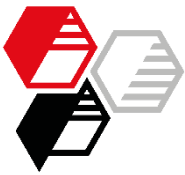




Neuburg Siliceous Earth in bisphenolic cured FKM

Author: Nicole Holzmayr



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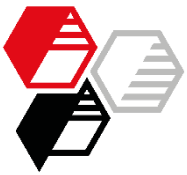
- Formulation and fillers
- Mixing and curing
- Tests

Results

- **Neuburg Siliceous Earth** vs. typically used fillers in different polymers
- Examples of use

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- Conclusion
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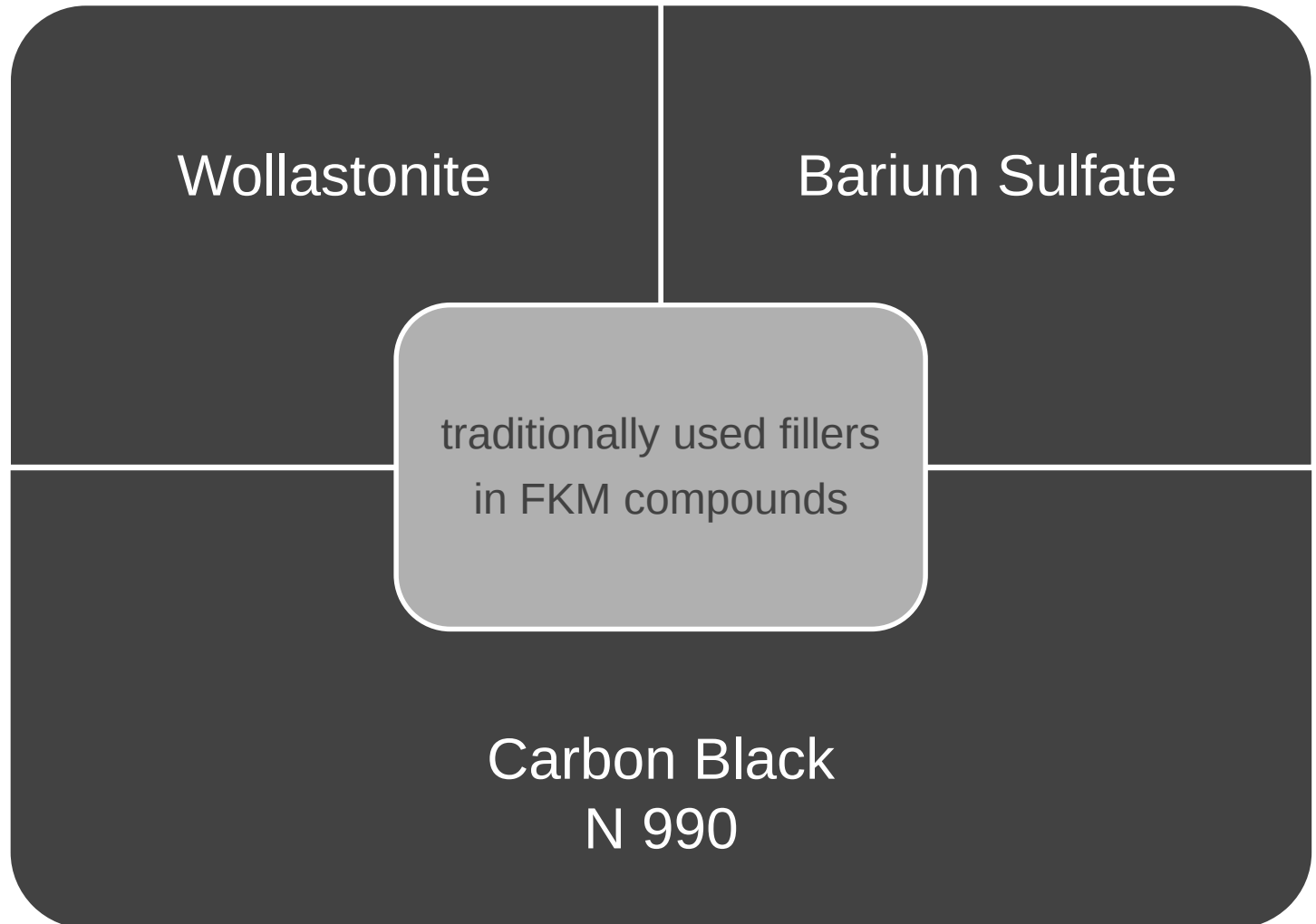


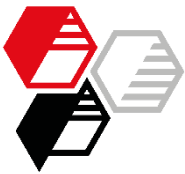
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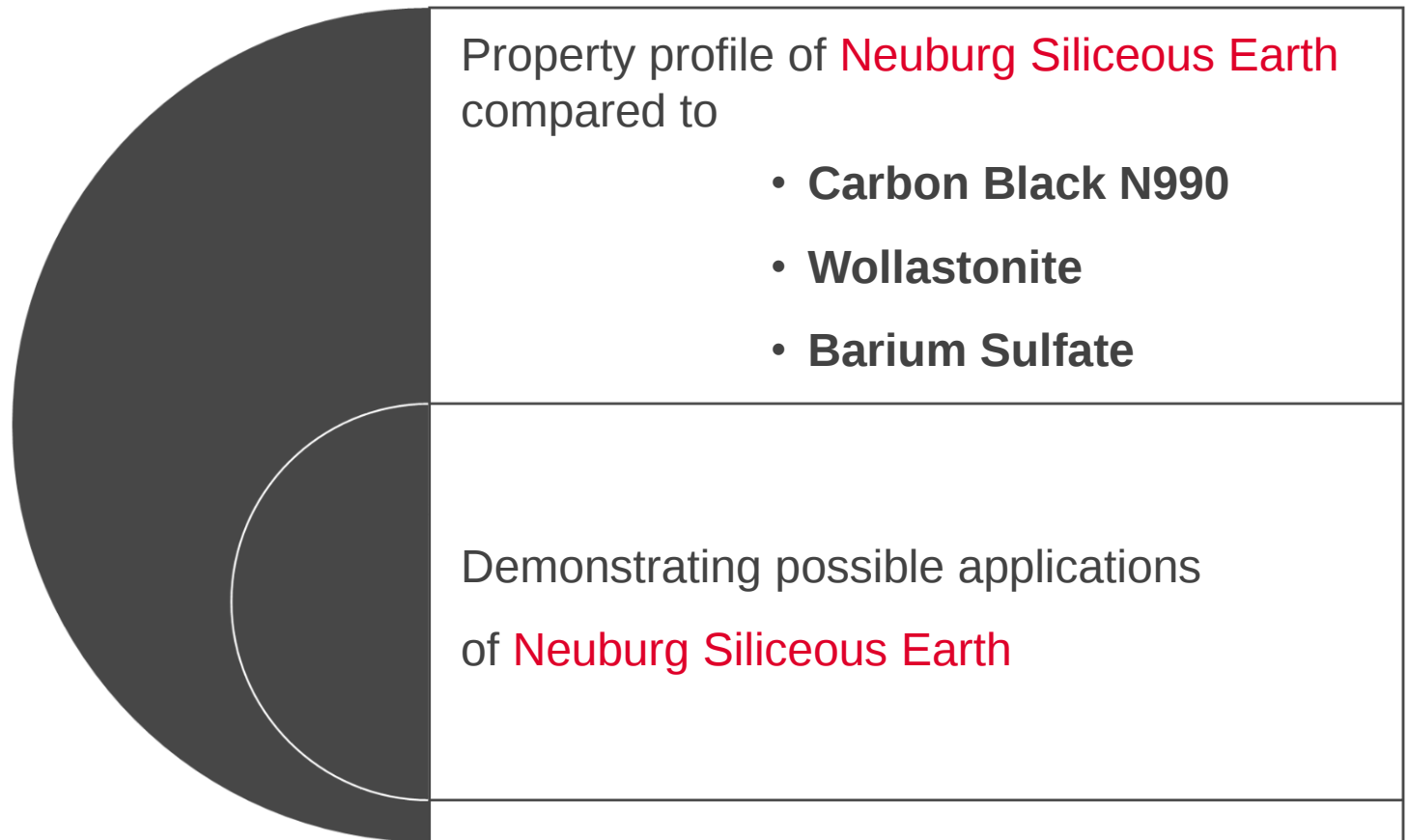
Objective

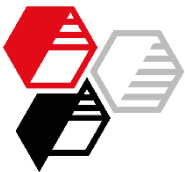
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Formulation

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		in phr
FKM	66 % fluorine copolymer (HFP + VDF)	100
Elastomag 170	MgO	3
Vulcofac F45	Ca(OH) ₂	6
Filler	-	as indicated

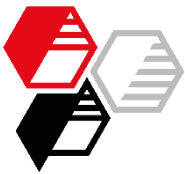
FKM grades used:

Dyneon FC 2181Z
FKM, low curative level

ML 1+10 (121 °C):
44 MU

Viton A-201C
FKM, high curative level

ML 1+10 (121 °C):
20 MU



Fillers, Characteristics

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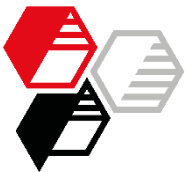
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Filler	Description	Functionalization
N 990	Carbon Black MT	-
Wollastonite AST	Calcium silicate, d_{50} : 3,5 μm	Amino silane
Wollastonite EST	Calcium silicate, d_{50} : 3,5 μm	Epoxy silane
Barium Sulfate	ppt. Barium sulfate, d_{50} : 3 μm	-
Aktisil Q	Neuburg Siliceous Earth, d_{50} : 4 μm	Methacrylic
Aktifit AM	Calcined Neuburg Siliceous Earth, d_{50} : 2 μm	Amino
Aktifit PF 115	Calcined Neuburg Siliceous Earth, d_{50} : 2 μm	Special Amino
Aktifit PF 111	Calcined Neuburg Siliceous Earth, d_{50} : 2 μm	Alkyl
Silfit Z 91	Calcined Neuburg Siliceous Earth, d_{50} : 2 μm	-



Preparation and Curing of the Compound

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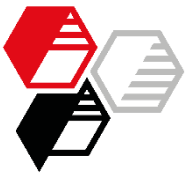
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Mixing

Open mill	Ø 150 x 300 mm
Batch volume	approx. 1 kg
Temperature	50 °C 30 °C for removing the sheet off the mill
Mixing time	approx. 15 min.

Cure Post-cure

Dyneon FC 2181Z low curative level	7 min. / 177 °C 16 h / 230 °C
Viton A-201C high curative level	10 min. / 177 °C 24 h / 232 °C



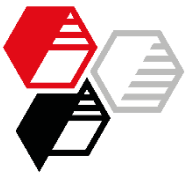
Tests

Standard mechanical tests with post-cured specimens

Hardness, tensile tests, compression set, abrasion resistance

Resistance tests with post-cured specimens

Hot air	70 h / 232 °C
Engine oil OS206304	168 h / 150 °C
Fuel FAM B (DIN 51604)	70 h / 23 °C
Distilled water	168 h / 60 °C



Polymer Selection

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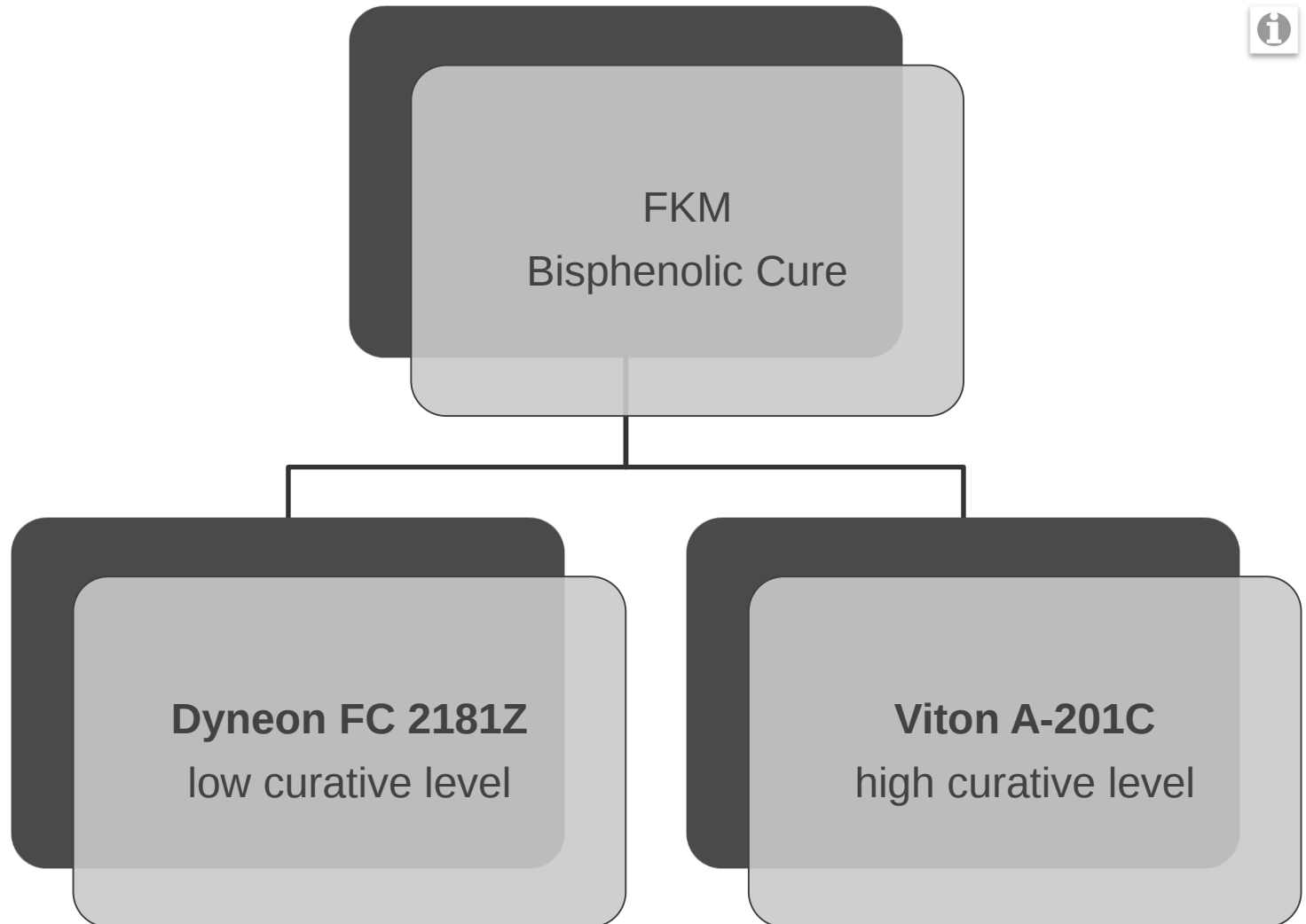


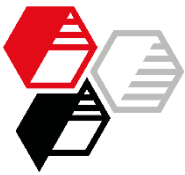
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Filler Selection

Dyneon FC 2181Z

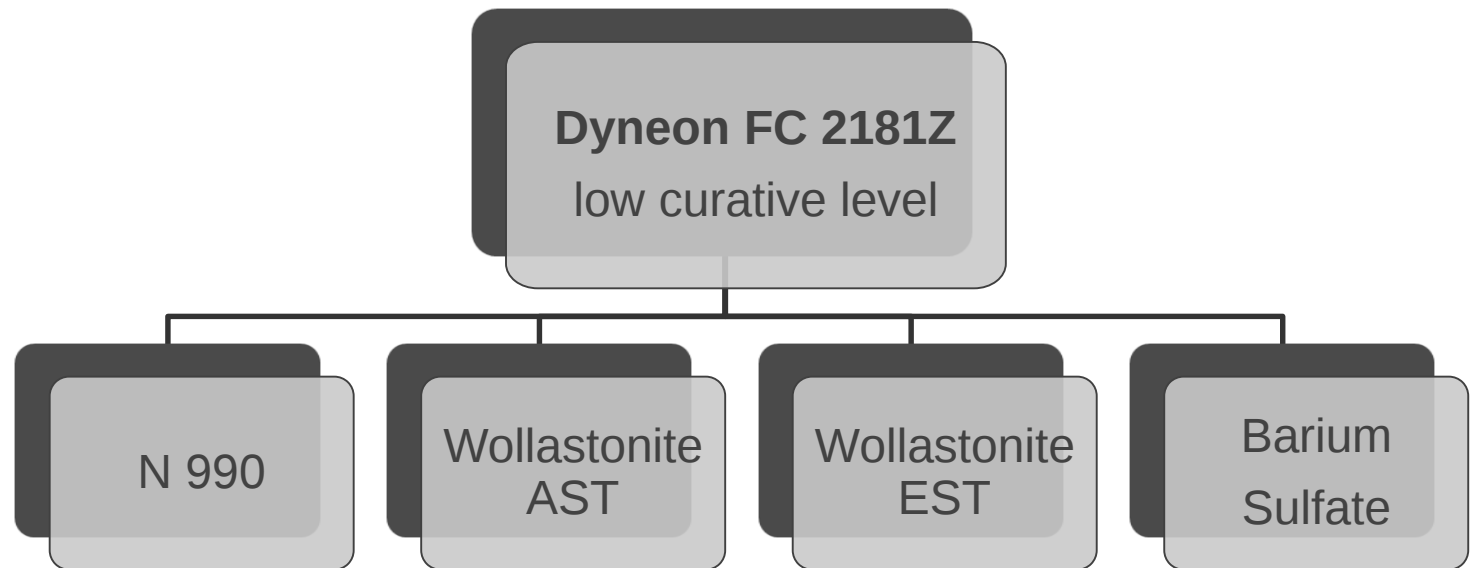
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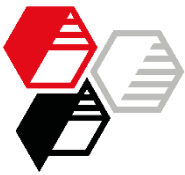
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Neuburg Siliceous Earth (NSE) vs. N 990

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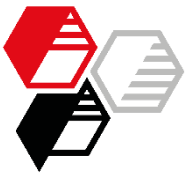
SUMMARY



30 phr N 990

45 phr NSE

Hardness Range
 80 ± 5 Shore A

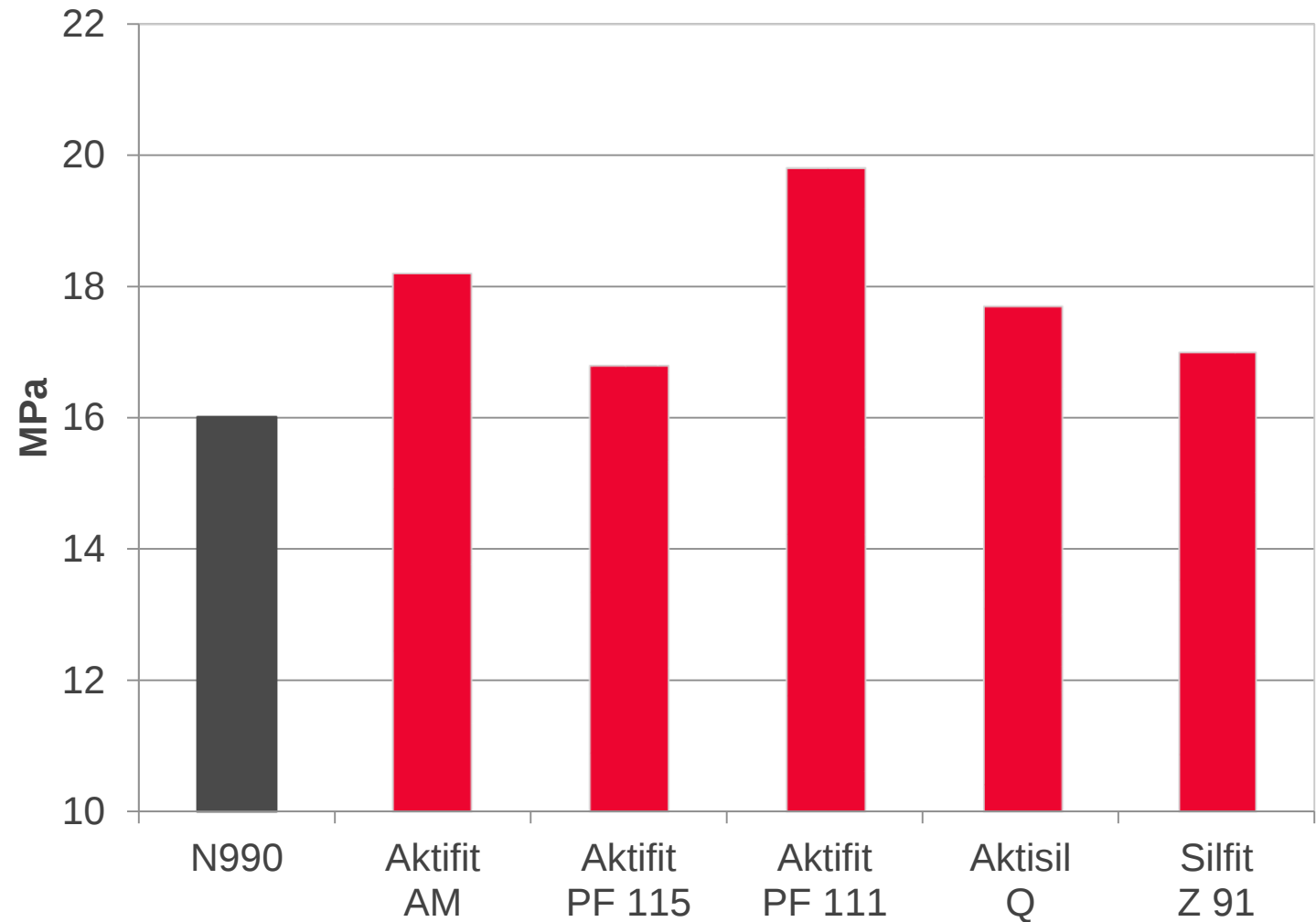


N 990 - Dyn. FC 2181Z

Tensile Strength

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DIN 53 504, S2



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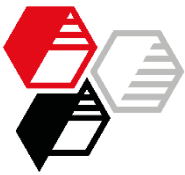
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N 990

