

**WACKER** **SILICONES**

## INTRODUCING SILFOAM<sup>®</sup> SP 150

CREATING TOMORROW'S SOLUTIONS

# OUTLINE

- Product features
- Benefits

# FEATURES I



- Silicone-based powder antifoam agent
- Intended for incorporation into powder detergents
- Ready to use
- Recommended dosage: from 0.5% to 2.5%, depending on detergent formulation

## FEATURES II



- Appearance: white powder
- Active content: 15%
- Available in following packaging options:
  - 0.35 kg sample packaging
  - 25 kg bag
  - Larger-volume packaging possible on request

# PARTICLE-SIZE DISTRIBUTION OF SILFOAM® SP 150

Particle size	Distribution in %
< 100 µm	0,0
100 to 200 µm	6,3
200 to 315 µm	35,3
315 to 500 µm	32,7
500 to 1000 µm	18,8
1000 – 2000 µm	7,0
> 2000 µm	0,1

# BULK DENSITY AND ANGLE OF REPOSE

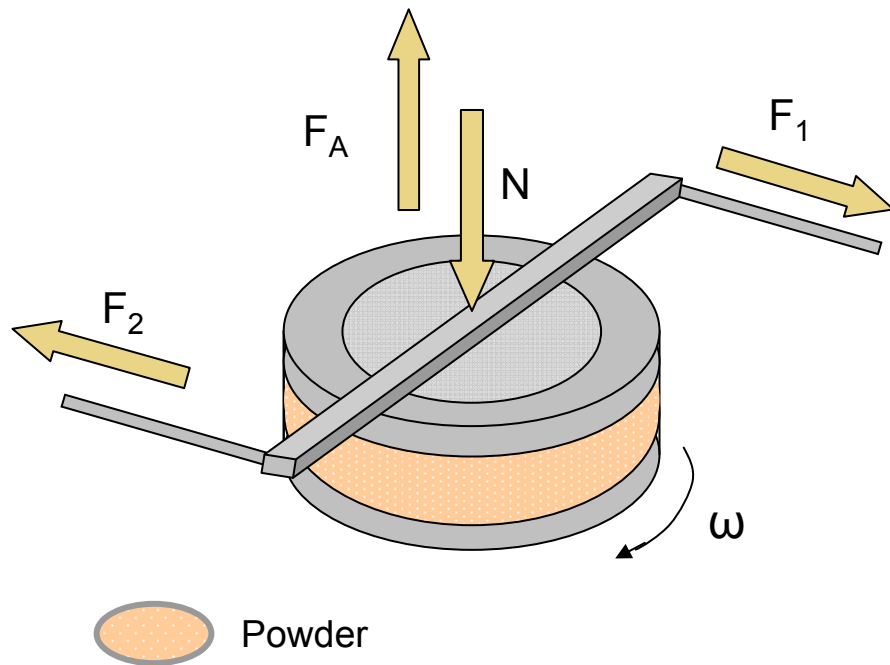
	Bulk density (kg/m <sup>3</sup> )	Angle of repose (°)
SILFOAM® SP 150	approx. 900	approx. 36

# BENEFITS



- Effective foam control
- Improved powder flowability  
→ better processing possible
- Effective storage stability
- Readily available
- Fast, local technical service

# SHEAR STRESS MEASUREMENTS



Cut-away view of a shear cell

- Flow function:  $ff_c$

$$ff_c = \sigma_1 / \sigma_c$$

where  $\sigma_1$  : consolidation stress  
 $\sigma_c$  : unconfined yield strength

- Measured with a ring shear cell tester from Schulze Schuettgutmesstechnik, Germany

