ 15 min
Cutting Time(T.20°C/M.60%	40 ~ 60 min
Full Cure Time(T.20°C/M.60%)	24 hr
Density	15 ~ 30 kg/m^3
Thermal Conductivity(T.20±5°C)	0.020 ~ 0.040 W/m.k
Combustibility Fire Class	DIN 4102 B3
Yield	Max. 30 ℓ
Storage Life(T.20°C)	12 Month
Gross Weight	810g ± 15g
Can Size	¢ 71 mm x L 290 mm
Packing Unit	15 Can / Carton Box

RECOMMENDED APPLICATIONS

Application	GP	WN	SN	GN	WS	PS	SG79
Sealing	●	●	●	●	●	●	
Gap-filling	●					●	
Glazing	●	●		●	●		
Plumbing	●	●			●		
Interior		●	●	●	●	●	
Exterior		●		●	●		
Weatherseal		●			●		
Connecting joints		●			●		
Non-Bleeding					●		
Windows & Doors		●		●	●		
Sanitary			●				
Structural glazing							●

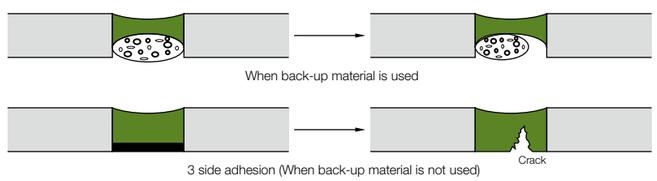
HOW TO FILL JOINTS PERFECTLY

Use of back-up material

Back-up material, which is made of Polyethylene foam, controls depth of joint and helps to avoid 3 side adhesion.
The size of back-up material should be bigger than the width of joint, and bond breaker tape is recommendable when round or rectangular back-up material cannot be applied due to insufficient depth of joint. It is also recommended that the quantity of back-up material should be prepared for day by day use and the depth of joint should be conformed to design drawing.

When structural silicone sealant is applied, double-sided adhesive spacer can be a substitute for back-up material. This is to fix subsidiary material until silicone sealant is cured. In this case, structural bite and glue line thickness should be conformed to silicone sealant's calculation report.

Function of back-up material



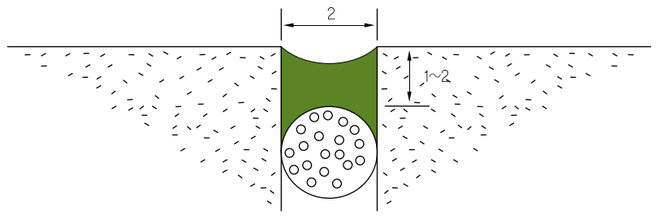
Function of back-up material

- Control application depth and shape of silicone sealant
- Prevent crack caused by 3 side adhesion
- Help silicone sealant to be applied flat when tooling
- Control amount of silicone sealant used

Design for joint depth

The ideal depth of joint is 2/3 of joint width (Example: depth is 15mm when width is 20mm) and the depth of joint should be between 6mm and 20mm.

Design for joint depth



Decision of Joint Depth
Normally, the depth of silicone sealant is ½<D/W<1.0(D : Depth, W: Width)
If W>= 15mm, D=1/2~2/3W
W< 15mm, D=2/3~1W

It is recommendable:
Concrete: D=1/2~2/3W
Metal: D=1/2W

STANDARD CAULKING PROCEDURE

1. Checking Joint

- Check if design of joint is correct
- Check if the width and depth of joint are correctly calculated

2. Cleaning and dehydrating substrate

- Get rid of dust, dirt, oil etc. and make sure that the surface is dry to prevent low performance of adhesion

3. Inserting Back-up material

- Use polyethylene or polyurethane foam for back-up material
- Keep silicone sealant thickness consistent and use round or rectangular back-up material
- Use a bit bigger size than joint width and install it undamaged in consistent depth

4. Applying masking tape

- Apply masking tape to keep out of silicone sealant residue on substrate around joint

5. Spraying Primer

- Use and select primer according to recommendation by silicone sealant manufacturer to strengthen adhesive power when adhesive power of silicone sealant alone is insufficient.