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N 990 - Dyn. FC 2181Z

Elongation at Break vs. CS

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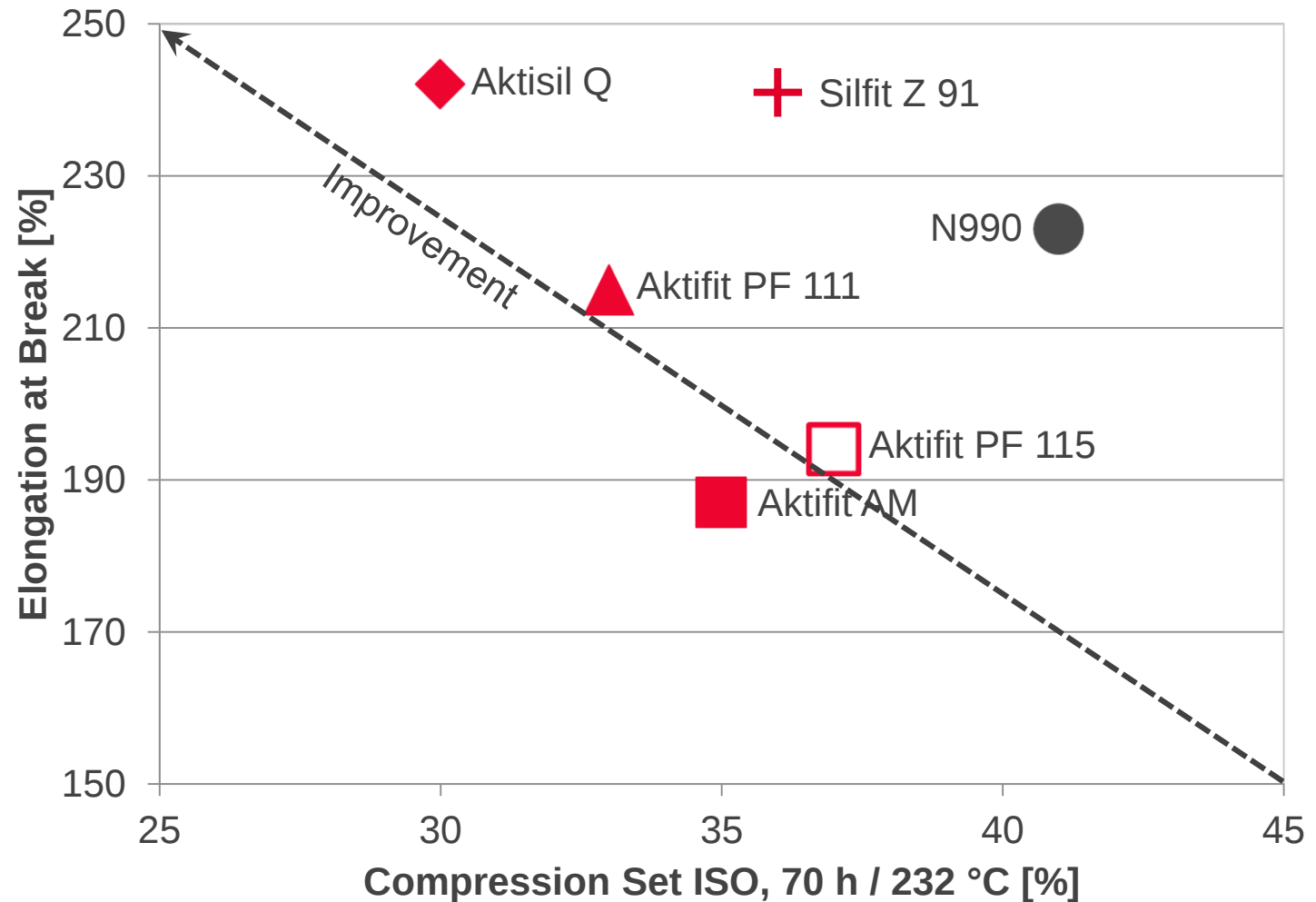
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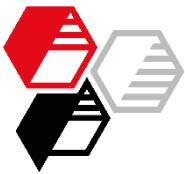
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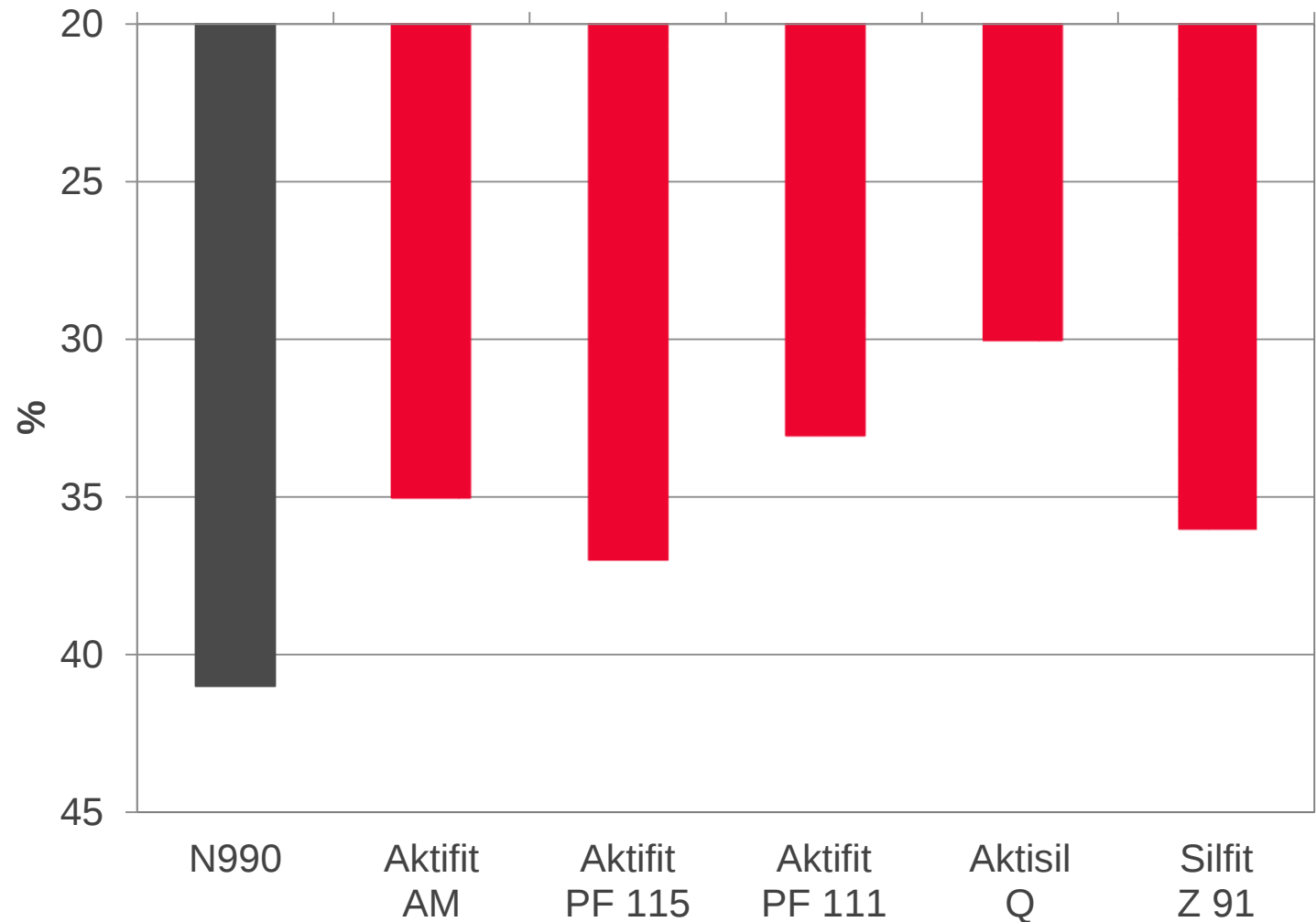


N 990 - Dyn. FC 2181Z

Compression Set ISO

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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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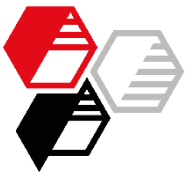
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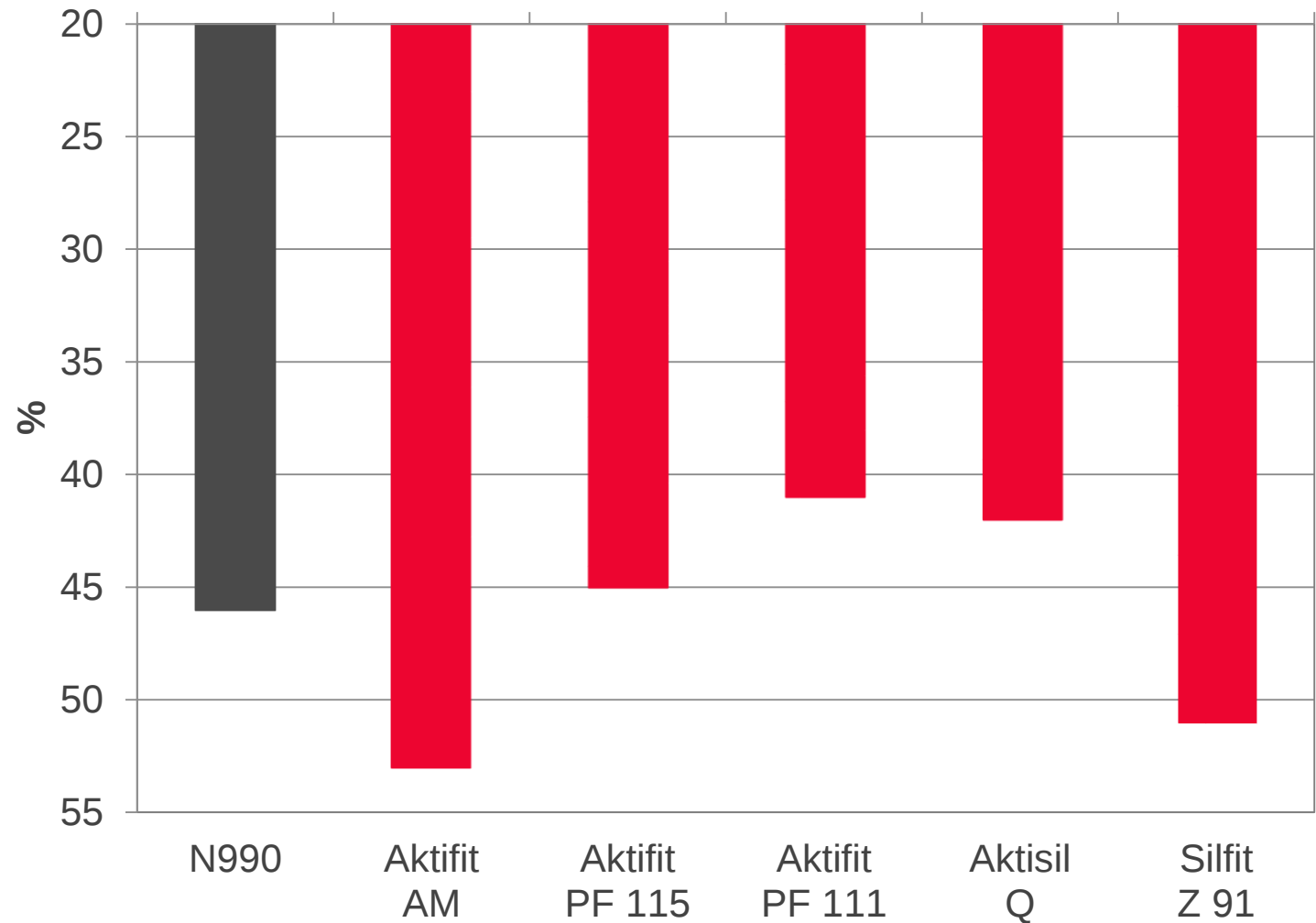


N 990 - Dyn. FC 2181Z

Compression Set VW

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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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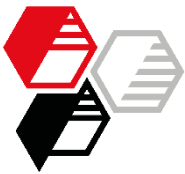
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N 990

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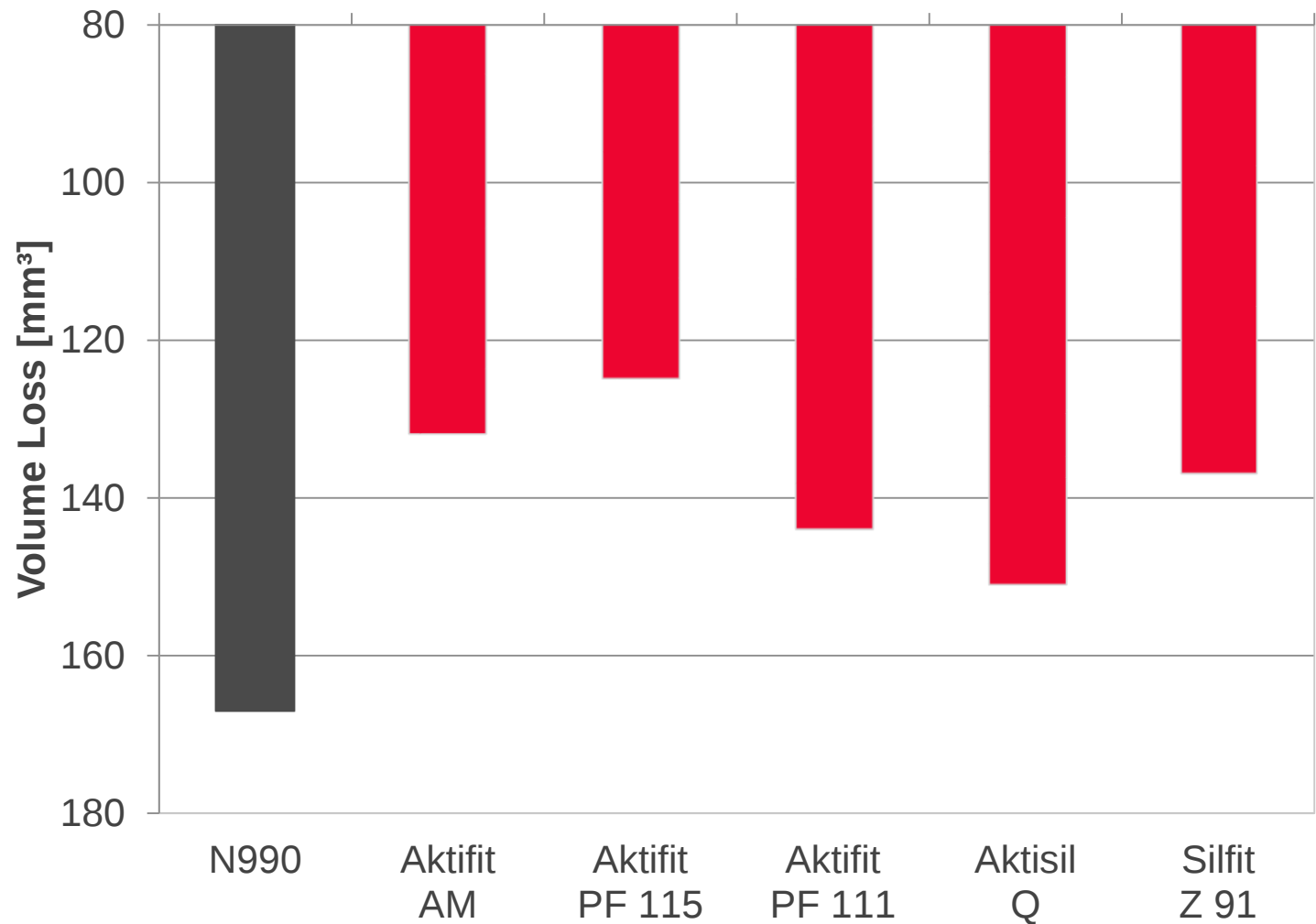


N 990 - Dyn. FC 2181Z

Abrasion Loss

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DIN ISO 4649



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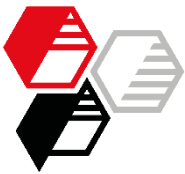
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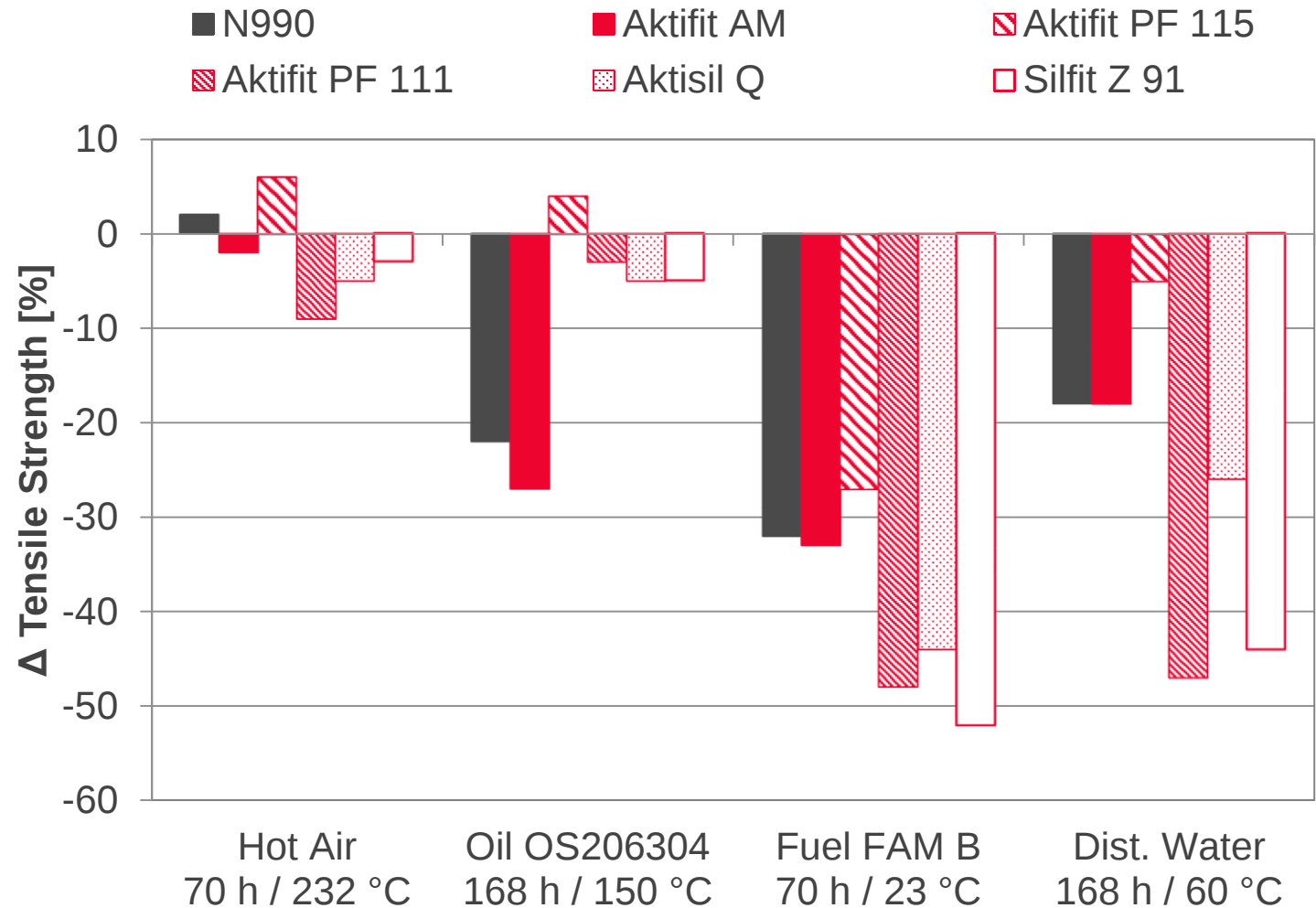


N 990 - Dyn. FC 2181Z

Media Resistance

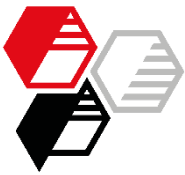
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Change of tensile strength after storage in media



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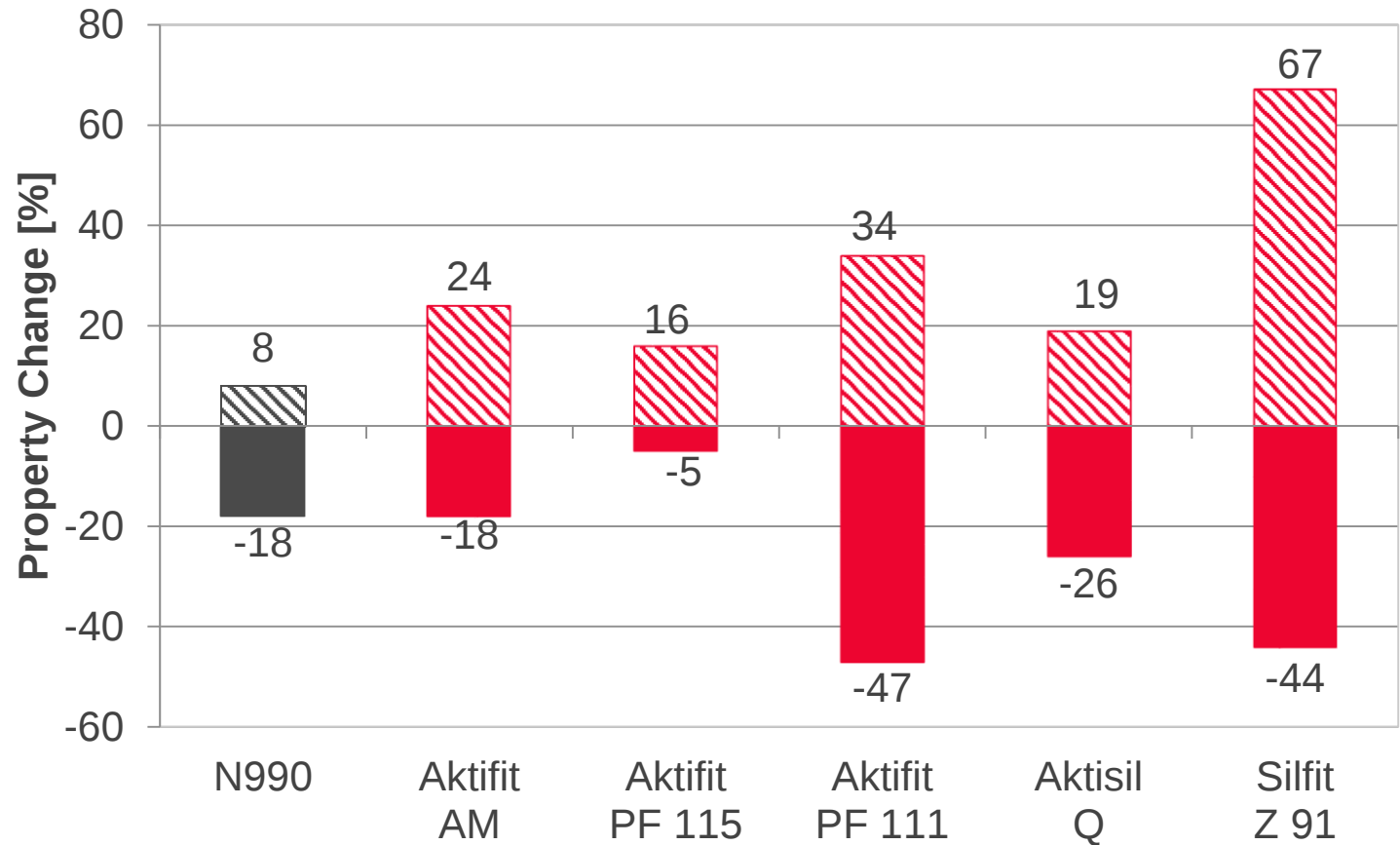
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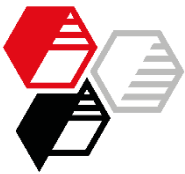
Water Resistance