$N$  = vertical load

$\omega$  = cell rotation

$F_1$  and  $F_2$  = measured shear forces



# YIELD FUNCTION MEASUREMENTS

- Flow function test results:

$$ff_c < 1$$

**Non-flowing powder**

$$1 < ff_c < 2$$

**Very cohesive powder**

$$2 < ff_c < 4$$

**Cohesive powder**

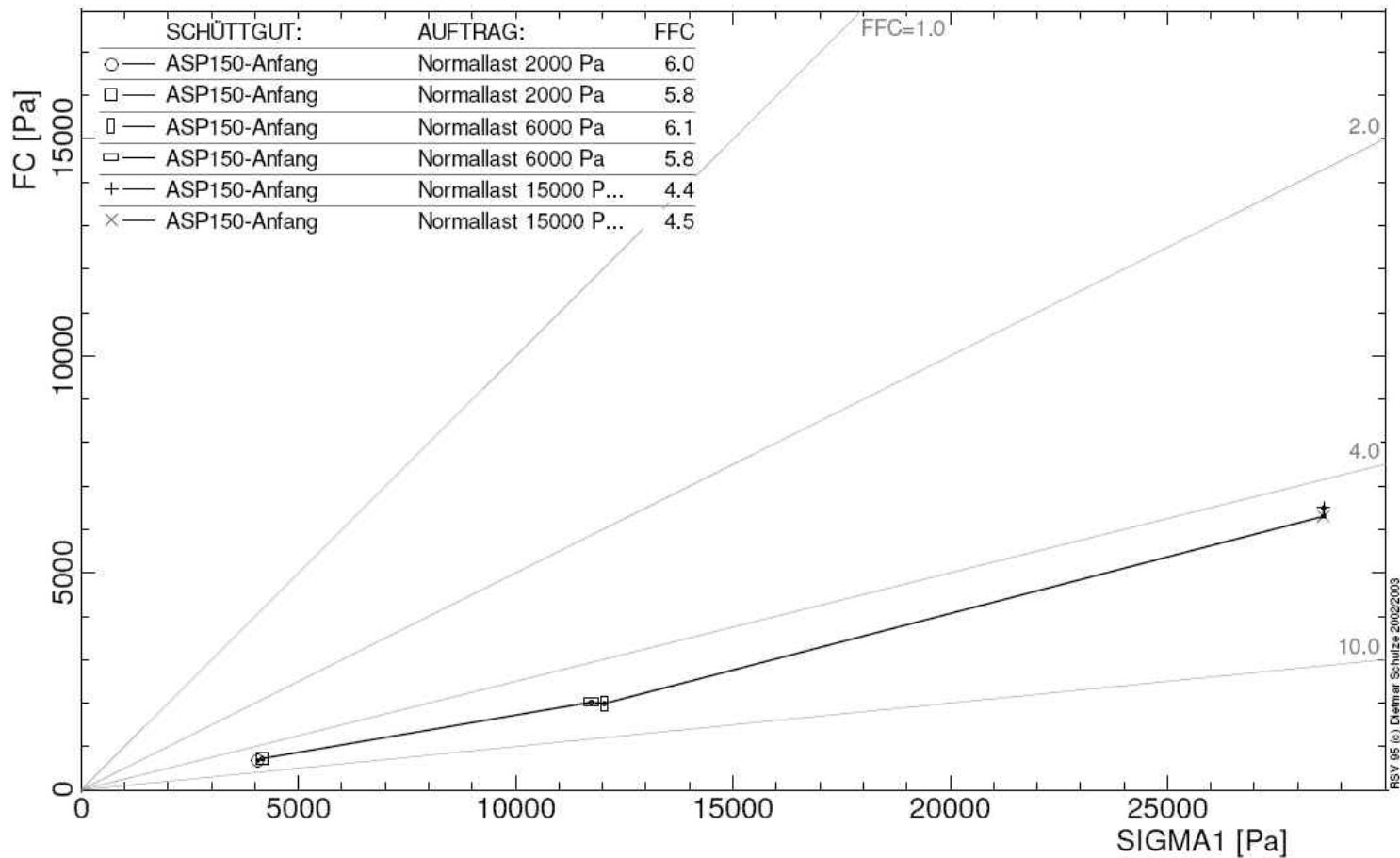