6. Applying Silicone Sealant

- Cut nozzle suitable for the width of joint first then insert nozzle into the bottom of joint and apply.

7. Tooling

- Eliminate inside bubble using spatula and press surface until silicone sealant is fully stuffed before it starts curing.

8. Getting rid of masking tape

- Get rid of masking tape after finishing surface

9. Finishing

- Trim up silicone sealant around substrate.

10. Curing

- Keep sealed area out of contact, contamination and movement at least 48 hours

USAGE BY JOIN SIZE

Criteria		Required sealant volume and work length covered in meter				
Width(mm)	Depth(mm)	Required Volume(ml) per M	Length Covered (M) with 10ml	Length Covered (M) with 280ml	Length Covered (M) with 300ml	Length Covered (M) with 600ml
5	5	25	0.4	11.2	12	24
5	8	40	0.25	7	7.5	15
8	8	64	0.16	4.48	4.8	9.6
10	5	50	0.2	5.6	6	12
10	8	80	0.125	3.5	3.75	7.5
10	10	100	0.1	2.8	3	6
12	5	60	0.17	4.76	5.1	10.2
12	8	96	0.104	2.912	3.12	6.24
12	10	120	0.08	2.24	2.4	4.8
12	12	144	0.07	1.96	2.1	4.2
15	5	75	0.13	3.64	3.9	7.8
15	8	120	0.08	2.24	2.4	4.8
15	10	150	0.066	1.848	1.98	3.96
15	12	180	0.055	1.54	1.65	3.3
15	15	225	0.044	1.232	1.32	2.64
18	5	90	0.11	3.08	3.3	6.6
18	8	144	0.069	1.932	2.07	4.14
18	10	180	0.055	1.54	1.65	3.3
18	12	216	0.047	1.316	1.41	2.82
18	15	270	0.037	1.036	1.11	2.22
18	18	324	0.03	0.84	0.9	1.8
20	5	100	0.1	2.8	3	6
20	8	160	0.062	1.736	1.86	3.72
20	10	200	0.05	1.4	1.5	3
20	15	300	0.033	0.924	0.99	1.98
20	18	360	0.028	0.784	0.84	1.68
20	20	400	0.025	0.7	0.75	1.5

EXPERTISE AND SERVICE NETWORK ON FIVE CONTINENTS

• Sales offices and production sites, plus 21 technical centers, ensure you a local presence worldwide.

WACKER is one of the world's leading and most research-intensive chemical companies, with total sales of €4.83 billion. Products range from silicones, binders and polymer additives for diverse industrial sectors to bioengineered pharmaceutical actives and hyperpure silicon for semiconductor and solar applications. As a technology leader focusing on sustainability, WACKER promotes products and ideas that offer a high value-added potential to ensure that current and future generations enjoy a better quality of life based on energy efficiency and protection of the climate and environment.