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Dist. Water, 168 h / 60 °C

■ ■ Δ Tensile Strength ▨ ▨ Δ Elongation at Break





N 990 - Dyn. FC 2181Z

Engine Oil vs. Water

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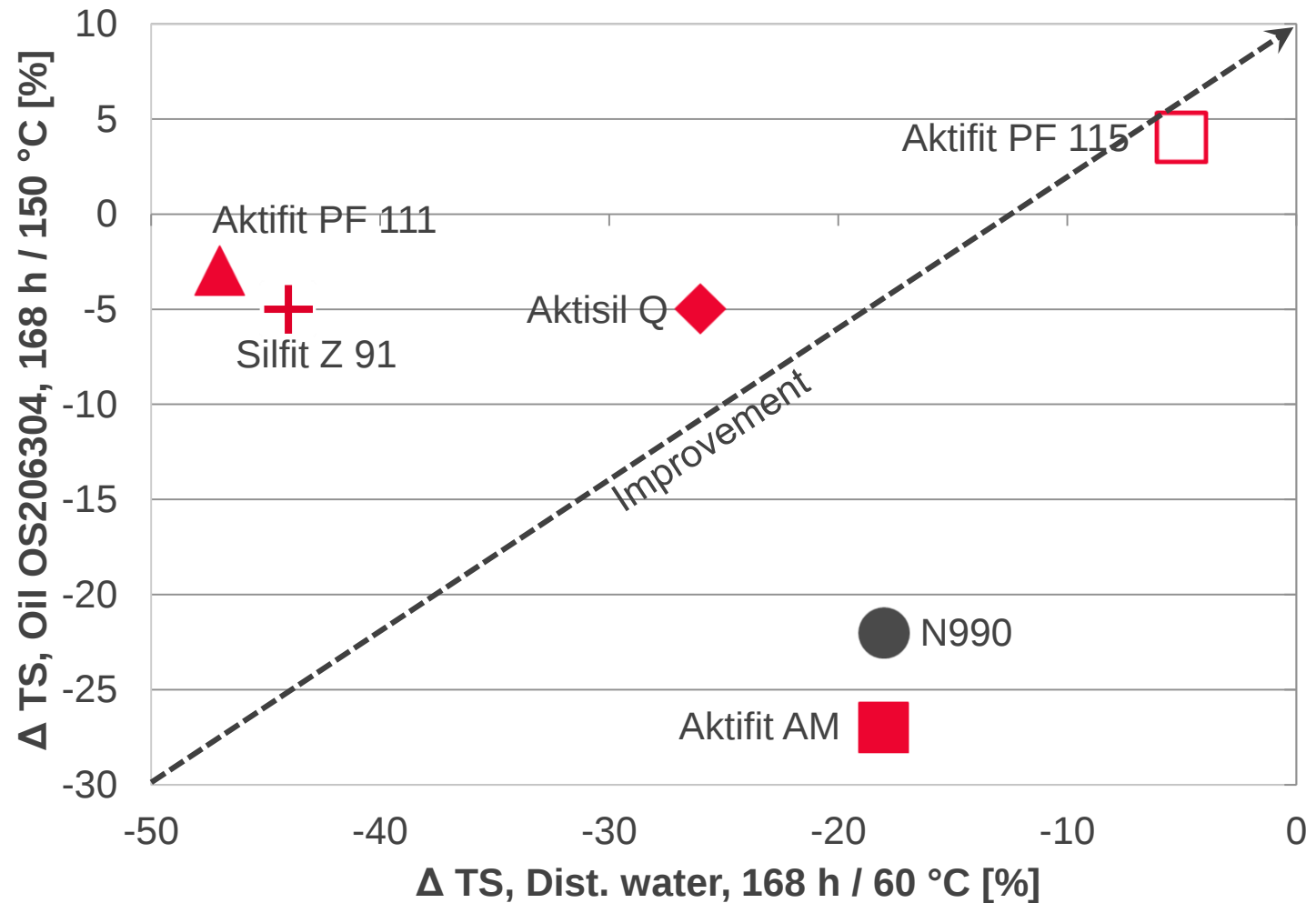
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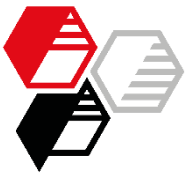
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Evaluation

Neuburg Siliceous Earth vs. N 990

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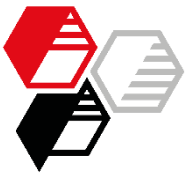
Dyneon FC 2181Z

N 990

SUMMARY



Dyneon FC 2181Z	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	+	+	+	+	+
Elong. at Break			=	+	+
CS ISO	+	+	+	+	+
CS VW		=	+	+	
Abrasion Resist.	+	+	+	+	+
Hot Air Resistance	=	=	=	=	=
Water Resistance	=	+		=	
Fuel Resistance	=	+			
Oil Resistance		+	+	+	+
Cure Speed	=	+			
M _{min}				+	



Neuburg Siliceous Earth vs. Wollastonite AST

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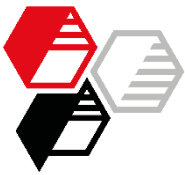
SUMMARY



**45 phr
Wollastonite AST**

**30 phr
NSE**

Hardness Range
 70 ± 5 Shore A

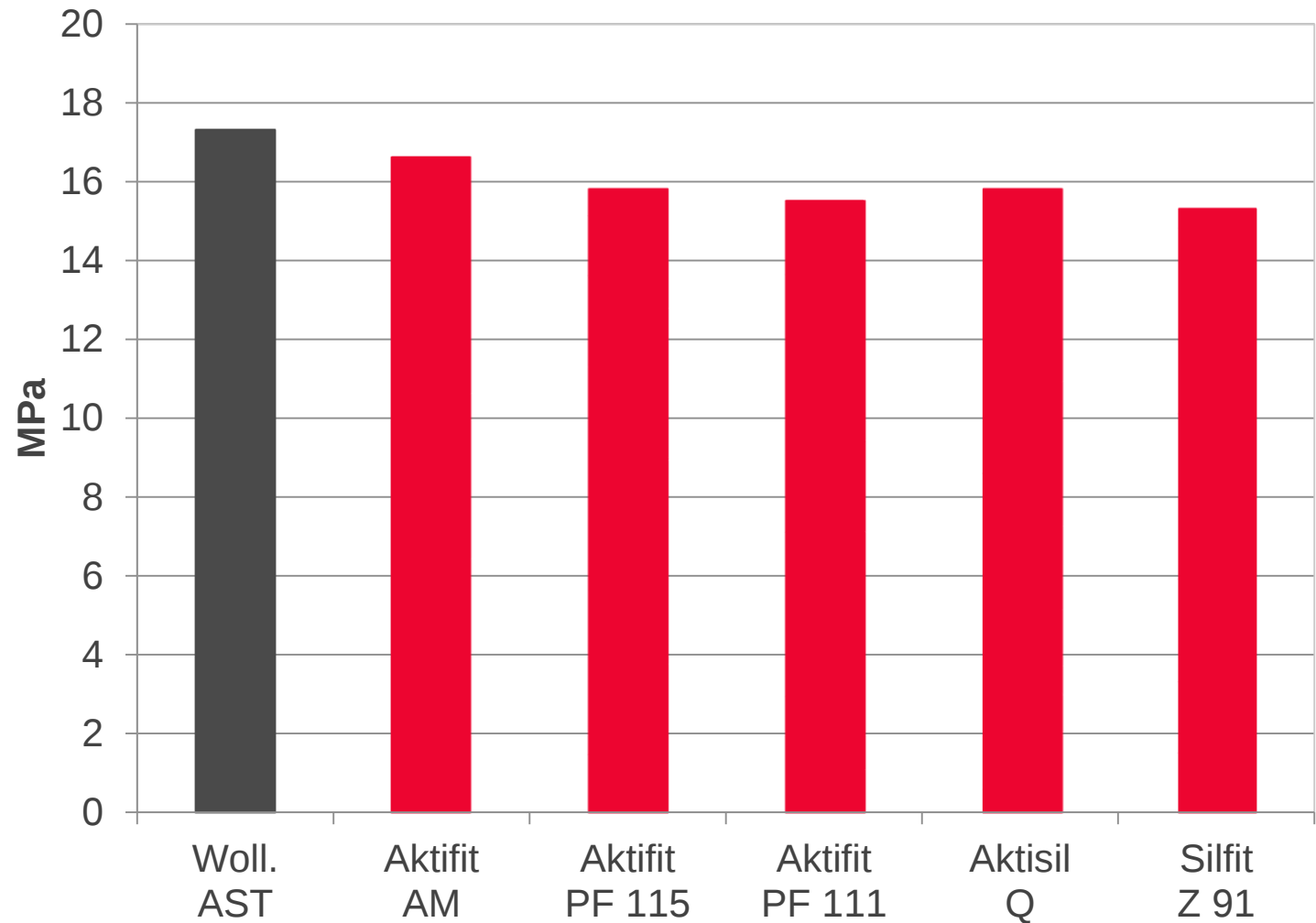


Woll. AST - Dyn. FC 2181Z

Tensile Strength

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DIN 53 504, S2



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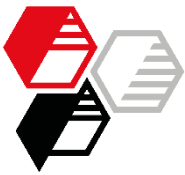
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Dyneon FC 2181Z

Wollastonite AST

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Woll. AST - Dyn. FC 2181Z

Elong. at Break vs. CS ISO

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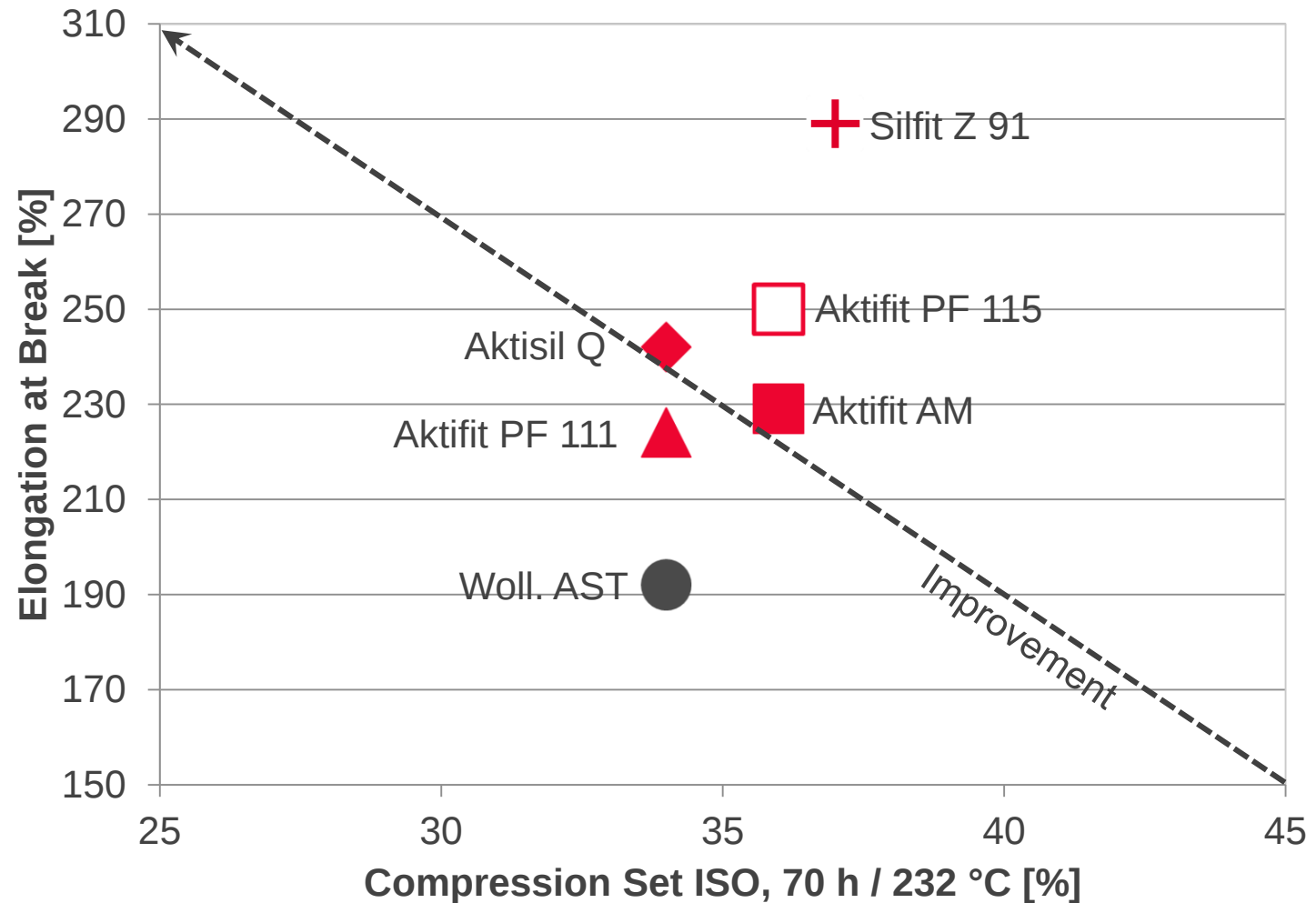
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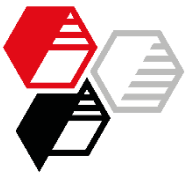
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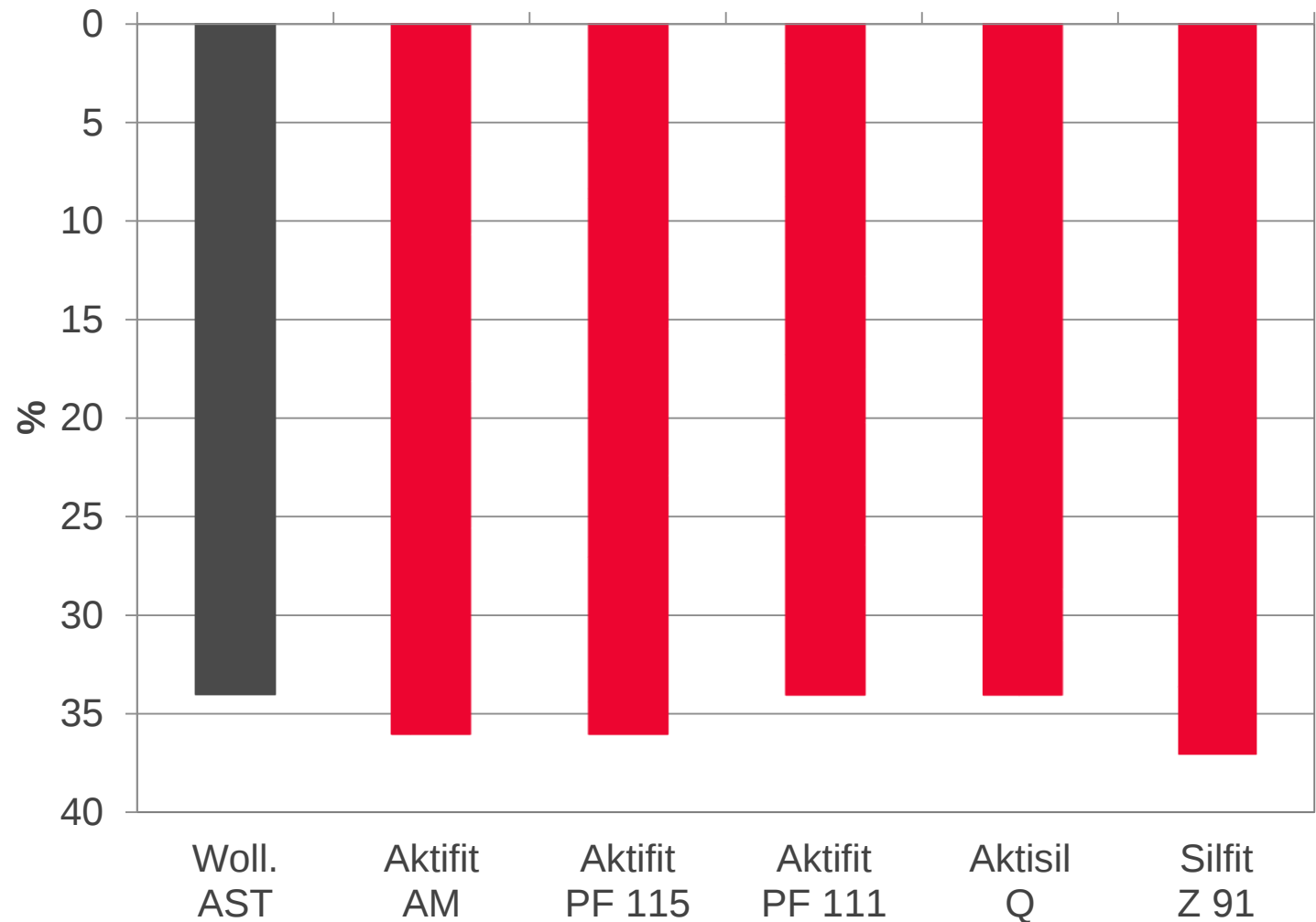


Woll. AST - Dyn. FC 2181Z

Compression Set ISO

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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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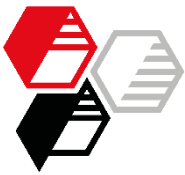
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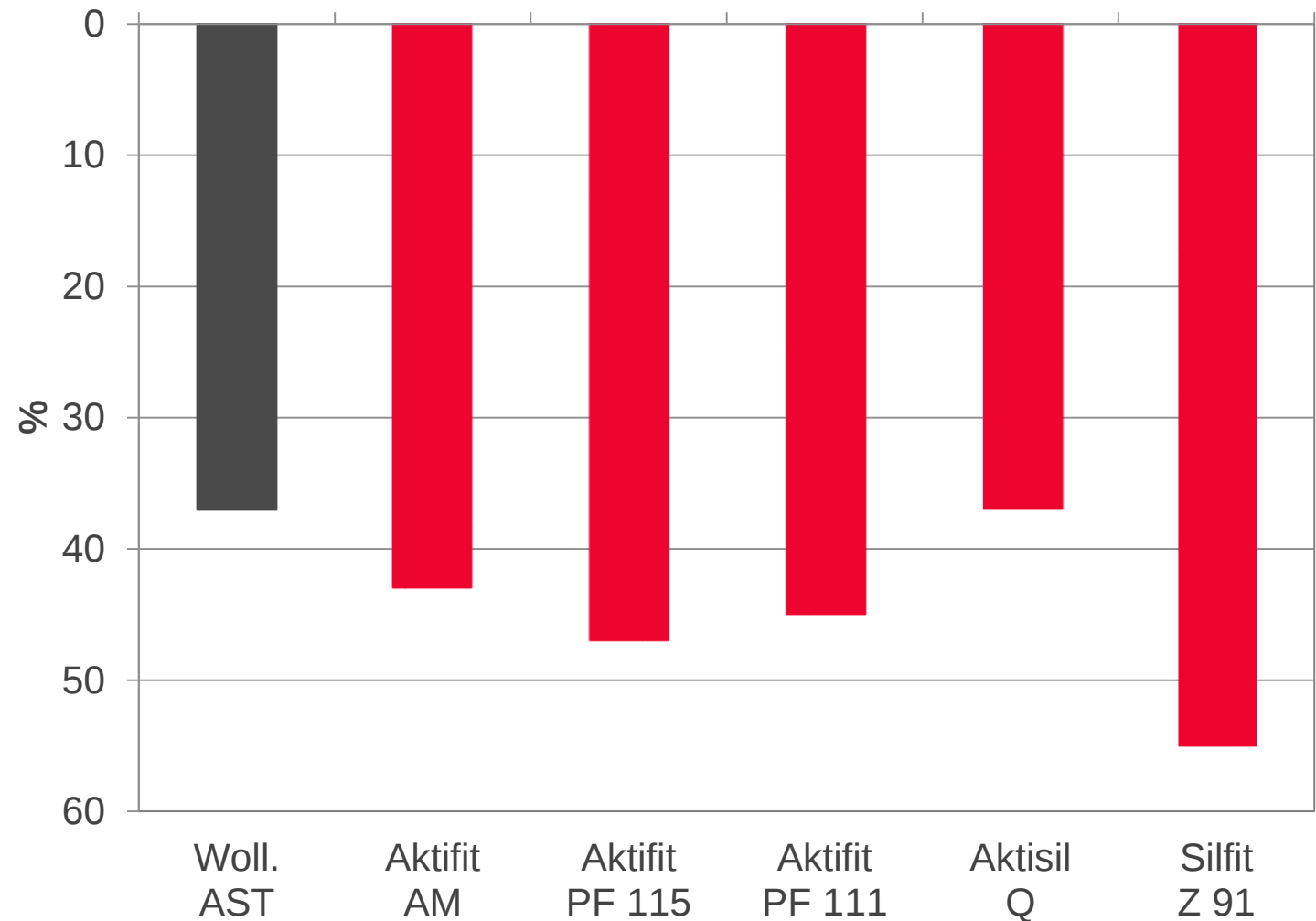


Woll. AST - Dyn. FC 2181Z

Compression Set VW

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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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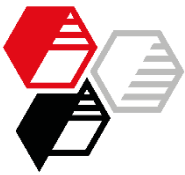
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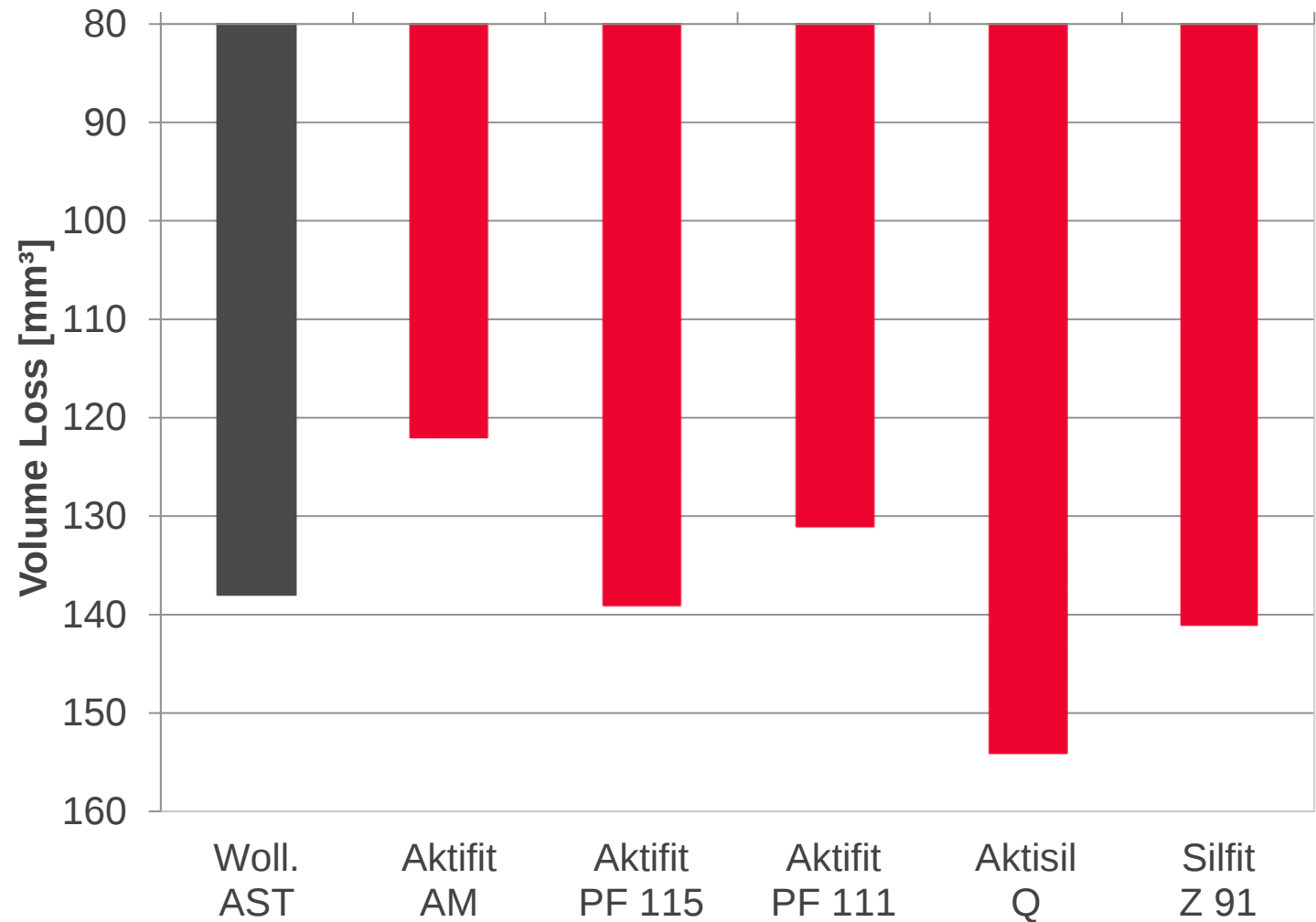