$$4 < ff_c < 10$$

**Easily flowable powder**

$$10 < ff_c$$

**Free-flowing powder**

# YIELD FUNCTION : FLOWABILITY OF SILFOAM® SP 150



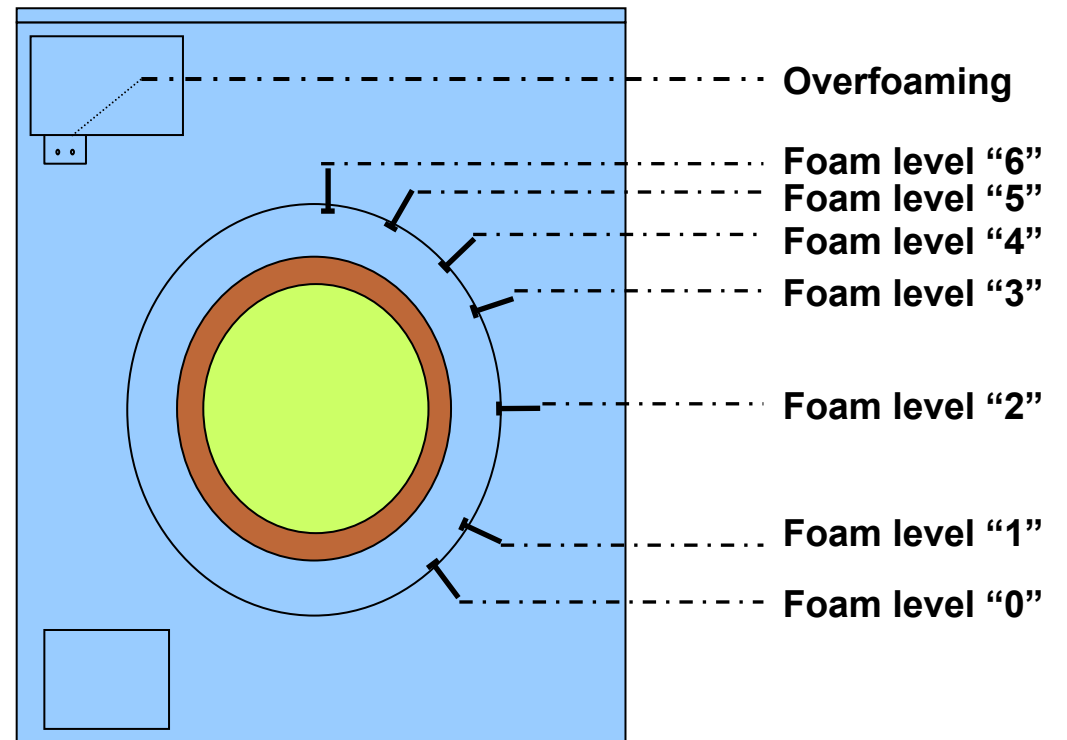
- SILFOAM® SP 150 is **easily flowable** in the lower pressure range
- SILFOAM® SP 150 is **easily flowable** in the upper pressure range