Spanning the globe with 5 business divisions, we offer our customers highly-specialized products and comprehensive service via 25 production sites, 21 technical competence centers, 13 WACKER ACADEMY training centers and 48 sales offices in Europe, North and South America, as well as in Asia – including a presence in China.
With a workforce of some 16,700, we see ourselves as a reliable innovation partner that develops trailblazing solutions for, and in collaboration with, our customers. We also help them boost their own success. Our technical centers employ local specialists who assist customers worldwide in the development of products tailored to regional demands, supporting them during every stage of their complex production processes, if required.
WACKER e-solutions are online services provided via our customer portal and as integrated process solutions. Our customers and business partners thus benefit from comprehensive information and reliable service to enable projects and orders to be handled fast, reliably and highly efficiently.
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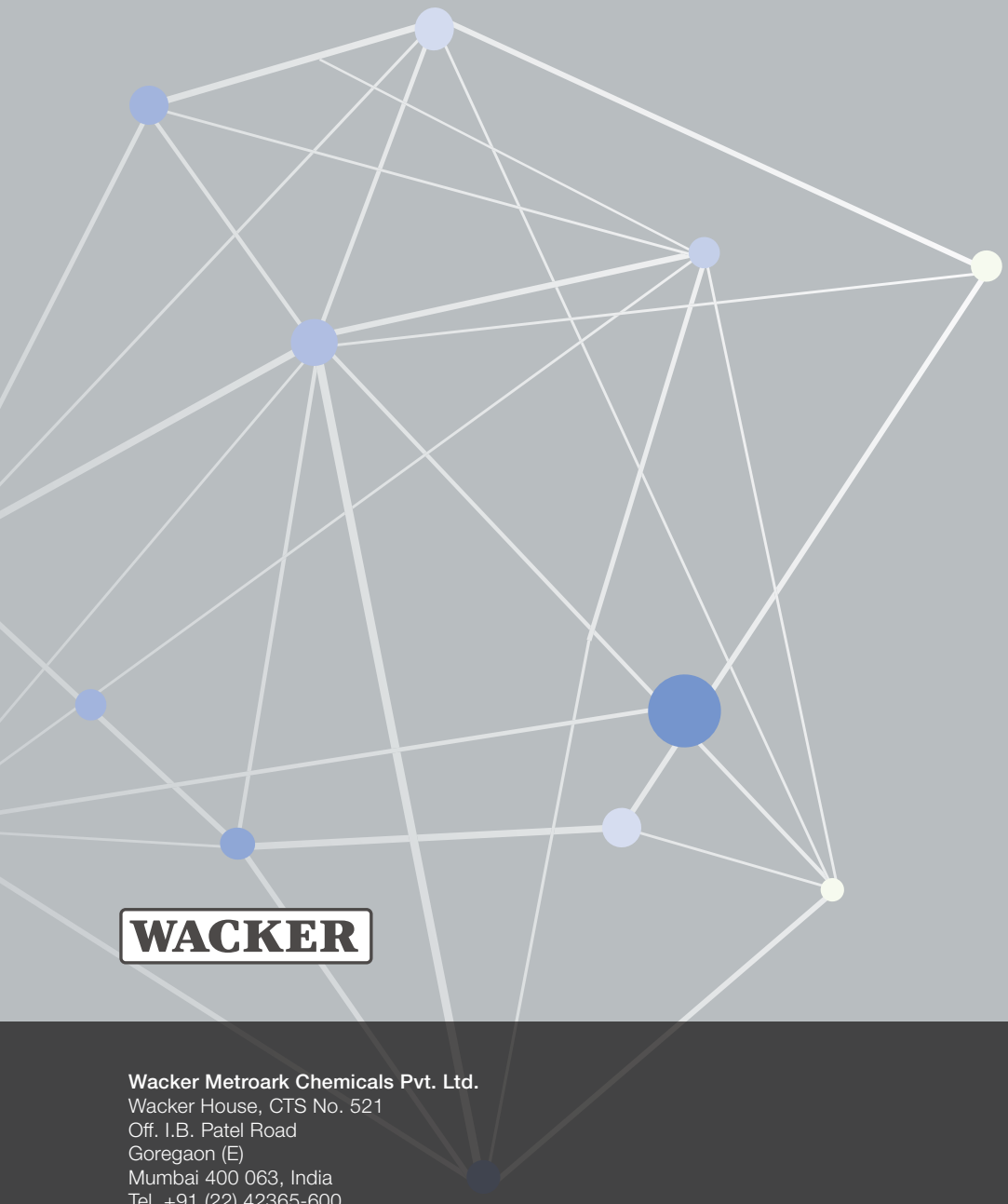
All figures are based on fiscal 2014.



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