Woll. AST - Dyn. FC 2181Z

Abrasion Loss

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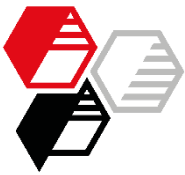
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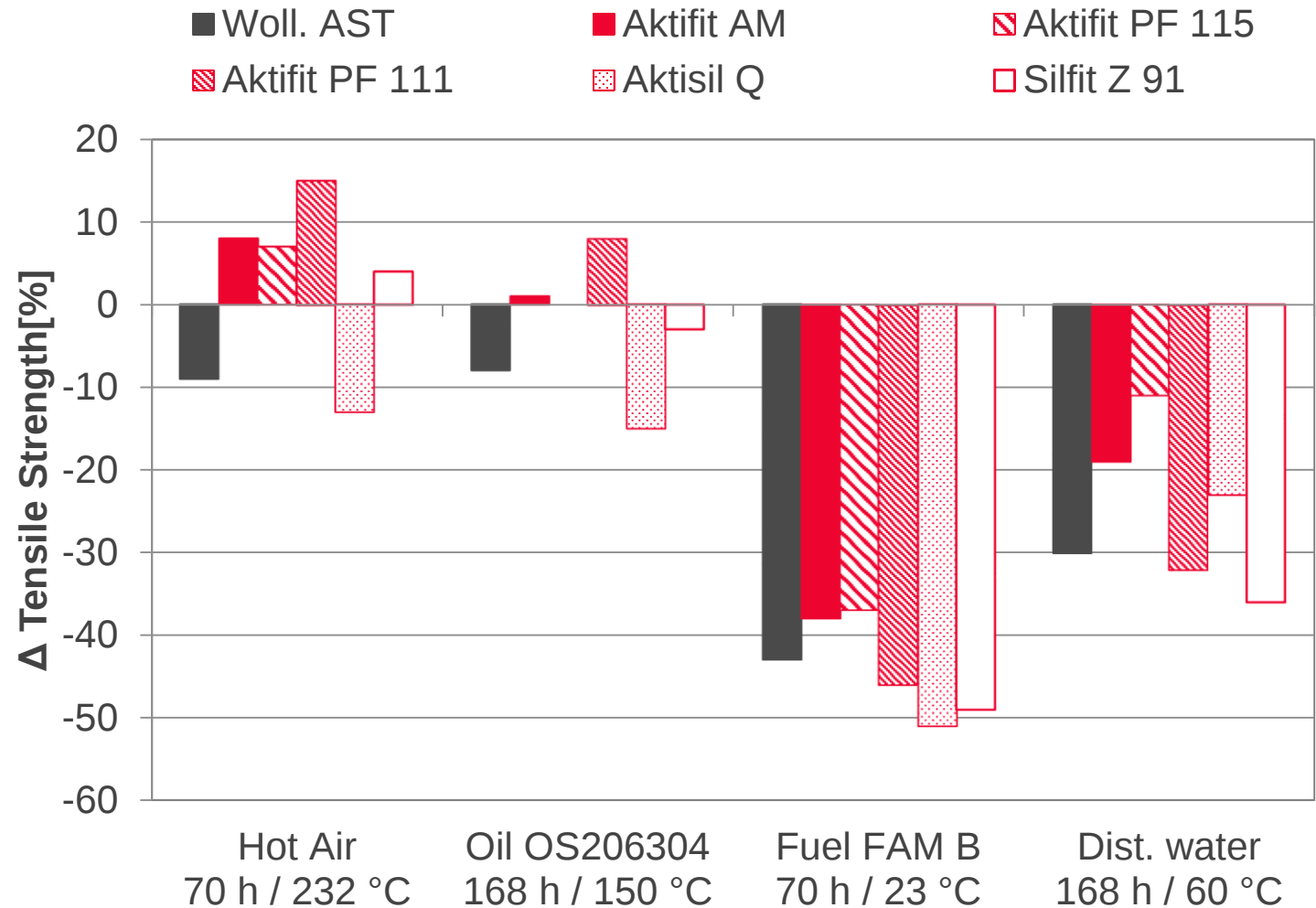


Woll. AST - Dyn. FC 2181Z

Media Resistance



Change of tensile strength after storage in media



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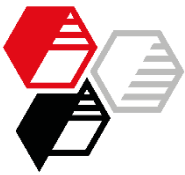
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Woll. AST - Dyn. FC 2181Z

Engine Oil vs. Water

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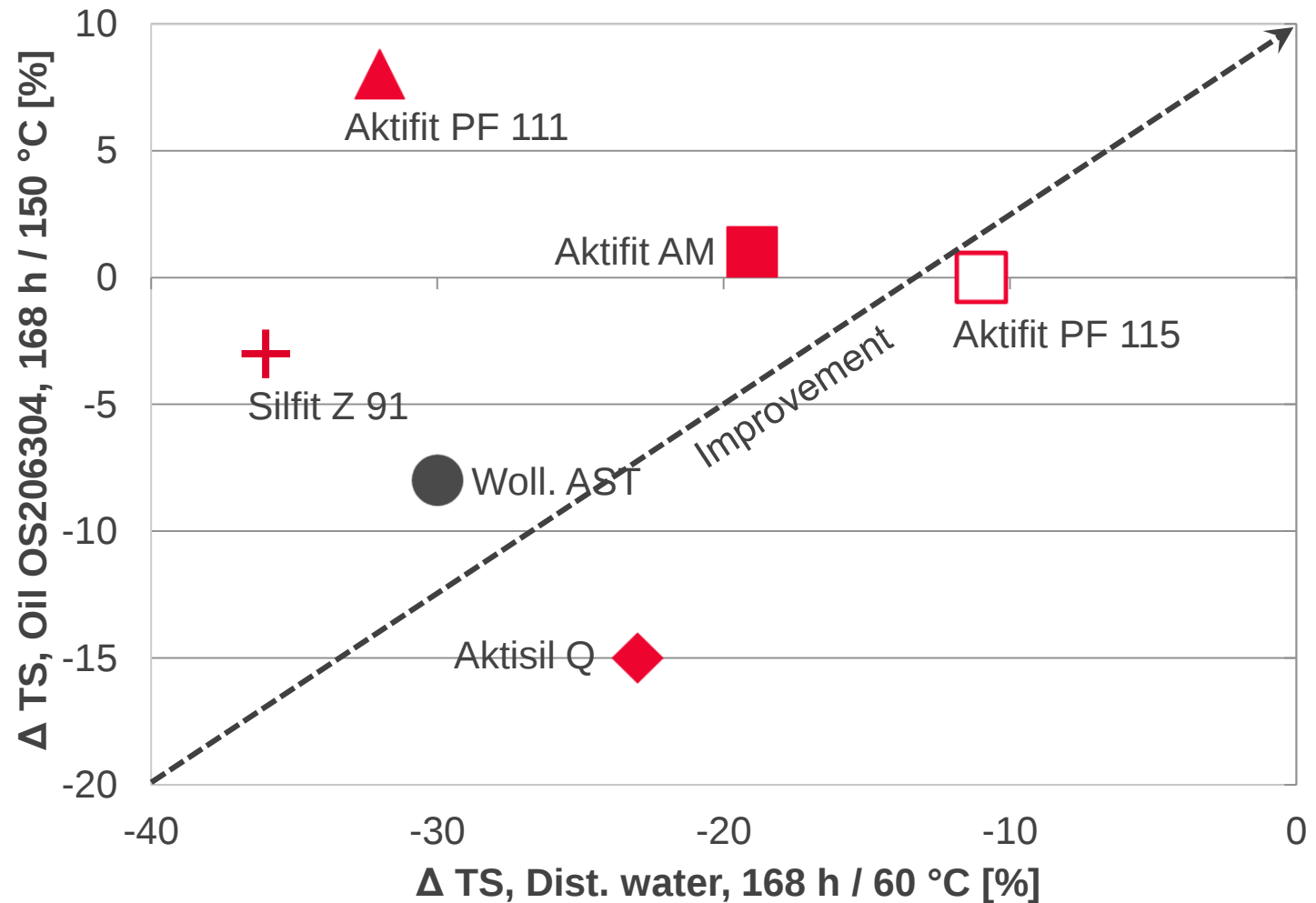
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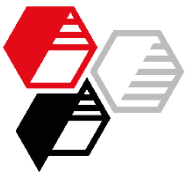
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NSE vs. Wollastonite AST

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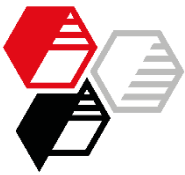
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Wollastonite AST

SUMMARY



Dyneon FC 2181Z	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	=				
Elong. at Break	+	+	+	+	+
CS ISO			=	=	
CS VW				=	
Abrasion Resist.	+	=	=		=
Hot Air Resistance	=	=			=
Water Resistance	+	+	=	+	
Fuel Resistance	+	+	=		
Oil Resistance	+	+	=		+
Viscosity / M _{min}		+		+	=



Neuburg Siliceous Earth vs. Wollastonite EST

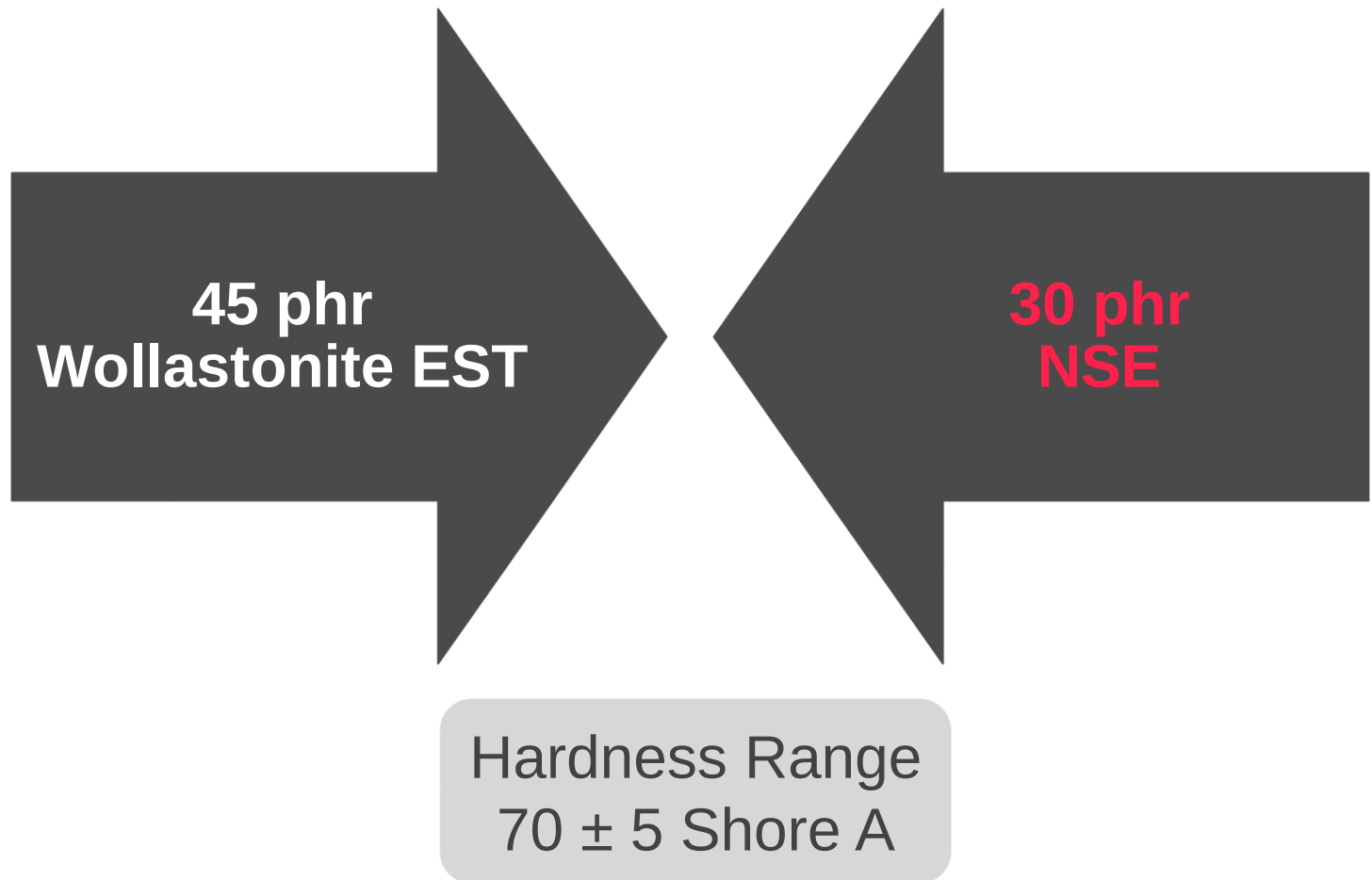
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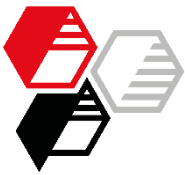
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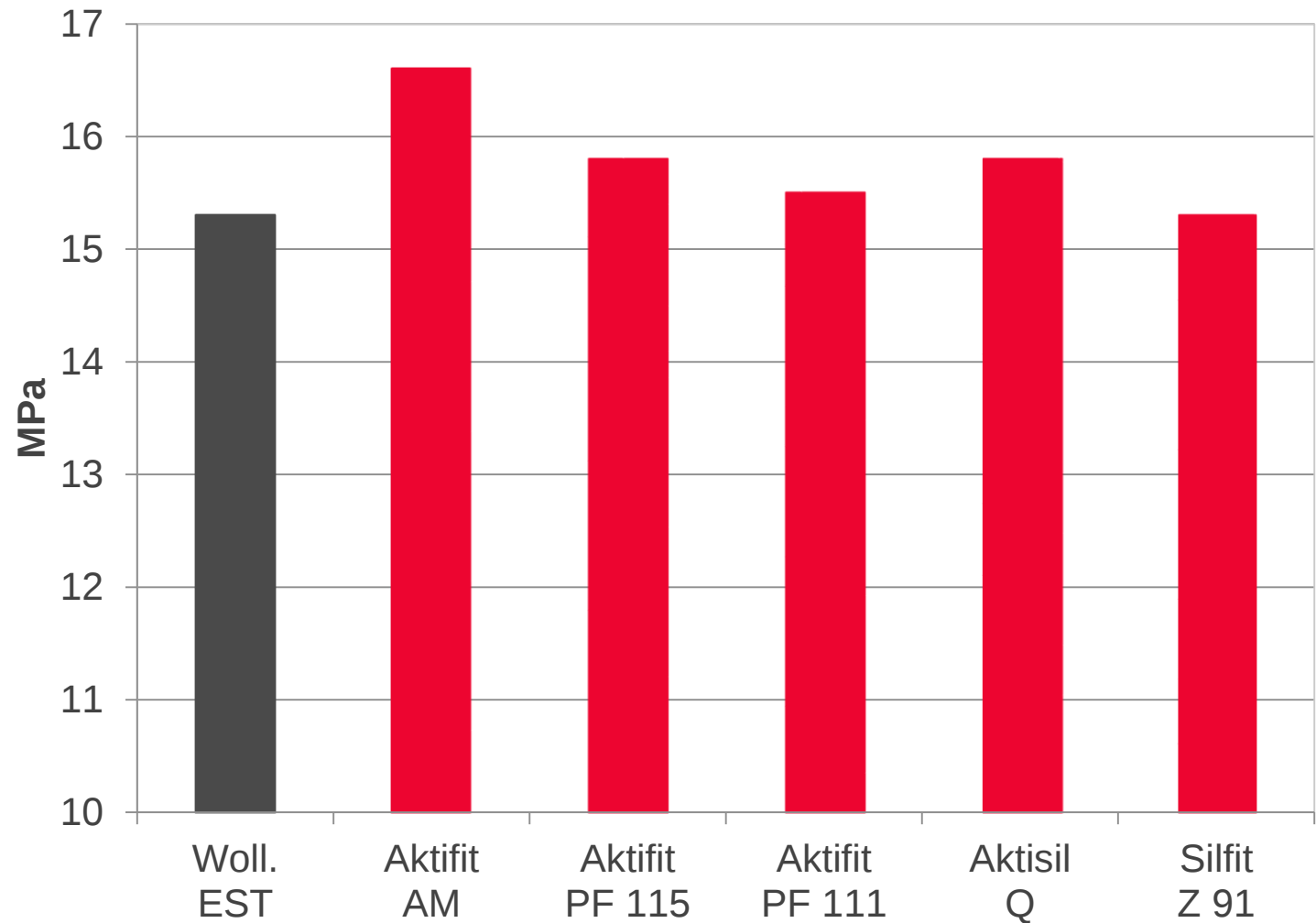


Woll. EST - Dyn. FC 2181Z

Tensile Strength

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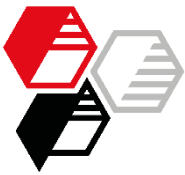
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Wollastonite EST

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Woll. EST - Dyn. FC 2181Z

Elong. at Break vs. CS ISO

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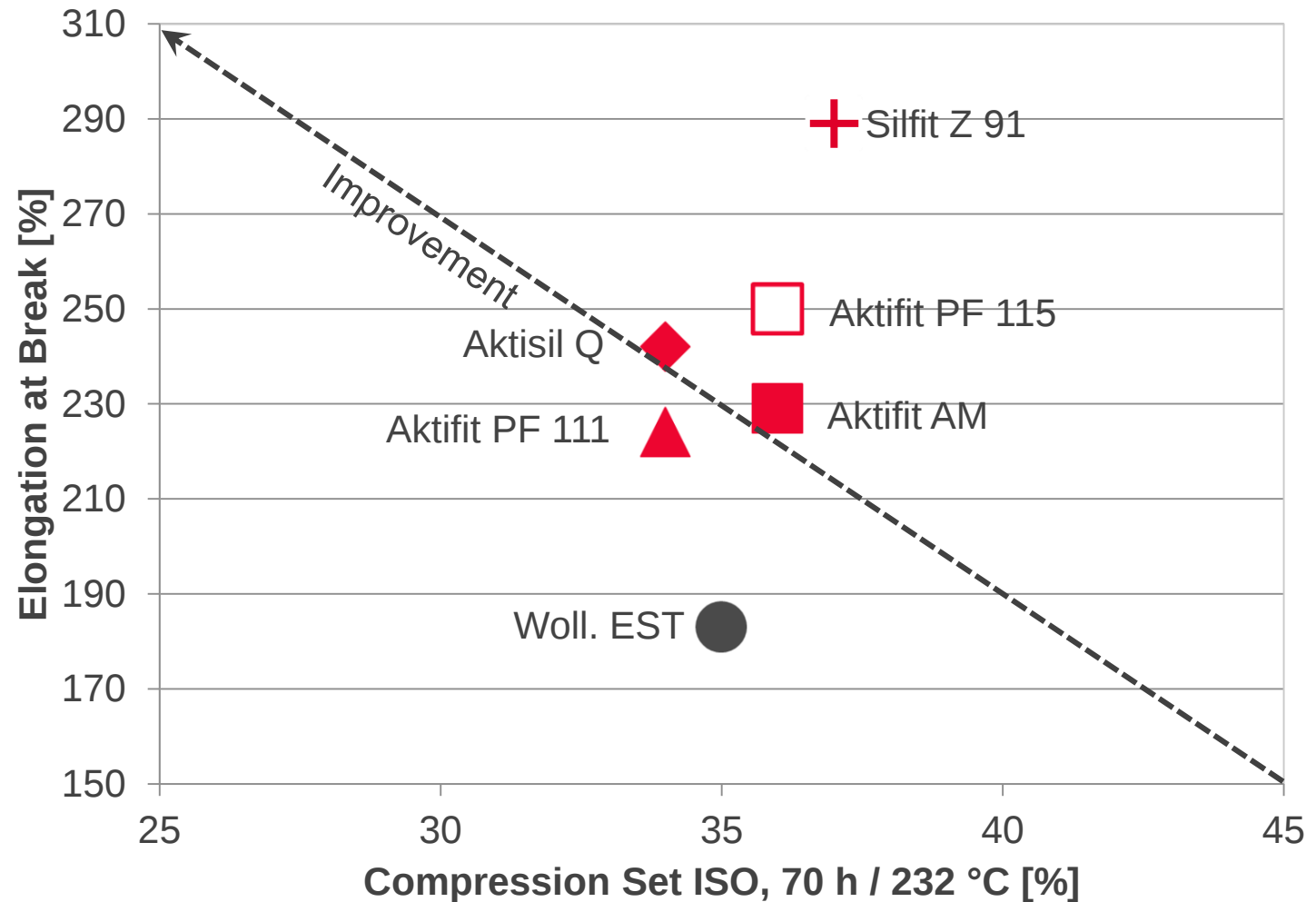
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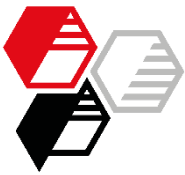
RESULTS

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Wollastonite EST

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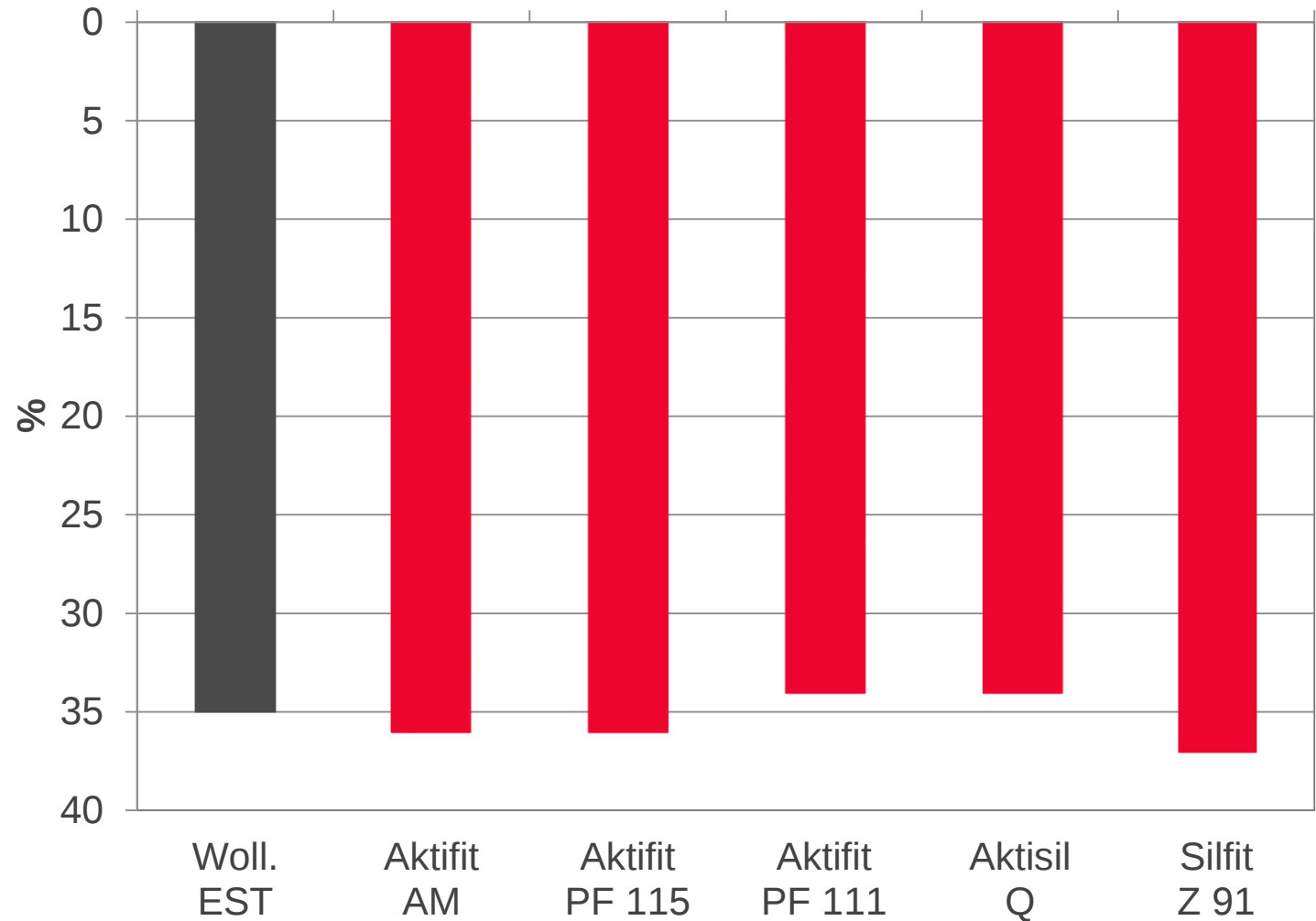