Source: Wacker Chemie AG

# WASHING MACHINE TEST



Miele Novotronic W 918 washing machine



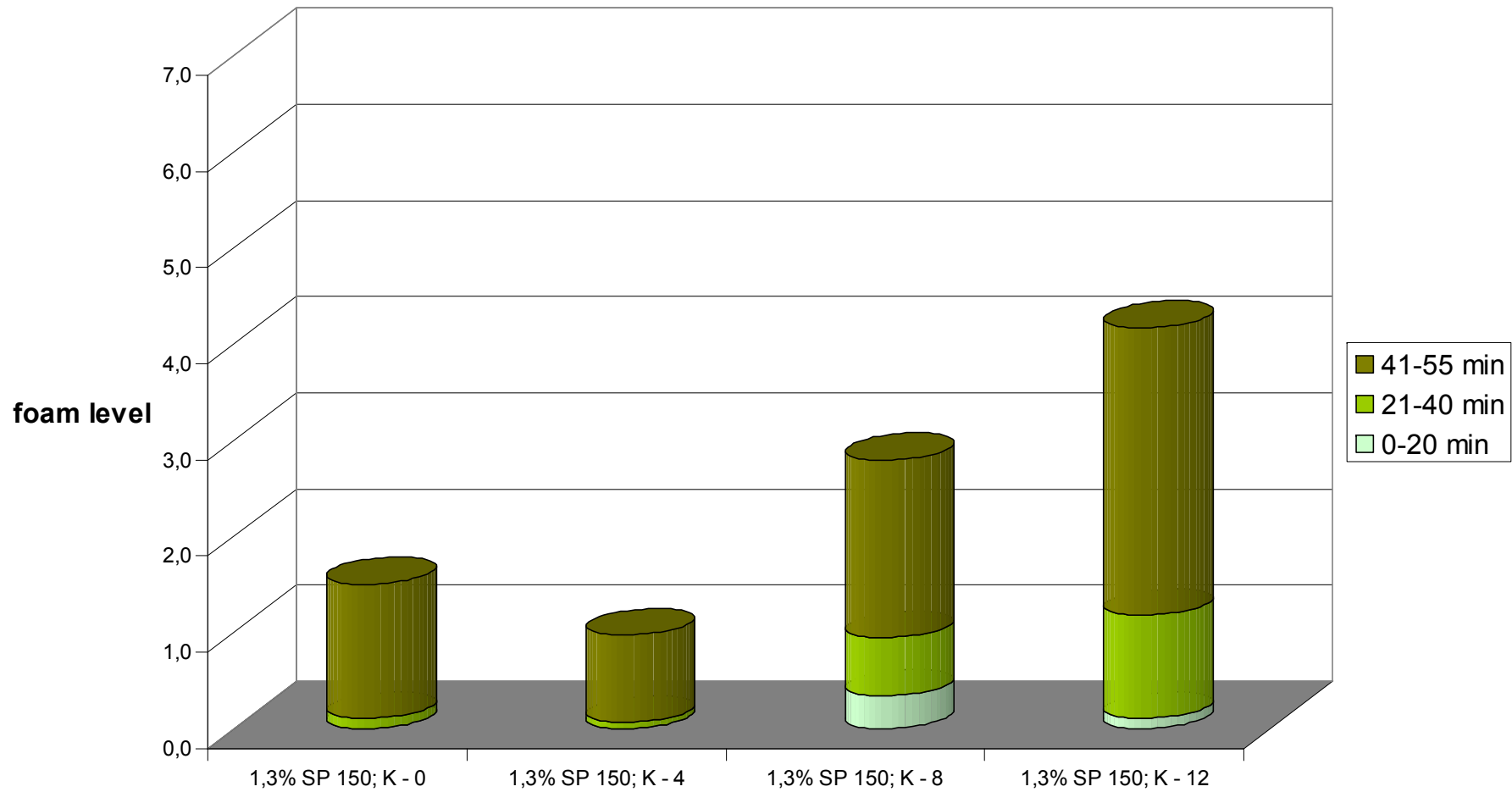
# WASHING AND STORAGE CONDITIONS



- Heavy-duty wash cycle
  - 130 g standard powder detergent
  - 3.5 kg wash load
  - 40°C washing temperature
  - 3 dGH water hardness
- Storage of SILFOAM® SP 150 in 130 g powder detergent
  - at 40°C
  - with 70% humidity
  - for 4, 8 and 12 weeks