Woll. EST - Dyn. FC 2181Z

Compression Set ISO

HOFFMANN
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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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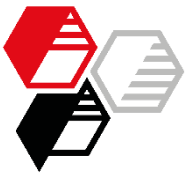
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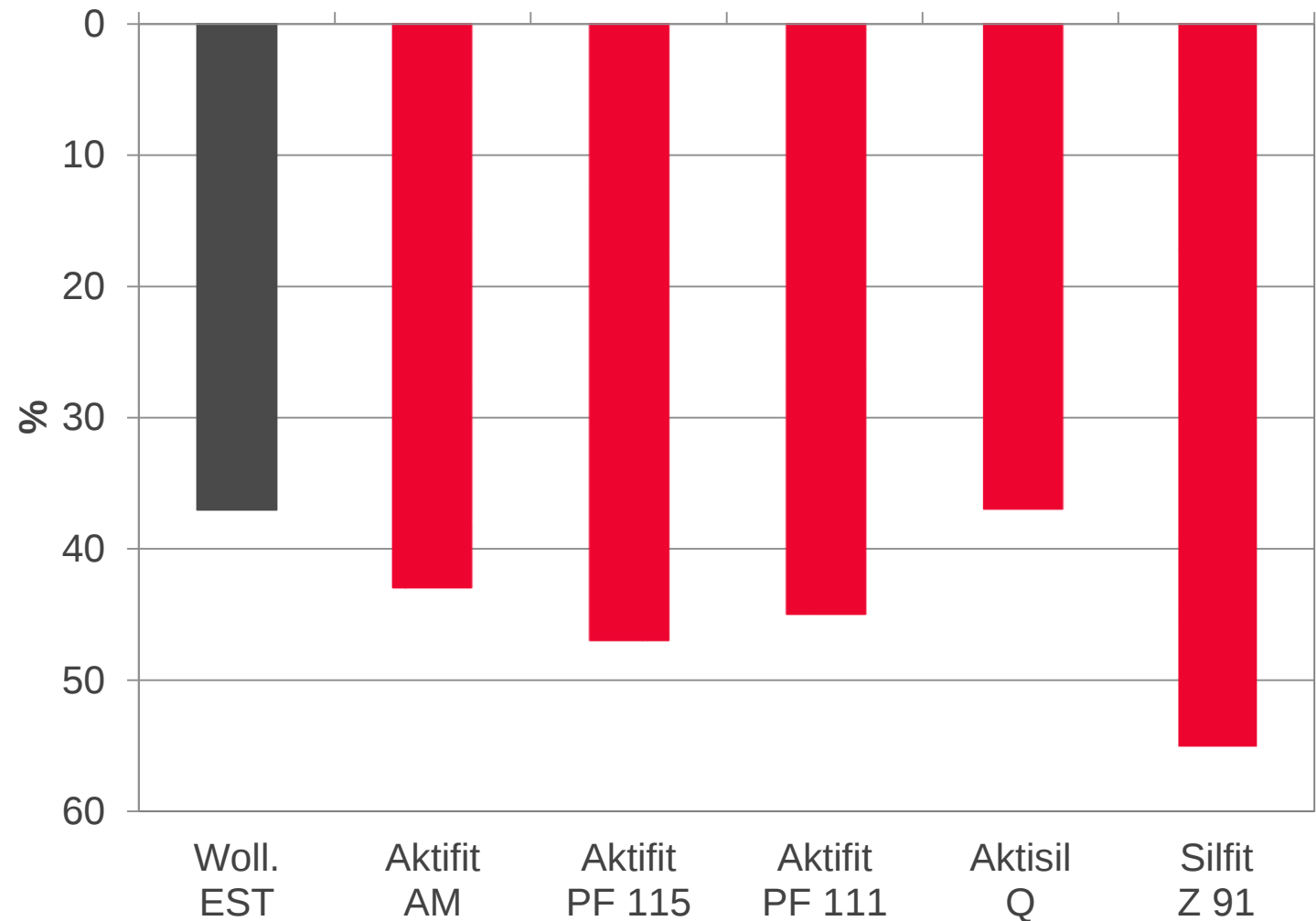


Woll. EST - Dyn. FC 2181Z

Compression Set VW

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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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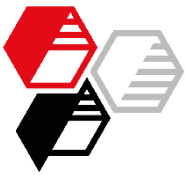
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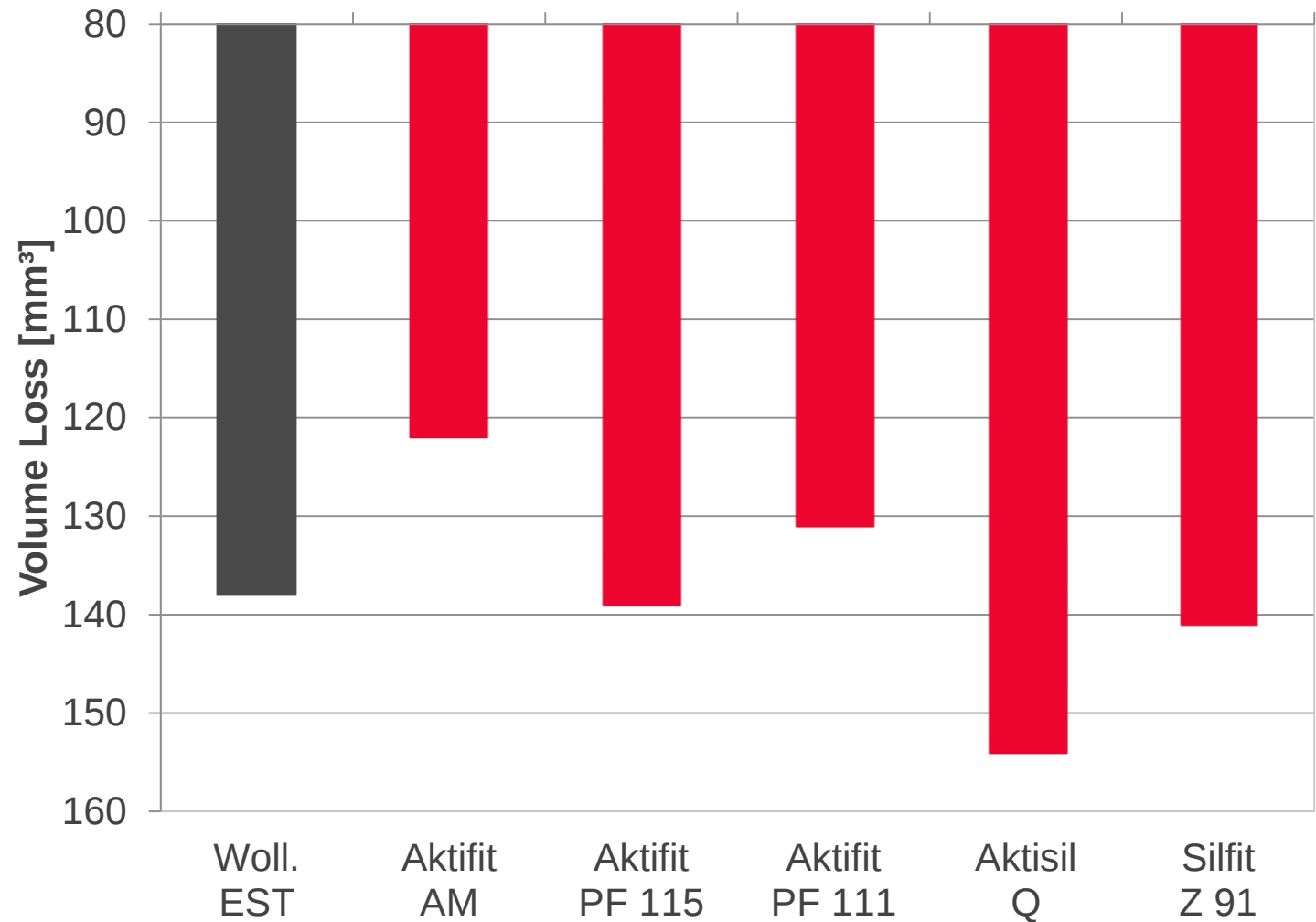


Woll. EST - Dyn. FC 2181Z

Abrasion Loss

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DIN ISO 4649



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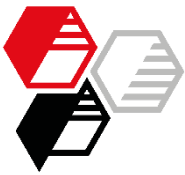
RESULTS

Dyneon FC 2181Z

Wollastonite EST

SUMMARY



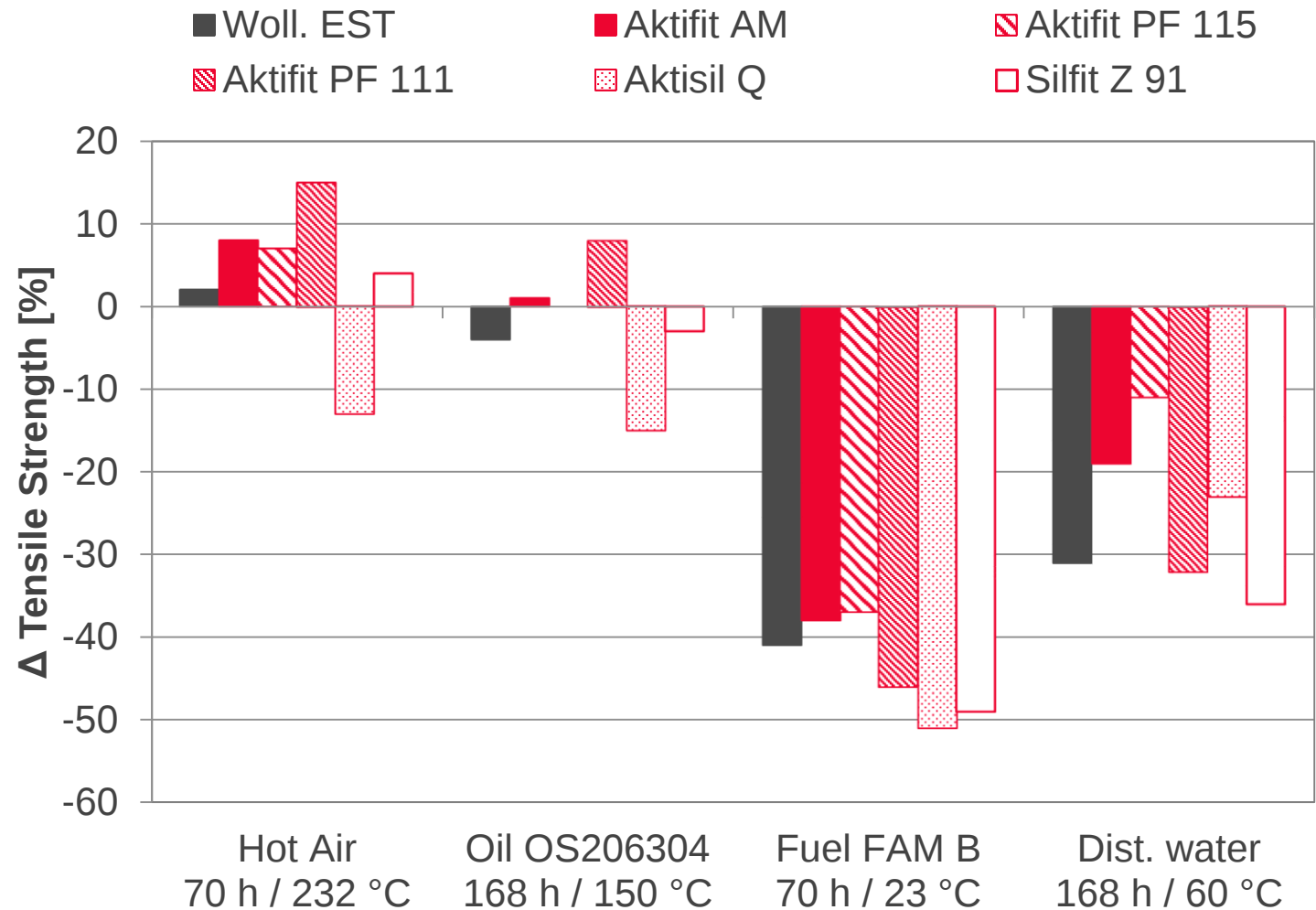


Woll. EST - Dyn. FC 2181Z

Media Resistance

HOFFMANN
MINERAL®

Change of tensile strength after storage in media



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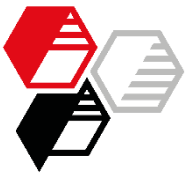
RESULTS

Dyneon FC 2181Z

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Woll. EST - Dyn. FC 2181Z

Engine Oil vs. Water

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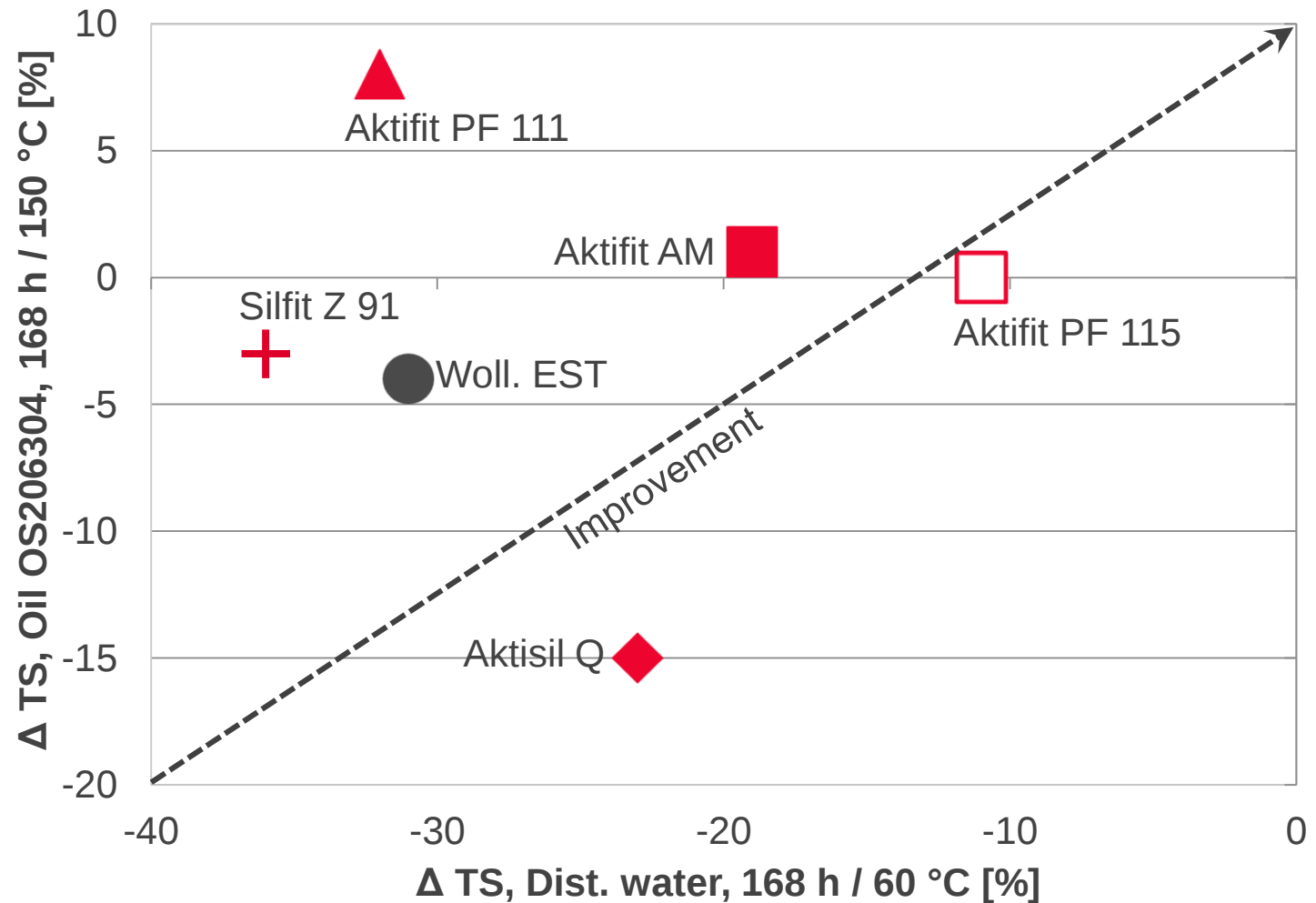
EXPERIMENTAL

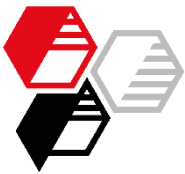
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NSE vs. Wollastonite EST

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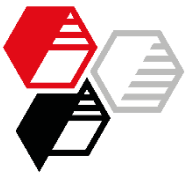
Dyneon FC 2181Z

Wollastonite EST

SUMMARY



Dyneon FC 2181Z	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	+	=	=	=	=
Elong. at Break	+	+	+	+	+
CS ISO	=	=	=	=	
CS VW				=	
Abrasion Resist.	+	=	=		=
Hot Air Resistance	=	=			=
Water Resistance	+	+	=	+	=
Fuel Resistance	=	=	=		
Oil Resistance	=	=	=		=
Cure Speed	=	=			
Viscosity / M _{min}		+	+	+	=



Neuburg Siliceous Earth vs. Barium Sulfate

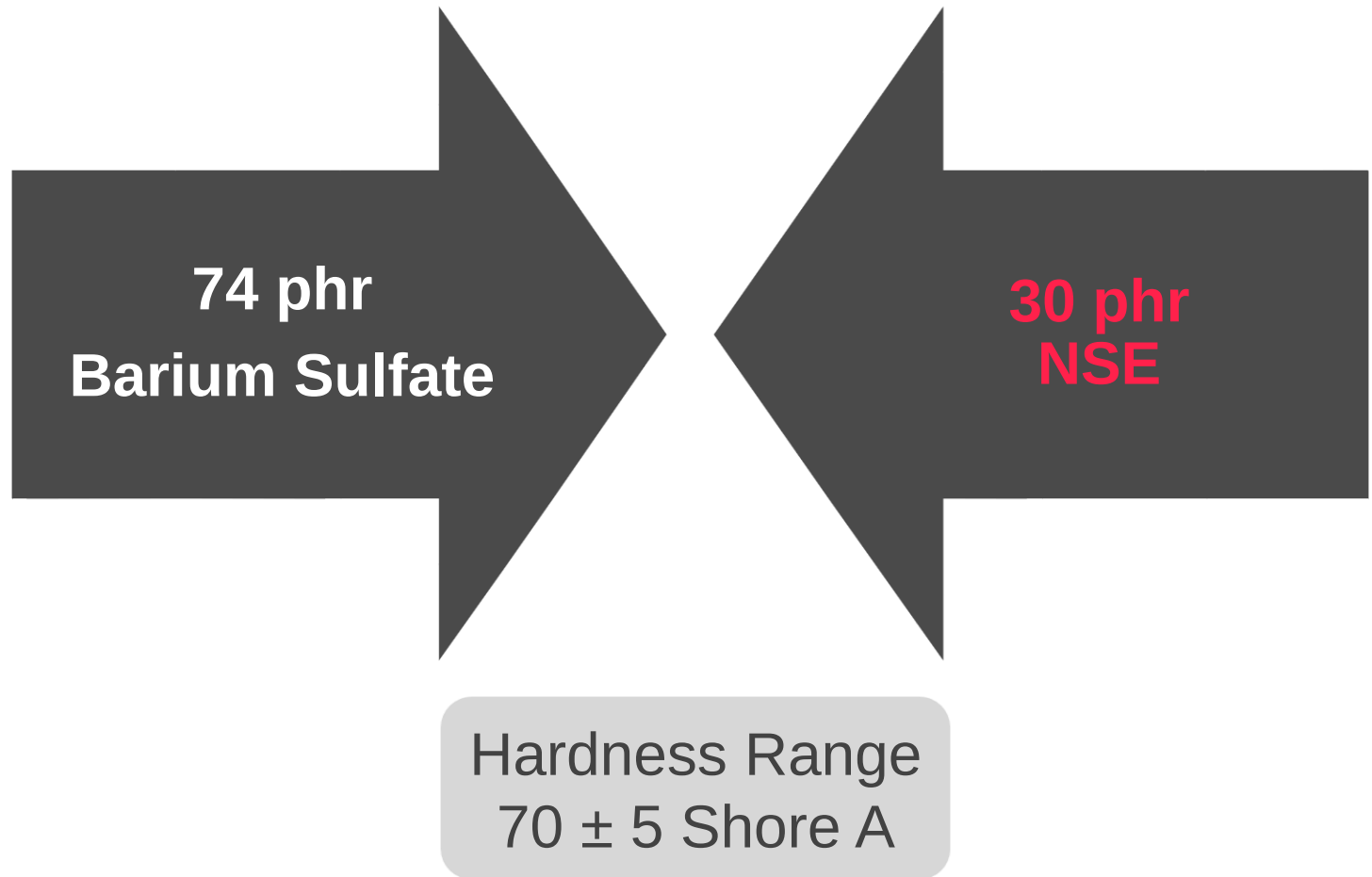
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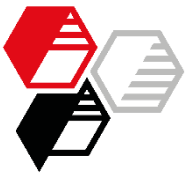
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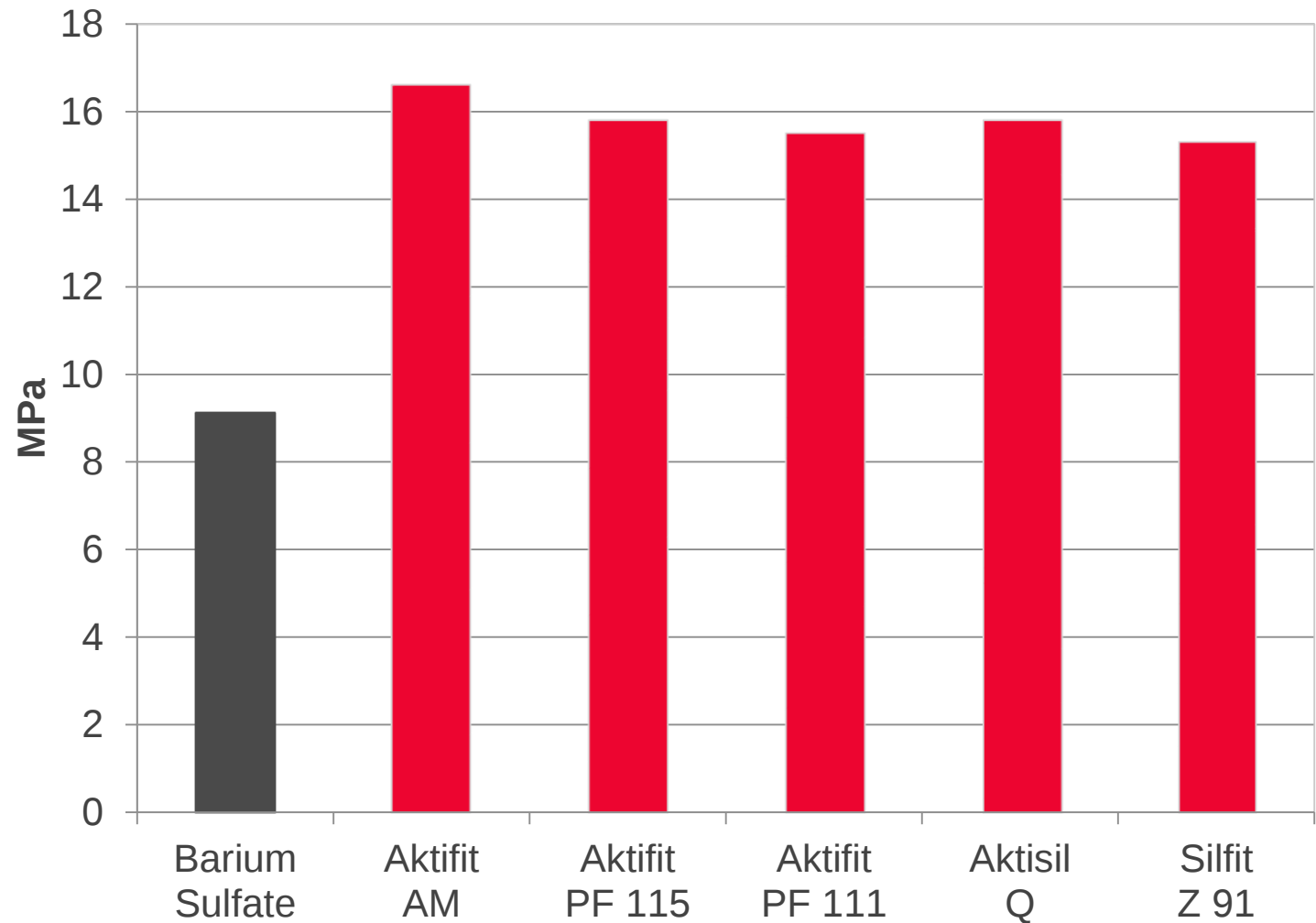


BaSO₄ - Dyn. FC 2181Z

Tensile Strength

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DIN 53 504, S2



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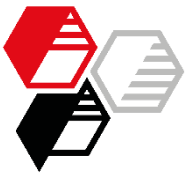
RESULTS

Dyneon FC 2181Z

Barium Sulfate

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BaSO₄ - Dyn. FC 2181Z

Elong.at Break vs. Abr. Loss

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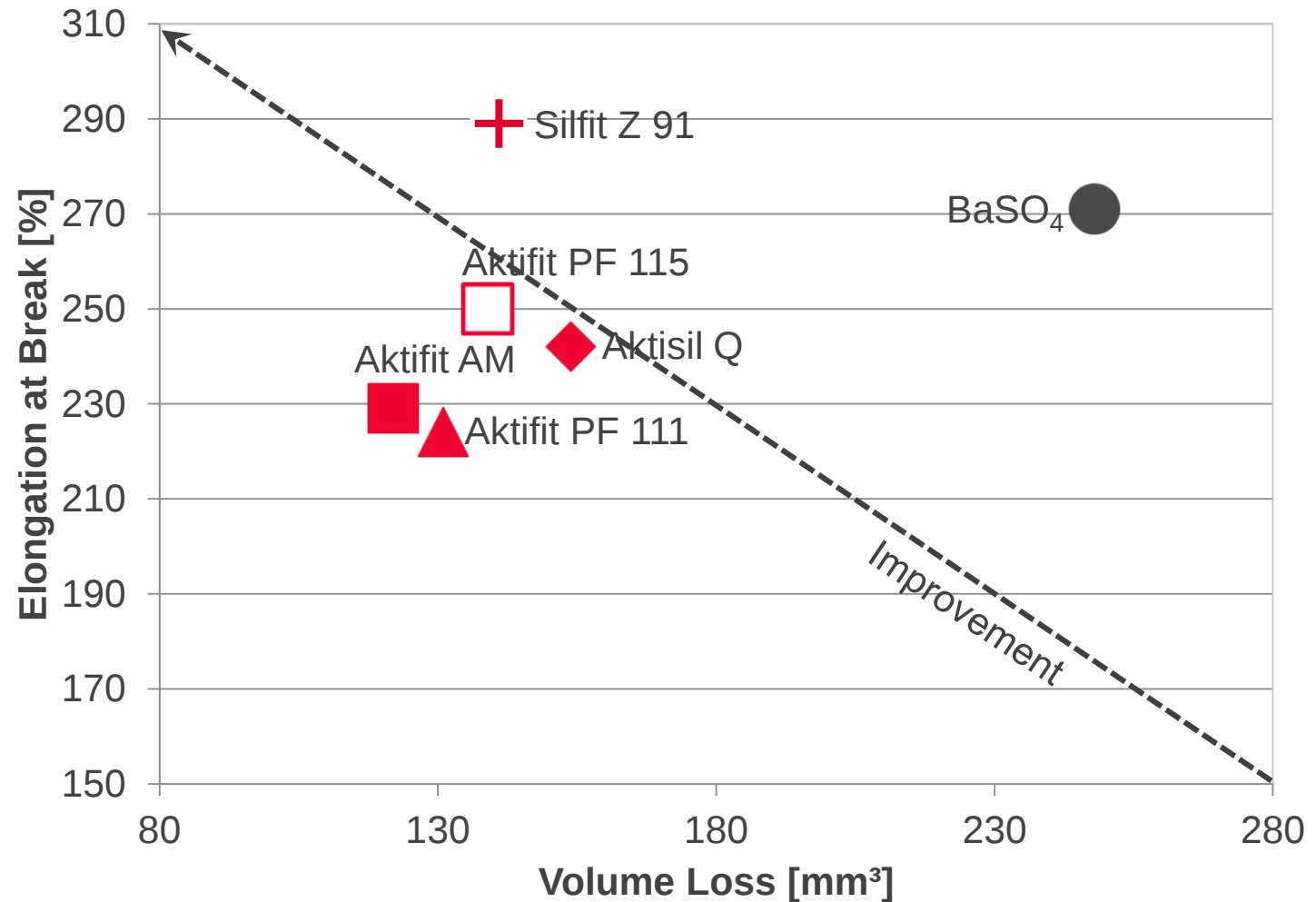
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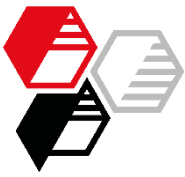
RESULTS

Dyneon FC 2181Z

Barium Sulfate

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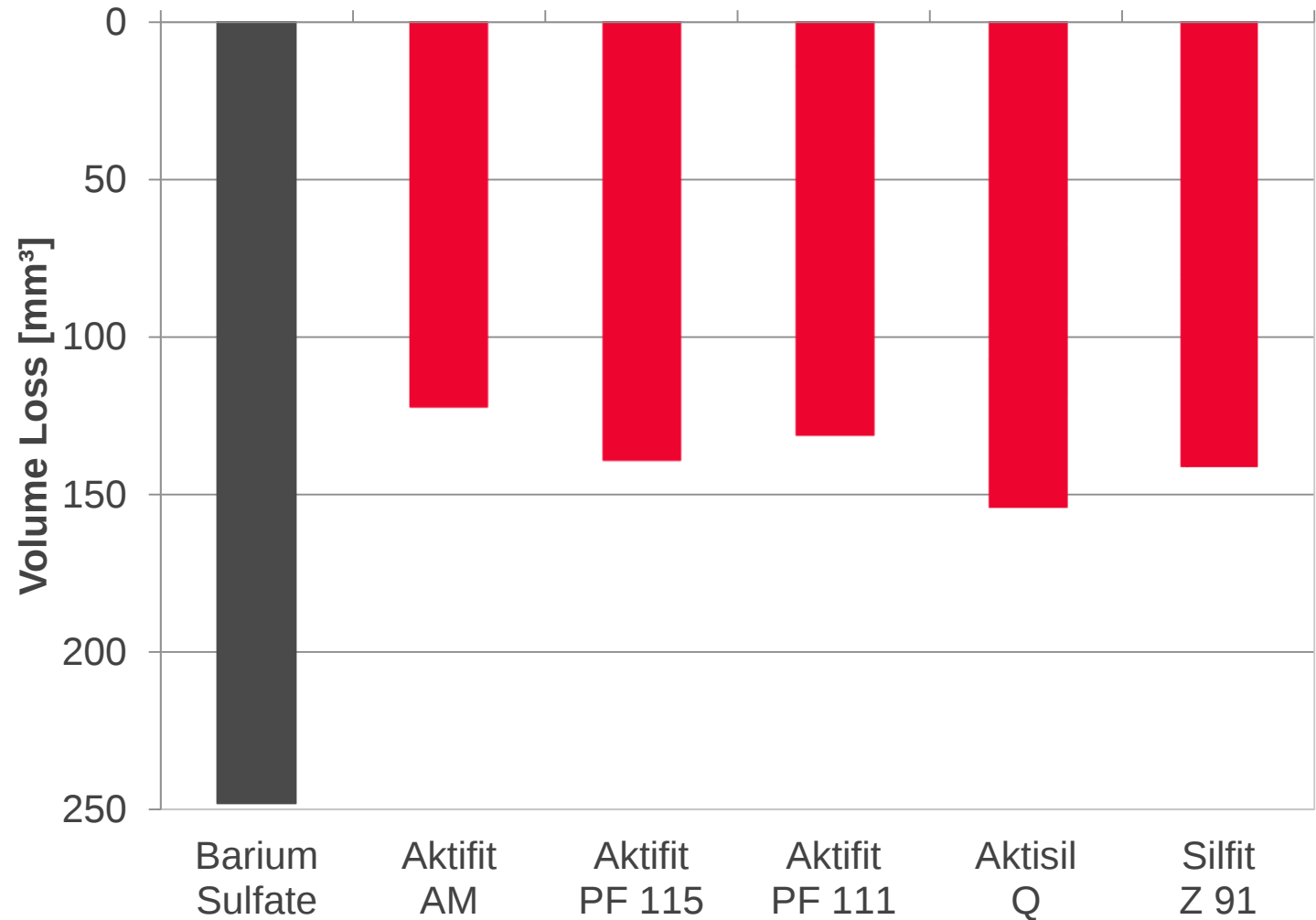


BaSO₄ - Dyn. FC 2181Z

Abrasion Loss

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DIN ISO 4649



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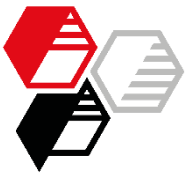
RESULTS

Dyneon FC 2181Z

Barium Sulfate

SUMMARY



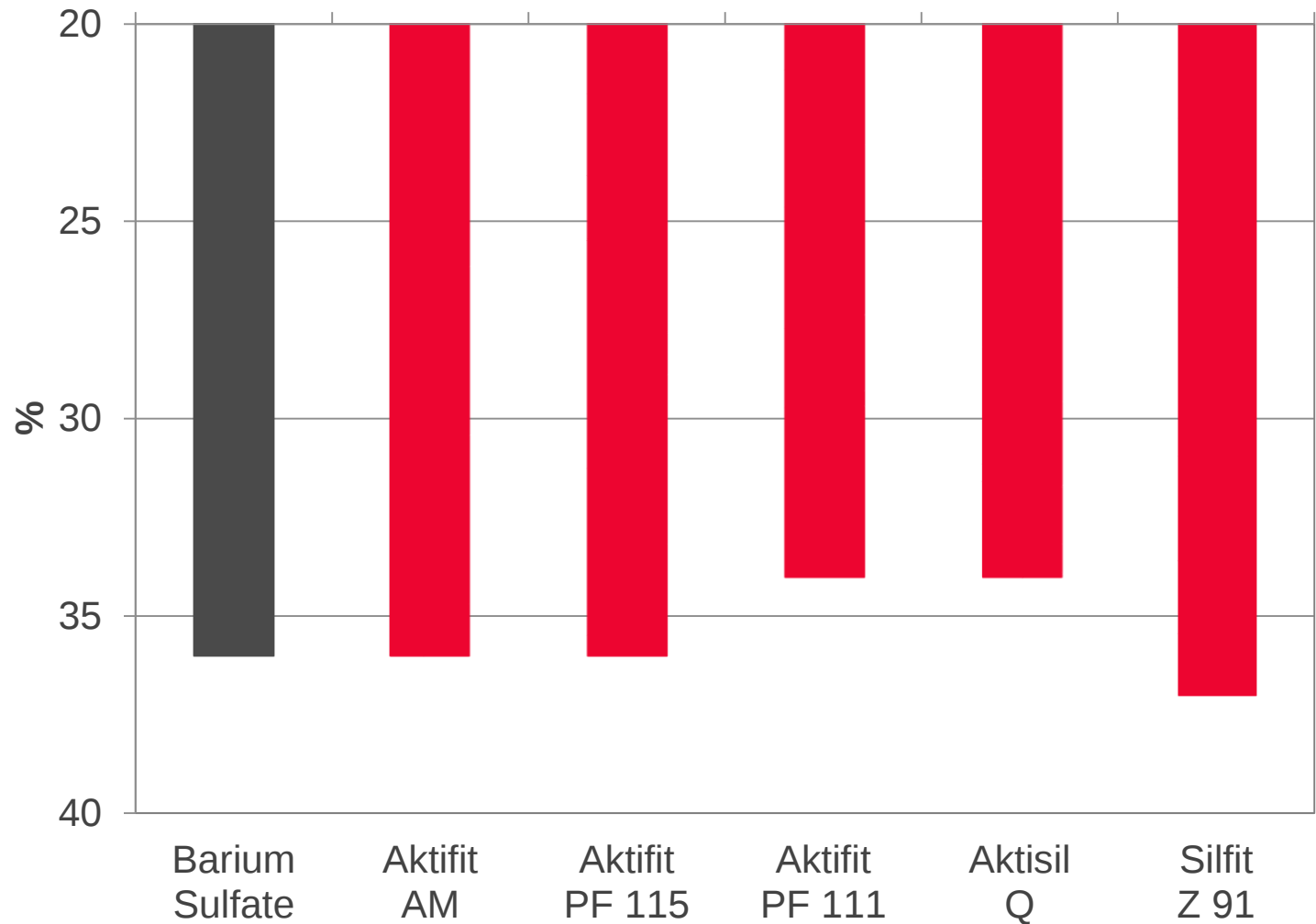


BaSO₄ - Dyn. FC 2181Z

Compression Set ISO

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MINERAL®

DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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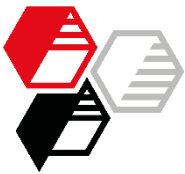
RESULTS

Dyneon FC 2181Z

Barium Sulfate

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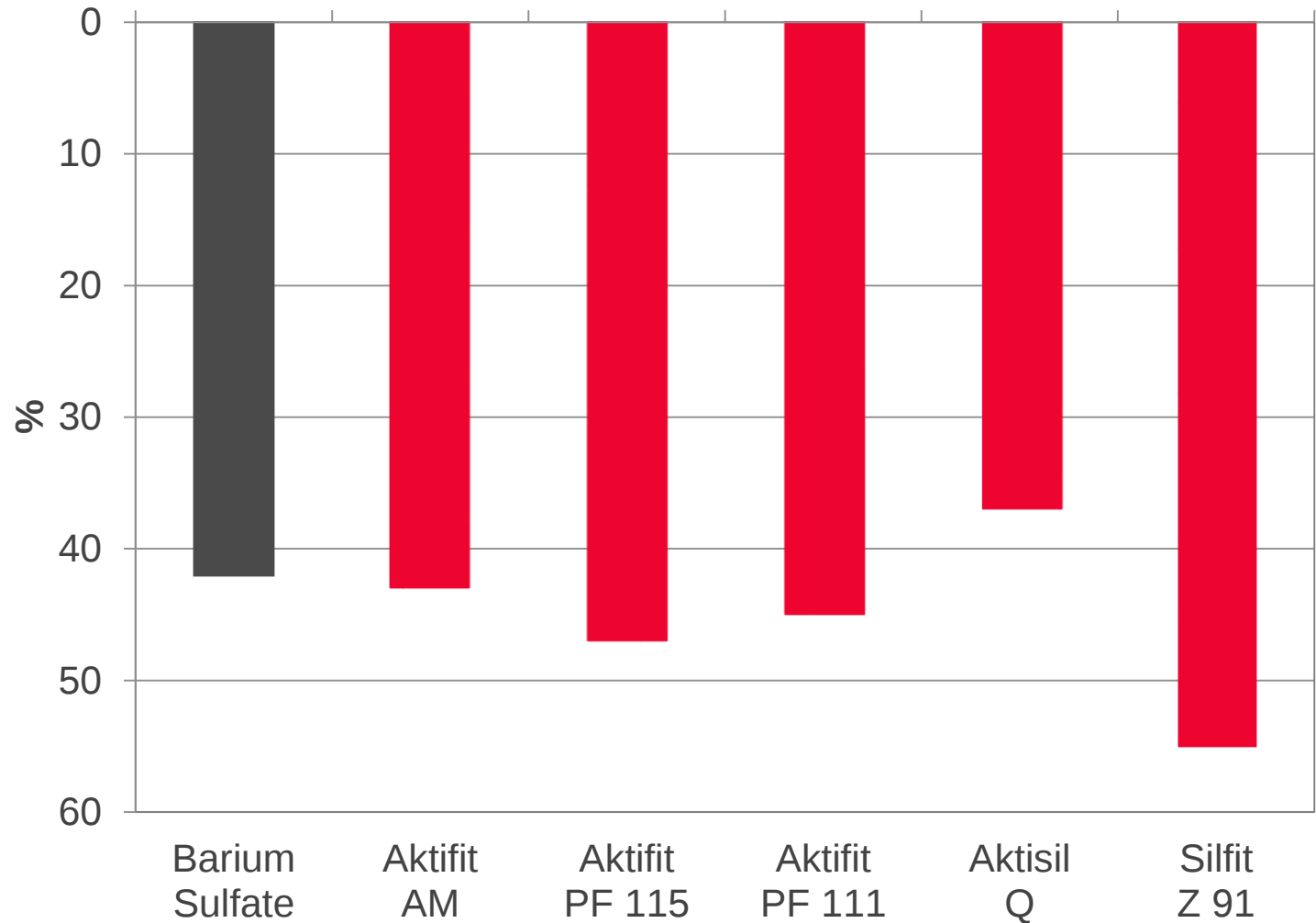


BaSO₄ - Dyn. FC 2181Z

Compression Set VW

HOFFMANN
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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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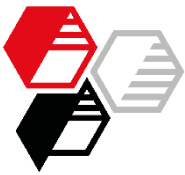
RESULTS

Dyneon FC 2181Z

Barium Sulfate

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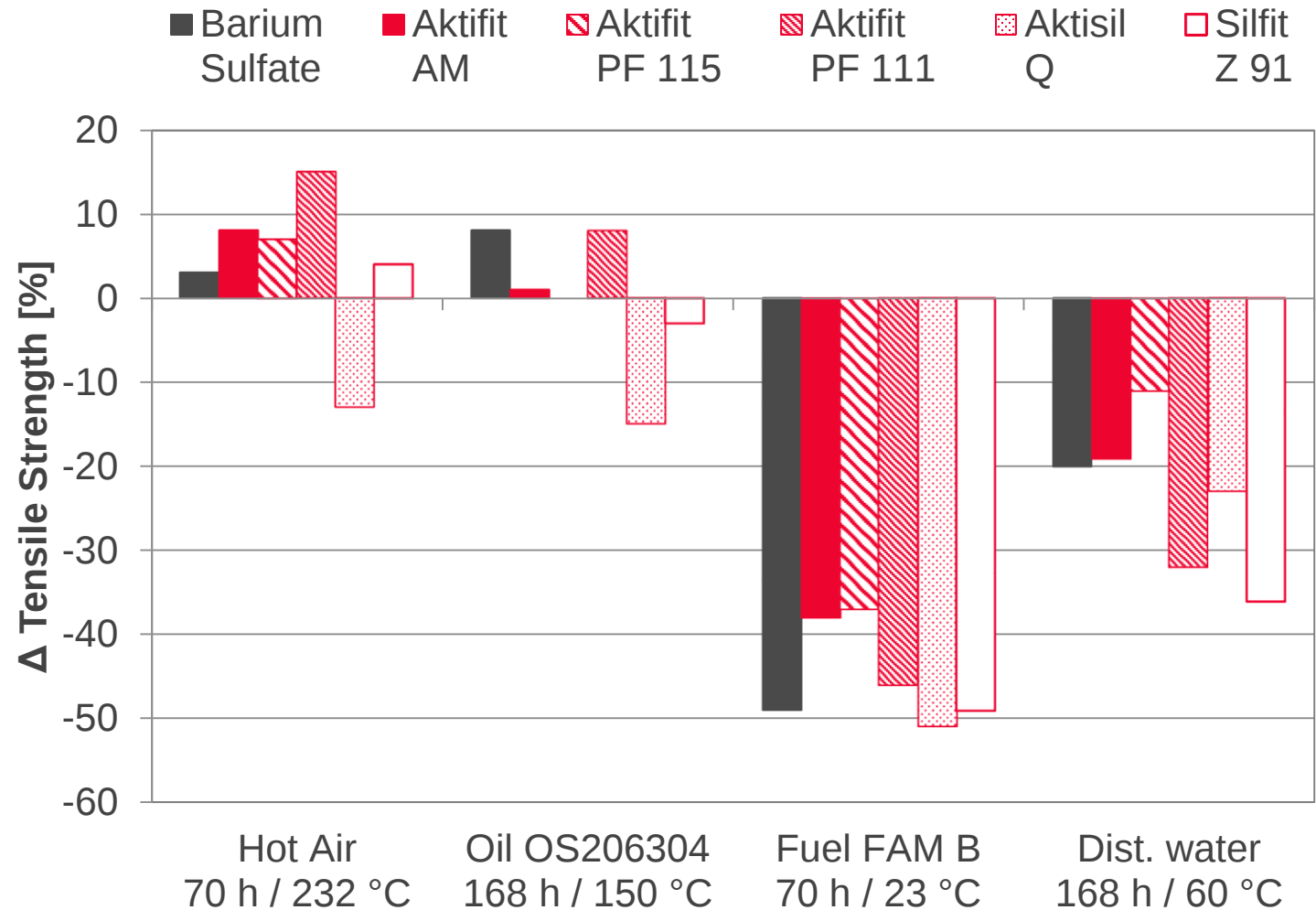


BaSO₄ - Dyn. FC 2181Z

Media Resistance

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Change of tensile strength after storage in media



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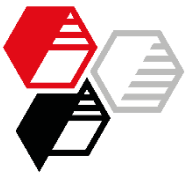
RESULTS