# EFFICIENCY IN STANDARD POWDER DETERGENT AFTER STORAGE

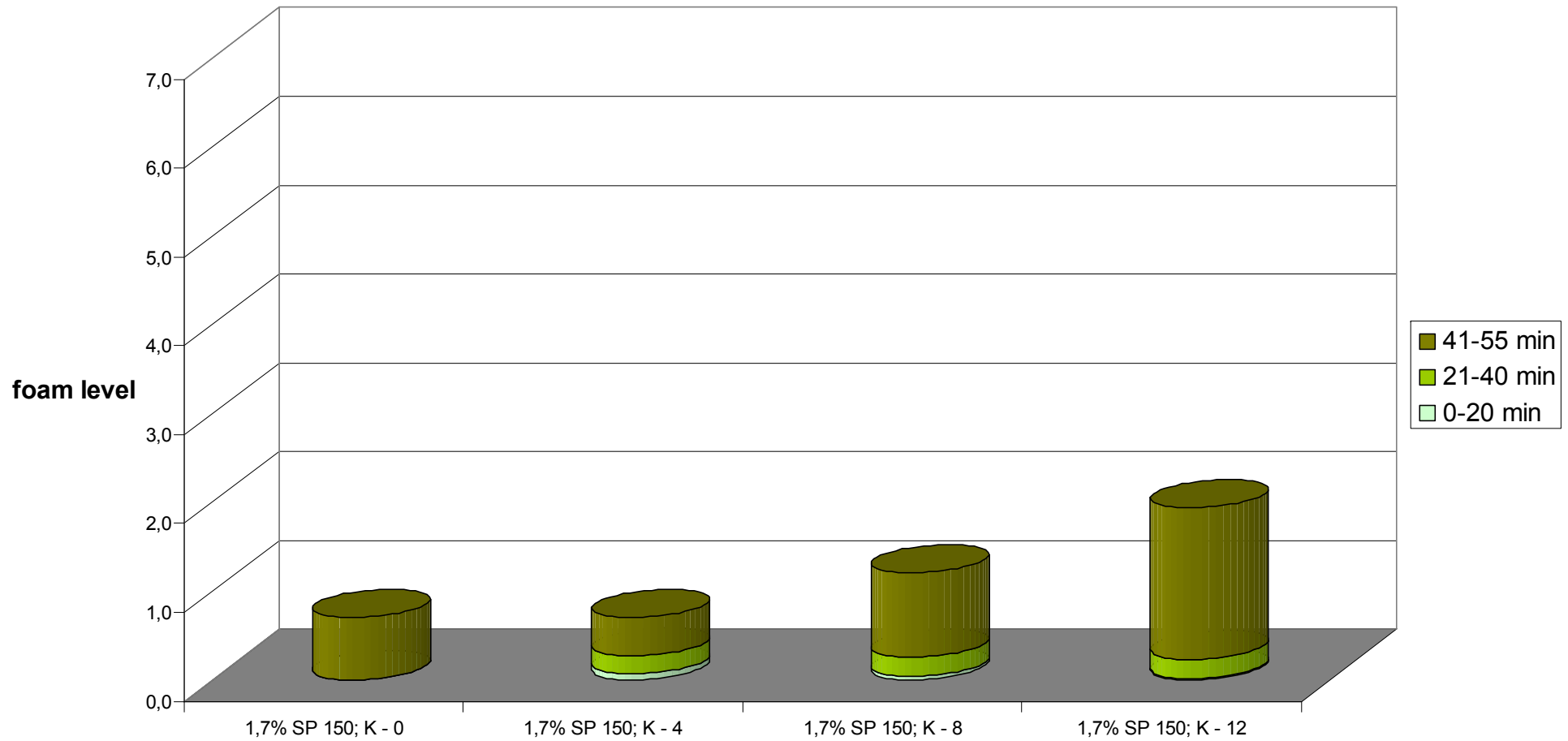
1.3% antifoam dosage



Source: Wacker Chemie AG

# EFFICIENCY IN STANDARD POWDER DETERGENT AFTER STORAGE

1,7% antifoam dosage



Source: Wacker Chemie AG

## SUMMARY OF SILFOAM® SP 150

- Effective foam control
- Good storage stability
- High flowability

SILFOAM® SP 150

THANK YOU FOR YOUR ATTENTION