Dyneon FC 2181Z

Barium Sulfate

SUMMARY





BaSO₄ – Dyn. FC 2181Z

Oil Resistance

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OS206304, 168 h / 150 °C

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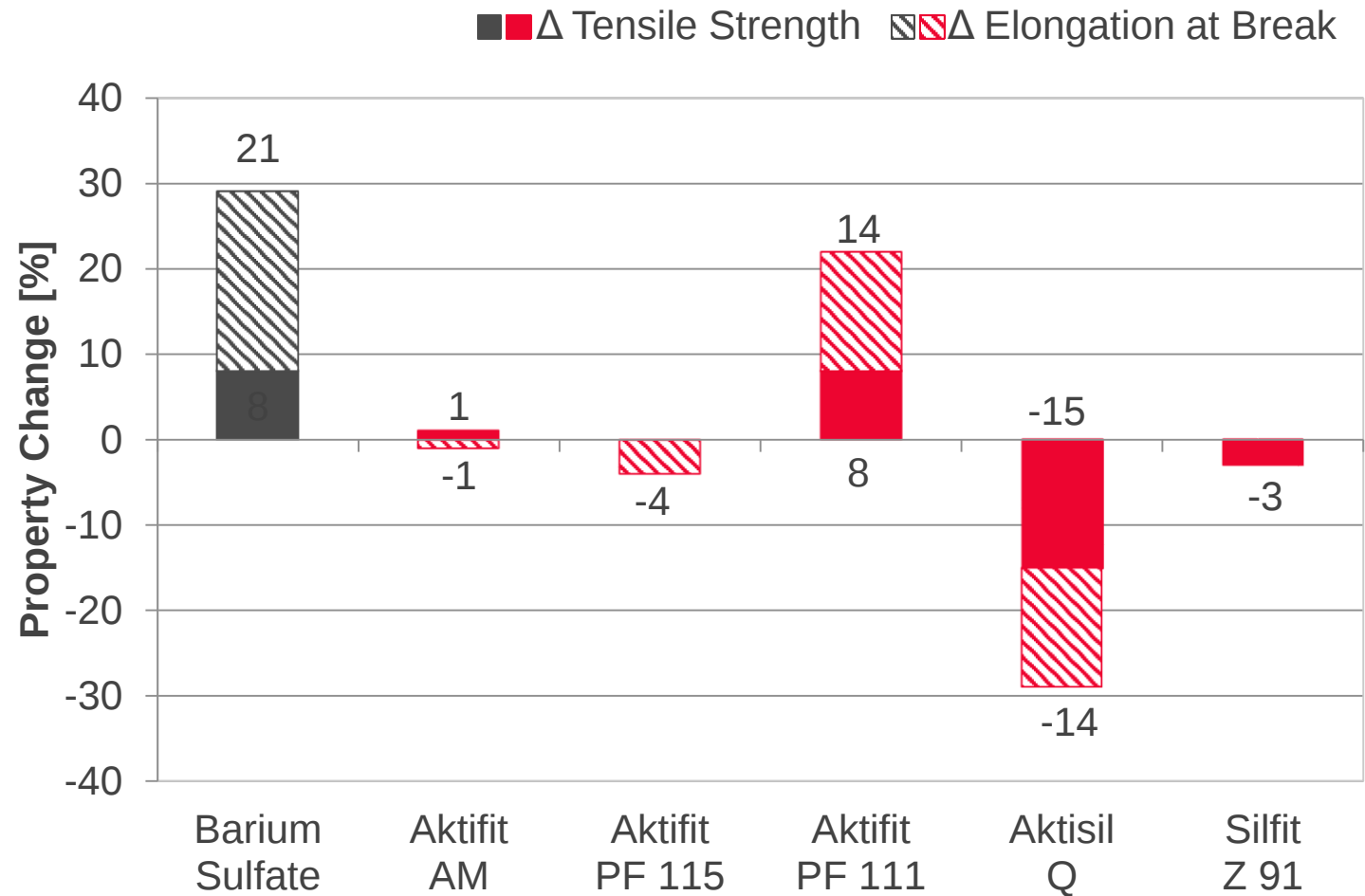
EXPERIMENTAL

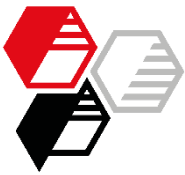
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Dyneon FC 2181Z

Barium Sulfate

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BaSO₄ - Dyn. FC 2181Z

Water vs. Fuel

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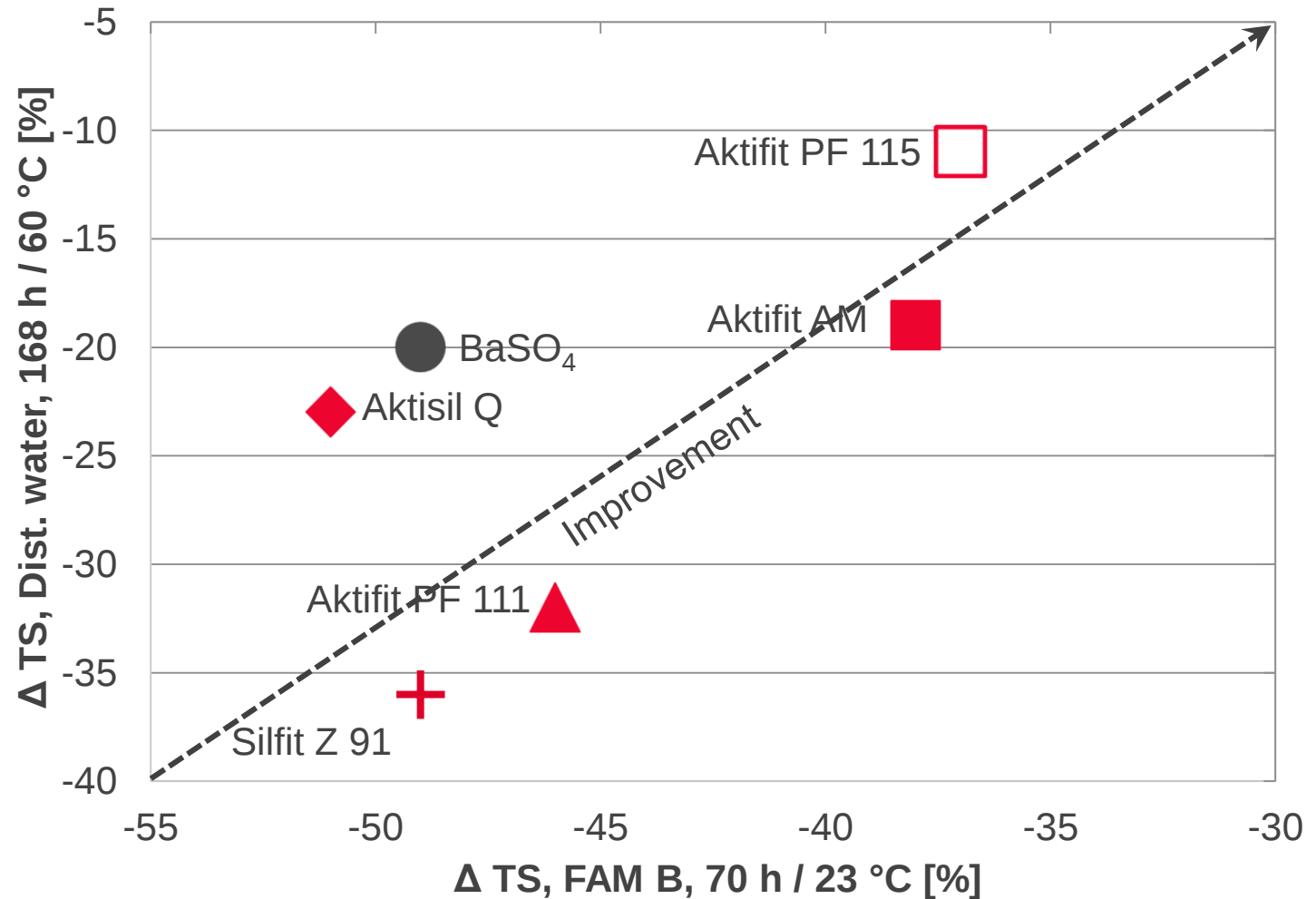
EXPERIMENTAL

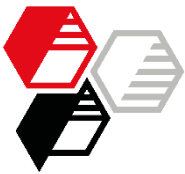
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Barium Sulfate

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NSE vs. Barium Sulfate

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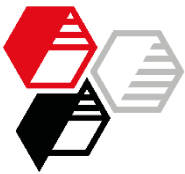
Dyneon FC 2181Z

Barium Sulfate

SUMMARY



Dyneon FC 2181Z	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	+	+	+	+	+
Elong. at Break		=			+
CS ISO	=	=	+	+	
CS VW	=		=	+	
Abrasion Resist.	+	+	+	+	+
Hot Air Resistance	=	=			=
Water Resistance	=	+		=	
Fuel Resistance	+	+	=	=	=
Oil Resistance	+	+	=		+
Viscosity / M _{min}		+	=	+	=



Filler Selection

Viton A-201C

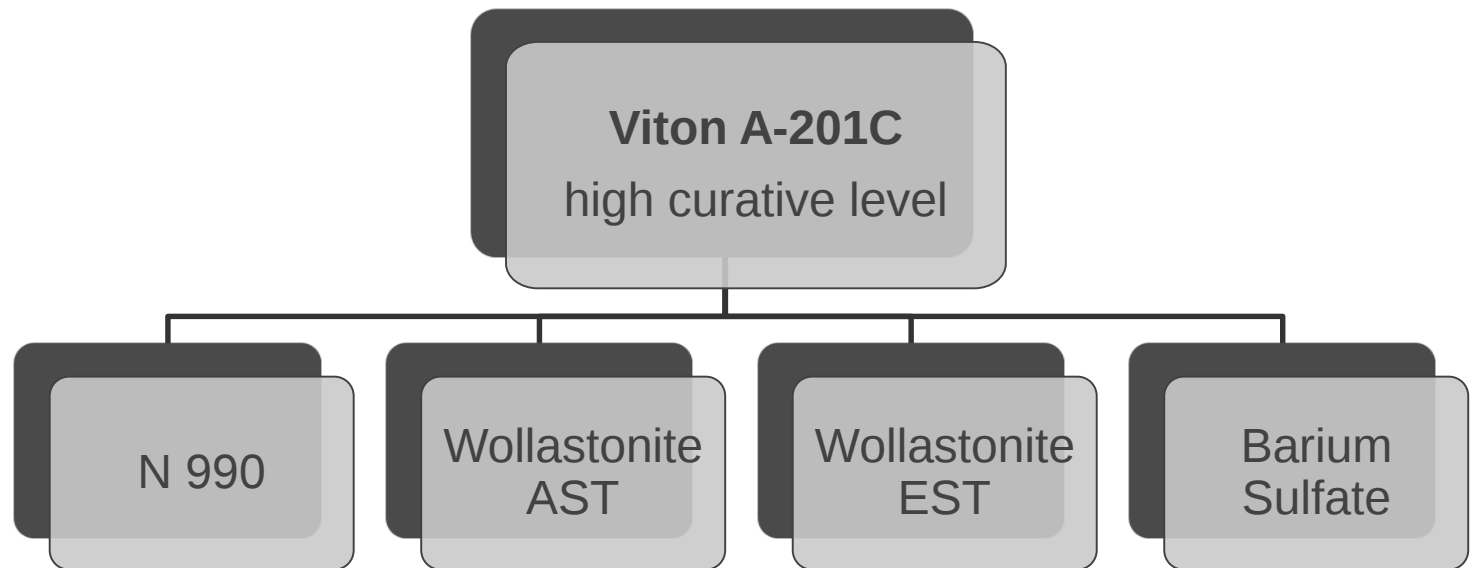
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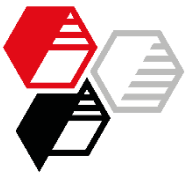
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Neuburg Siliceous Earth vs. N 990

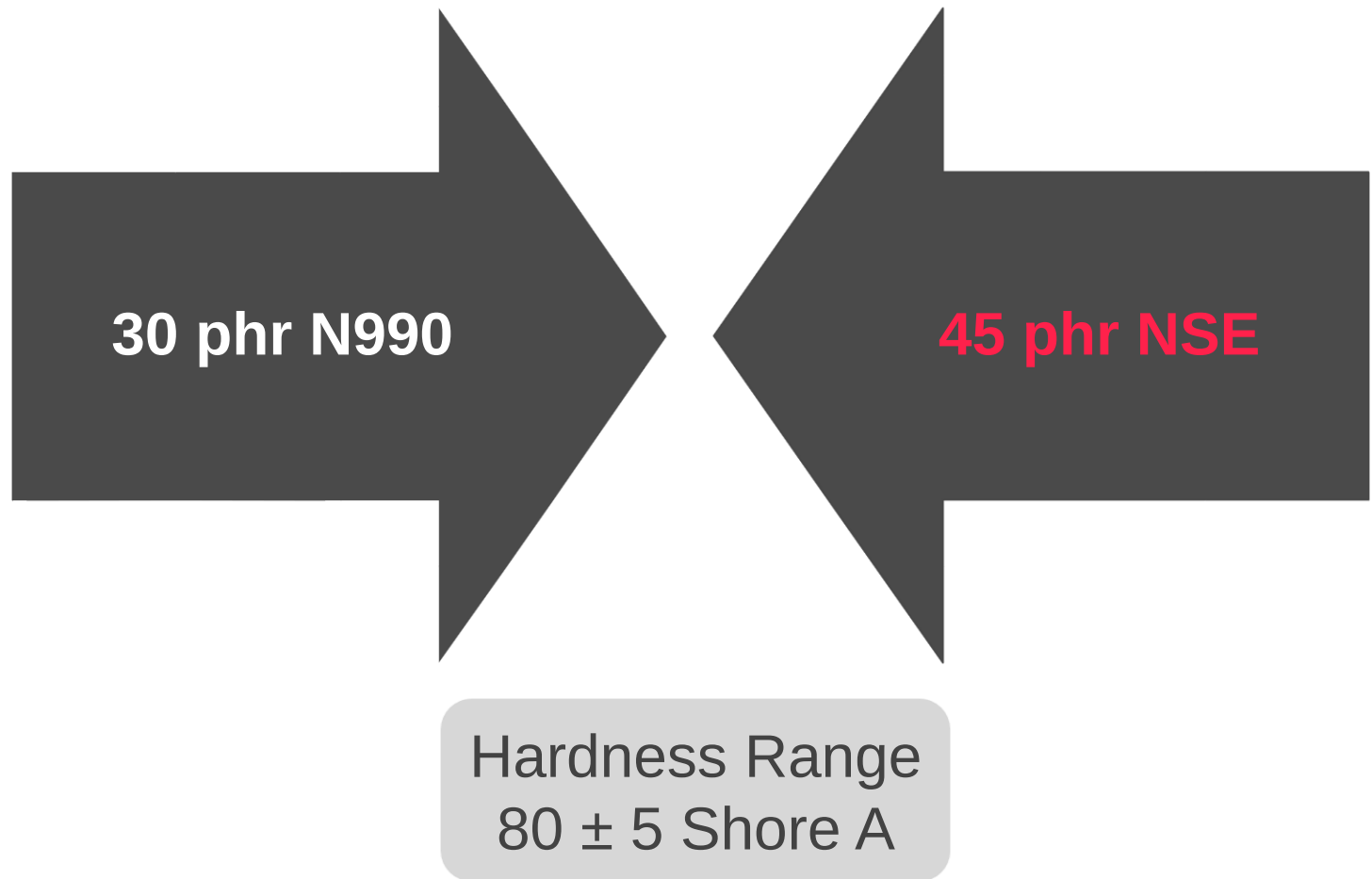
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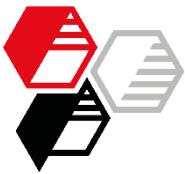
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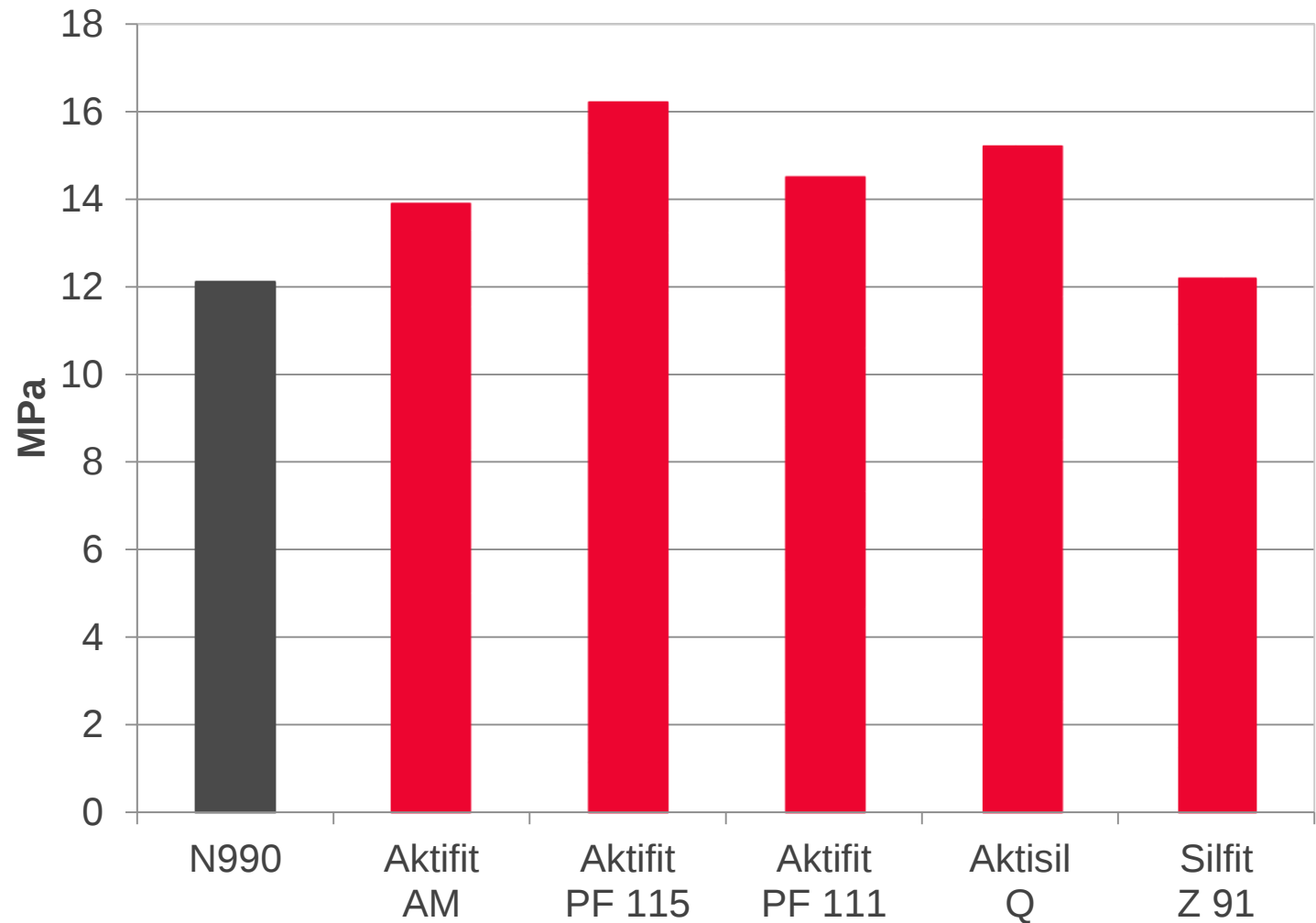


N 990 - Viton A-201C

Tensile Strength

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DIN 53 504, S2



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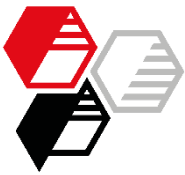
RESULTS

Viton A-201C

N 990

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N 990 - Viton A-201C

Elong. at Break vs. CS VW

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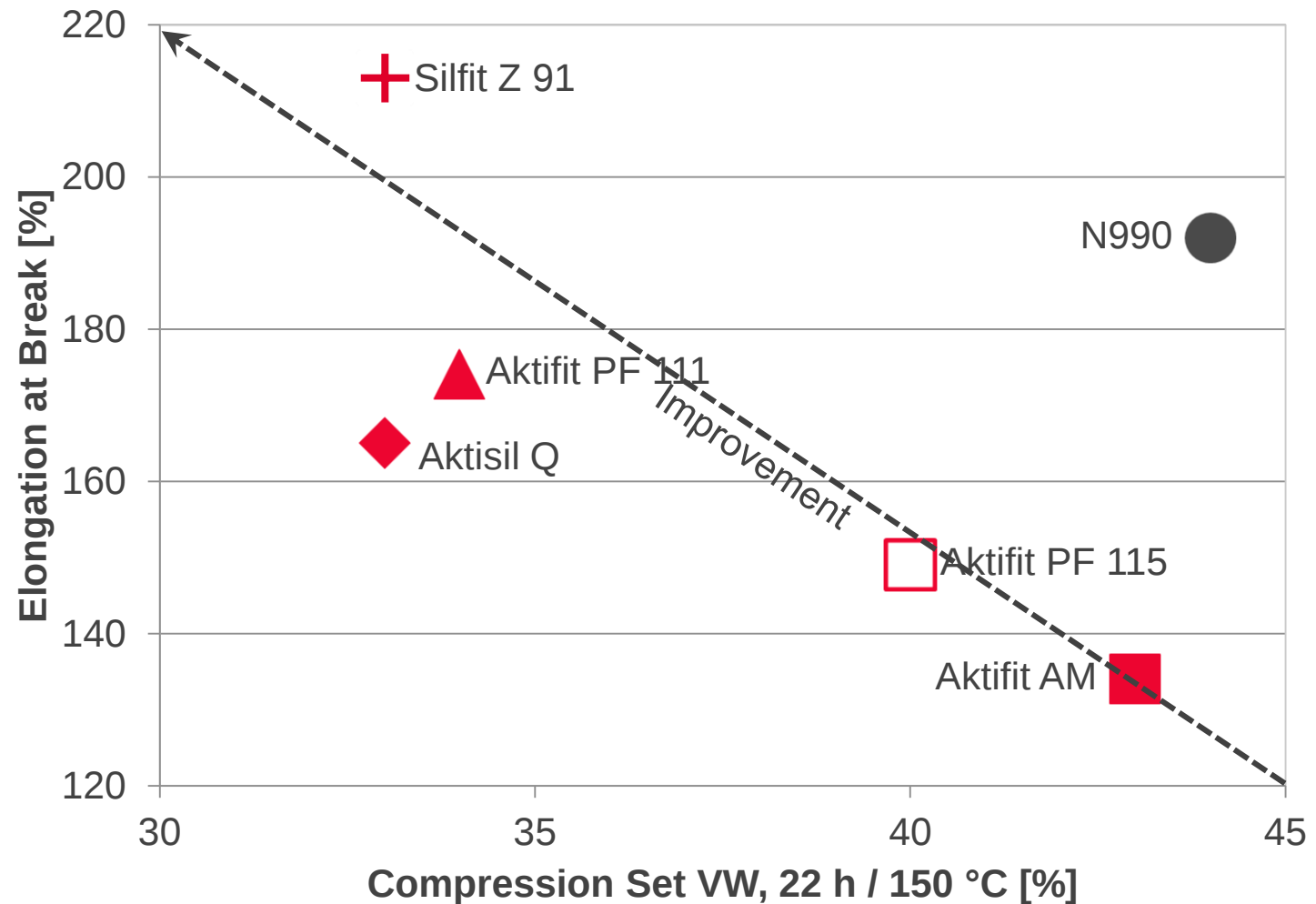
EXPERIMENTAL

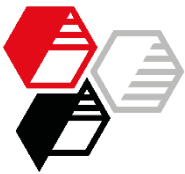
RESULTS

Viton A-201C

N 990

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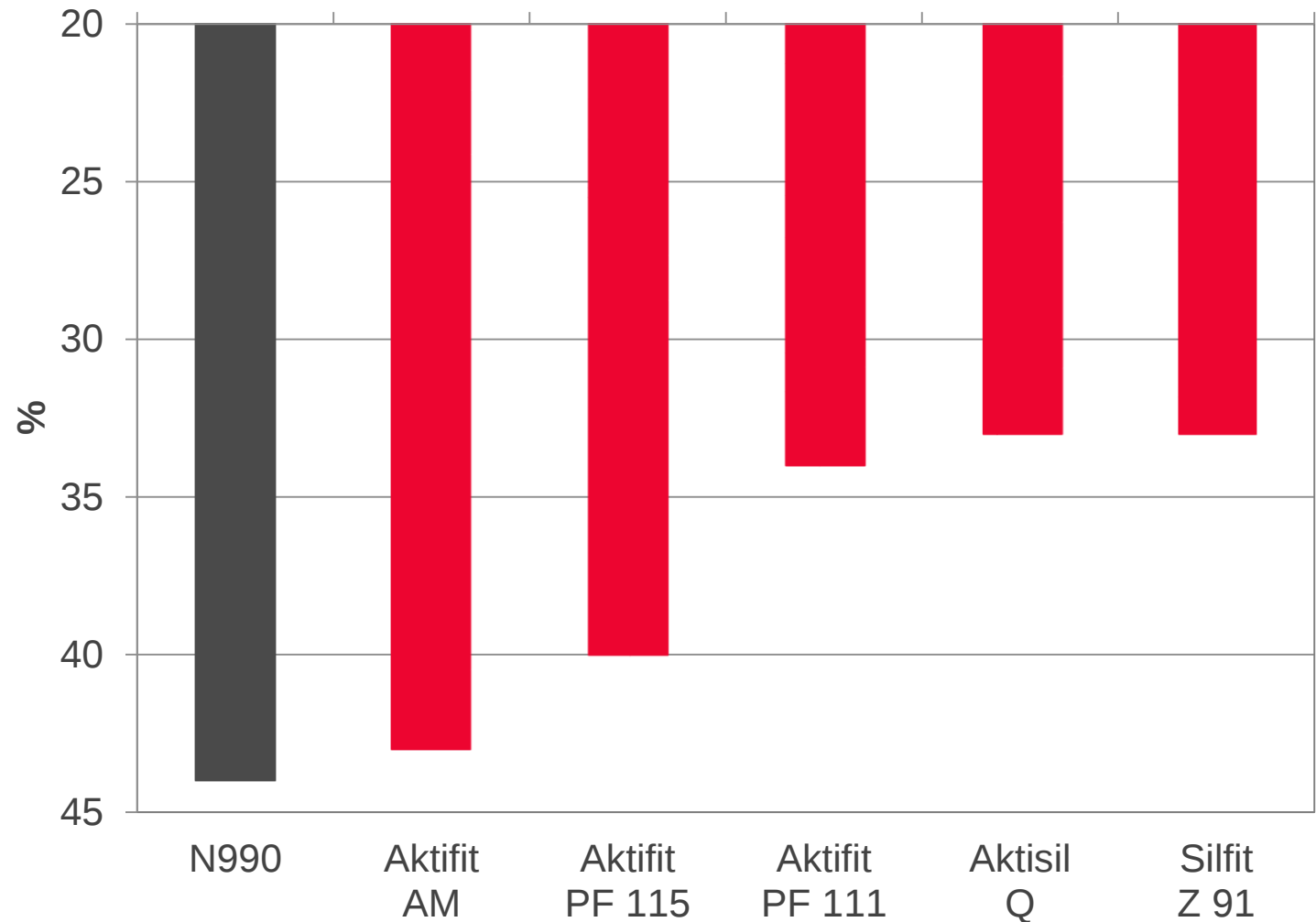




N 990 - Viton A-201C Compression Set VW

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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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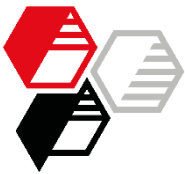
RESULTS

Viton A-201C

N 990

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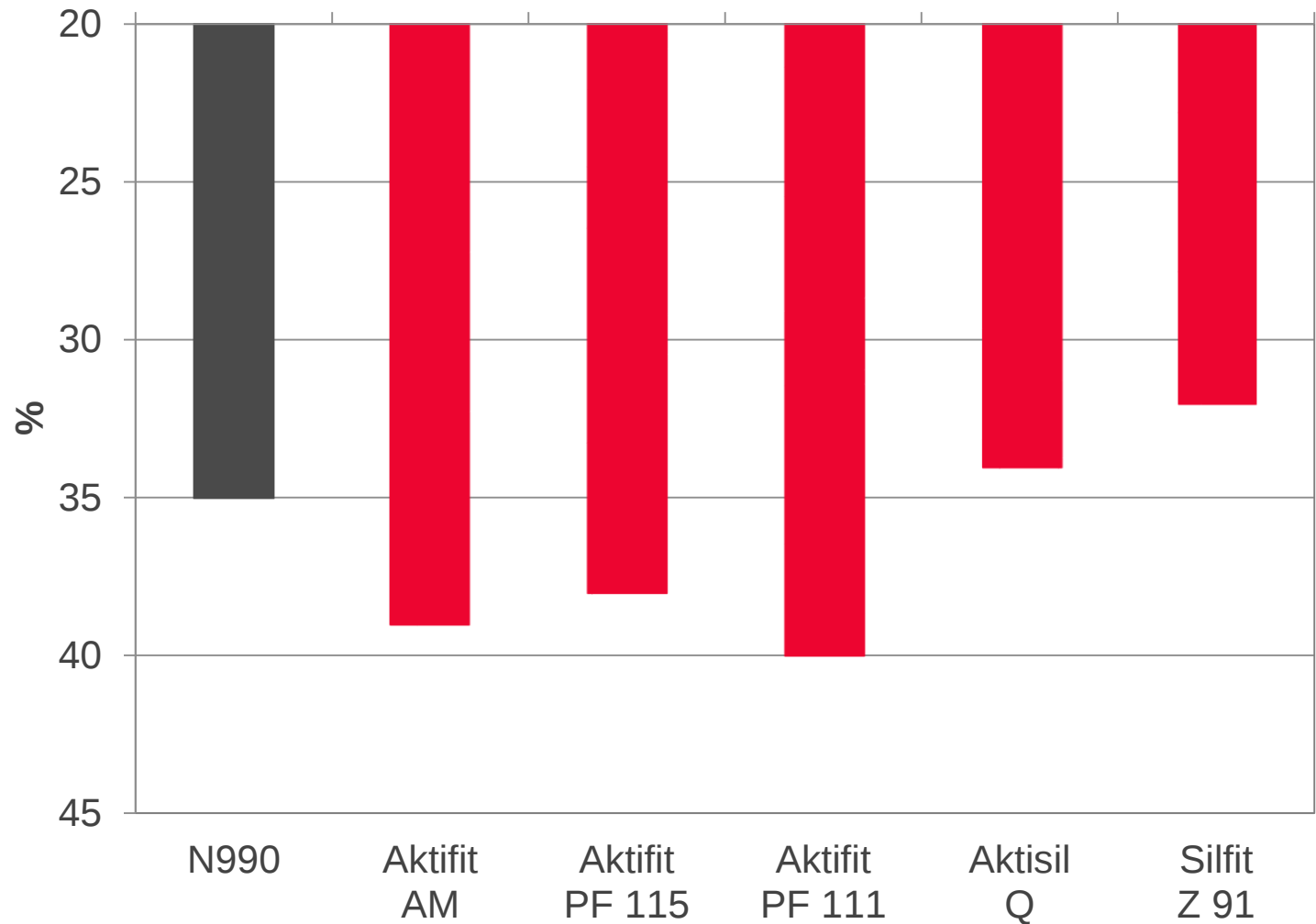


N 990 - Viton A-201C

Compression Set ISO

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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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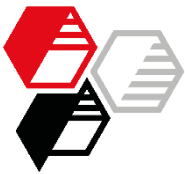
RESULTS

Viton A-201C

N 990

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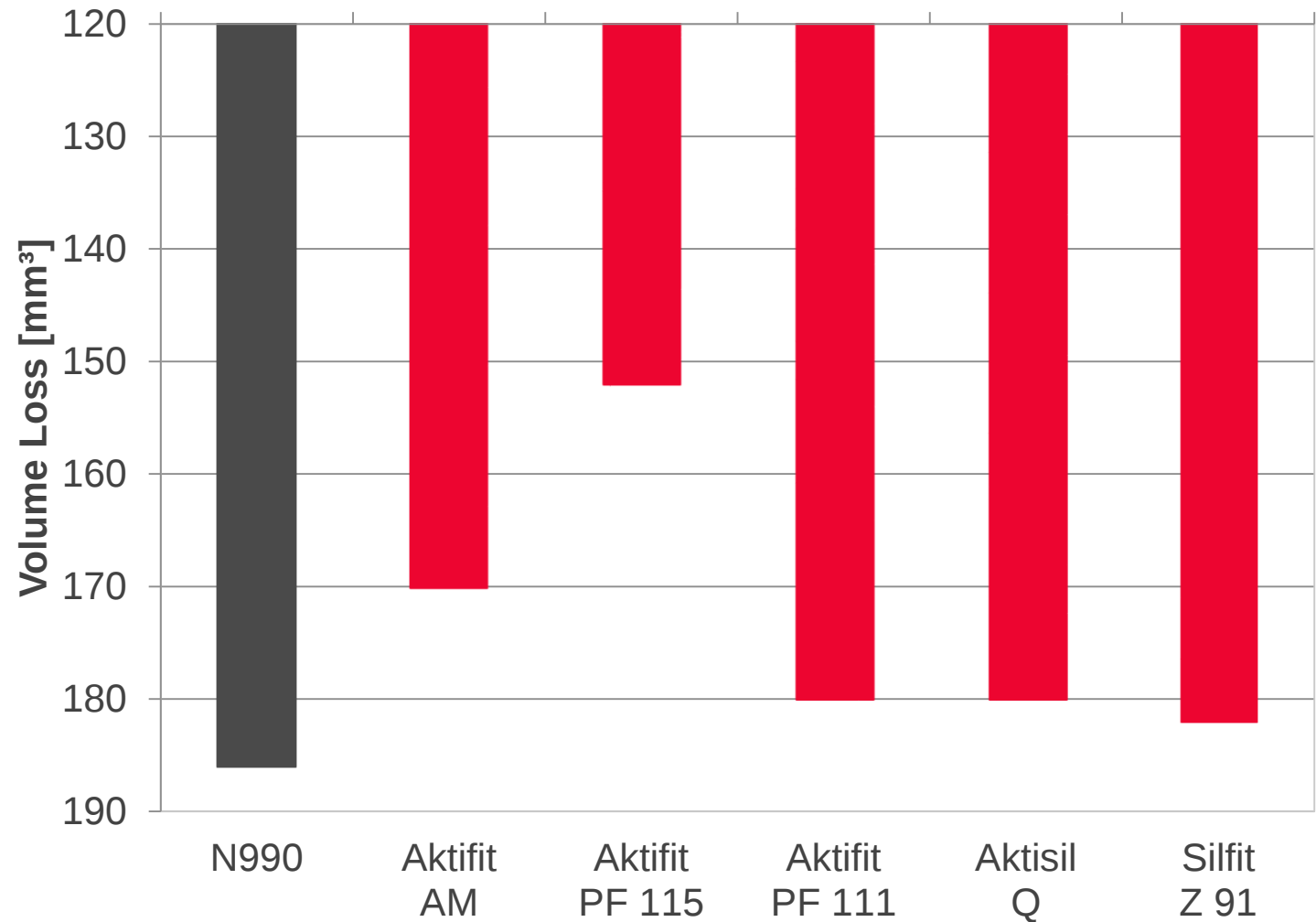


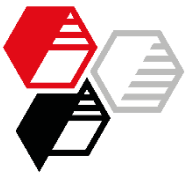
N 990 - Viton A-201C

Abrasion Loss

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DIN ISO 4649



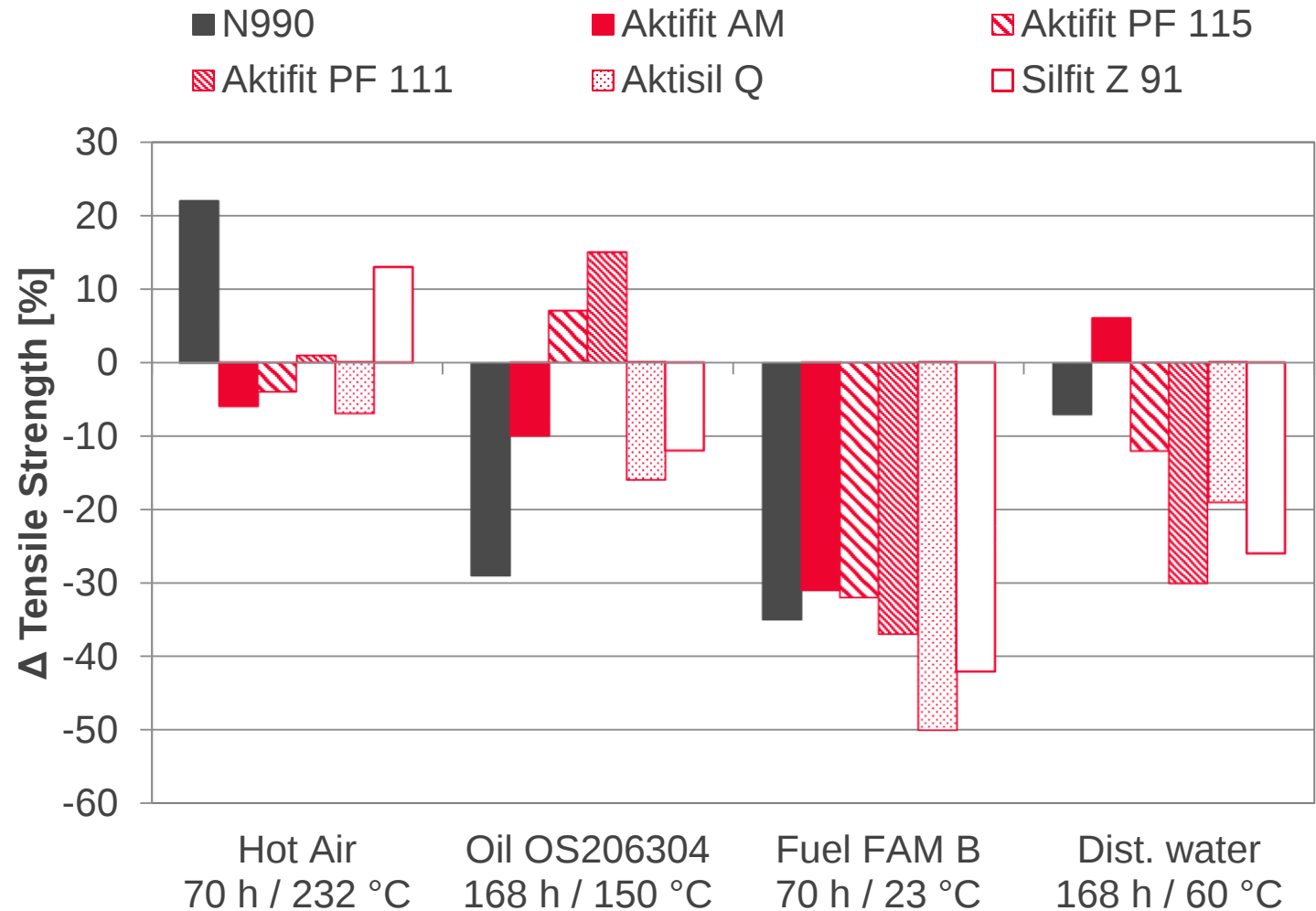


N 990 - Viton A-201C

Media Resistance

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Change of tensile strength after storage in media



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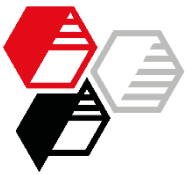
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Viton A-201C

N 990

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N 990 - Viton A-201C

Fuel Resistance, ΔW , ΔV

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FAM B, 70 h / 23 °C

INTRODUCTION

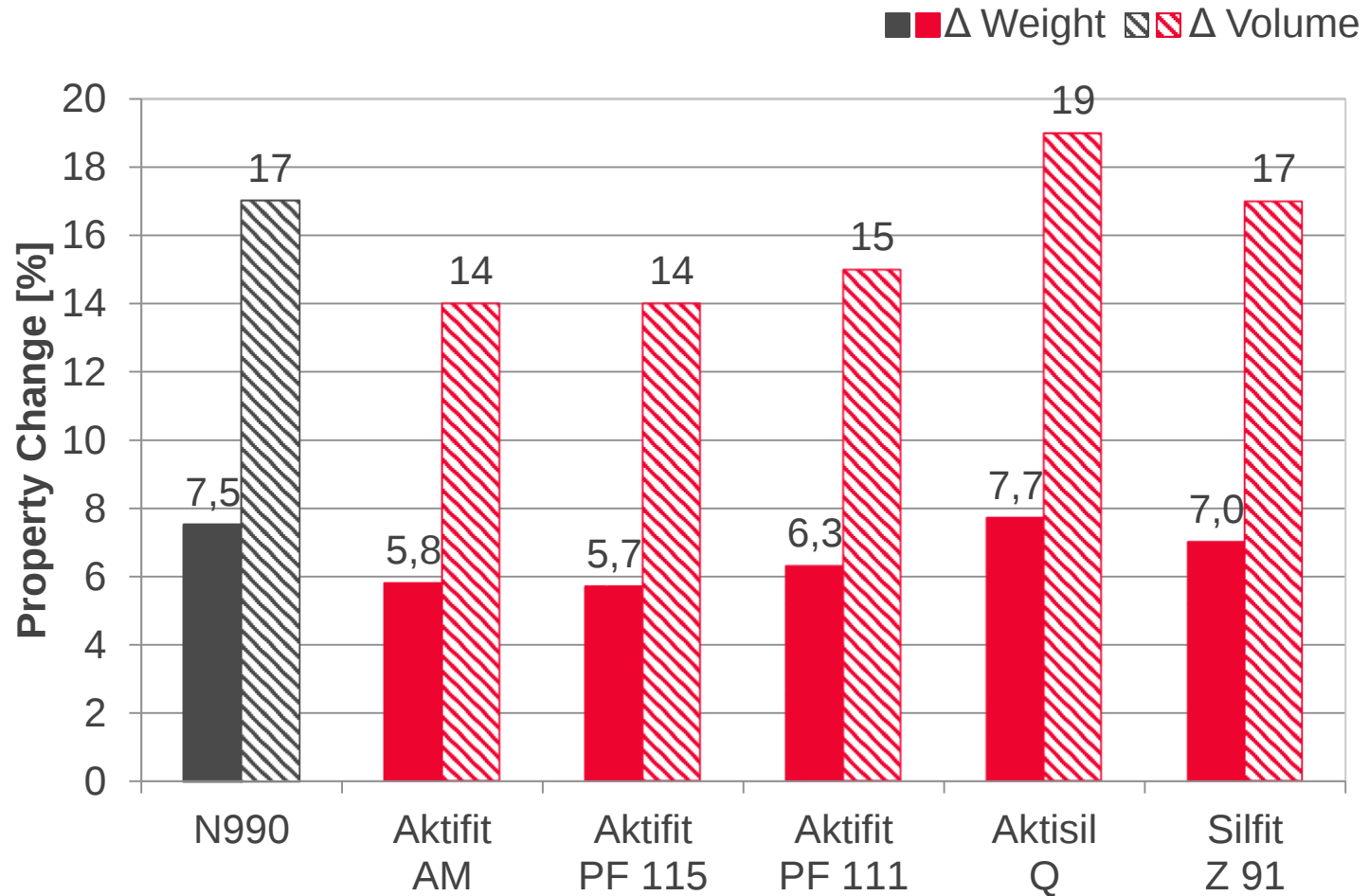
EXPERIMENTAL

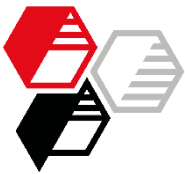
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Viton A-201C

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N 990 - Viton A-201C Engine Oil vs. Water

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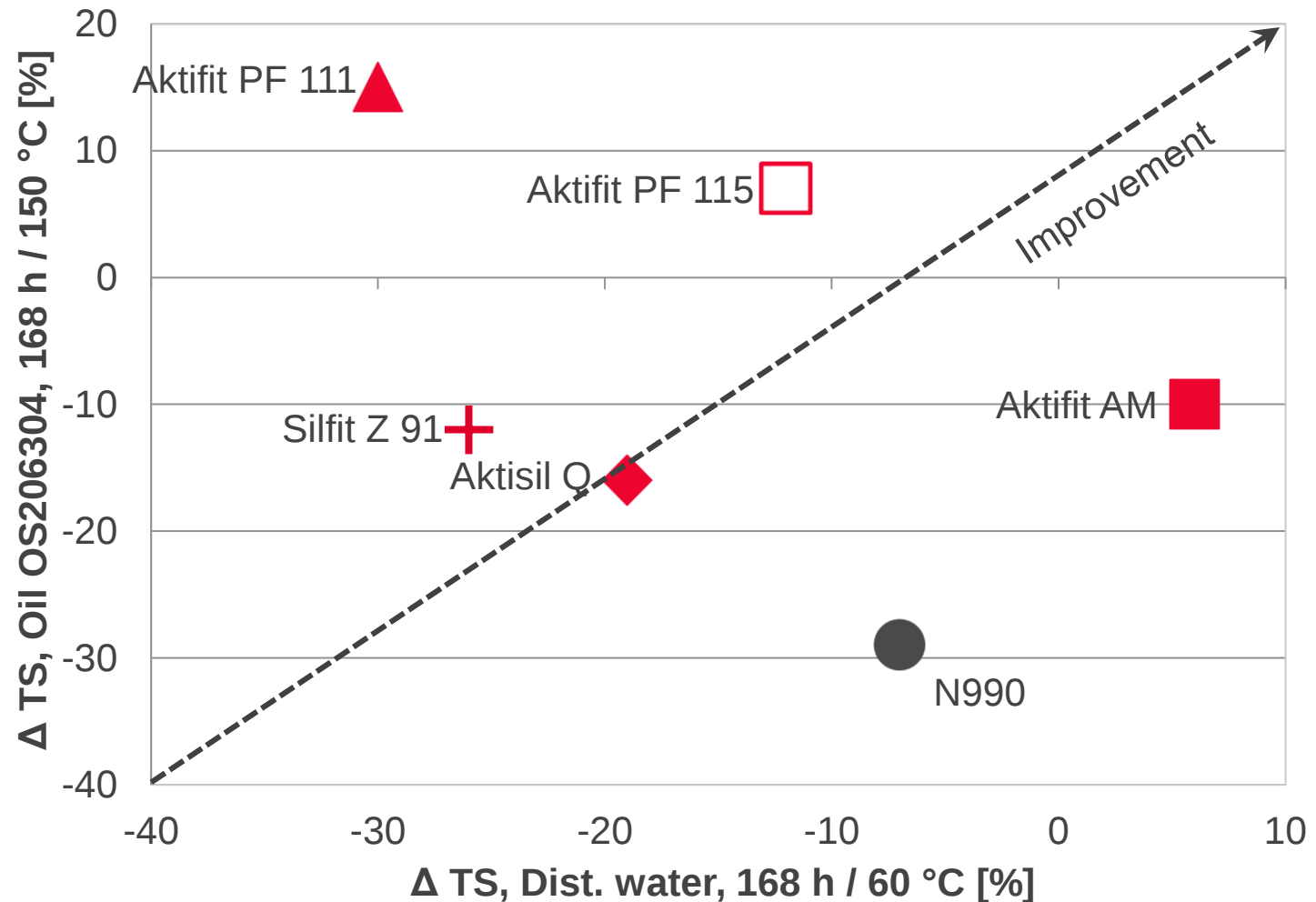
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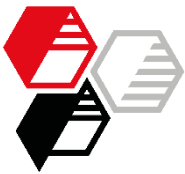
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Viton A-201C

N 990

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NSE vs. N 990

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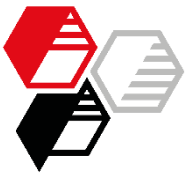
Viton A-201C

N 990

SUMMARY



Viton A-201C	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	+	+	+	+	=
Elong. at Break					+
CS ISO				=	+
CS VW	=	+	+	+	+
Abrasion Resist.	+	+	=	=	=
Hot Air Resistance	+	+	+	+	+
Water Resistance	=	=			
Fuel Resistance	+	+	+		
Oil Resistance	+	+	+	+	+
Cure Speed	+	+			



Neuburg Siliceous Earth vs. Wollastonite AST

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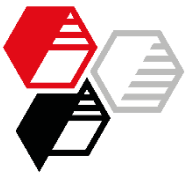
SUMMARY



**45 phr
Wollastonite AST**

**30 phr
NSE**

Hardness Range
 70 ± 5 Shore A

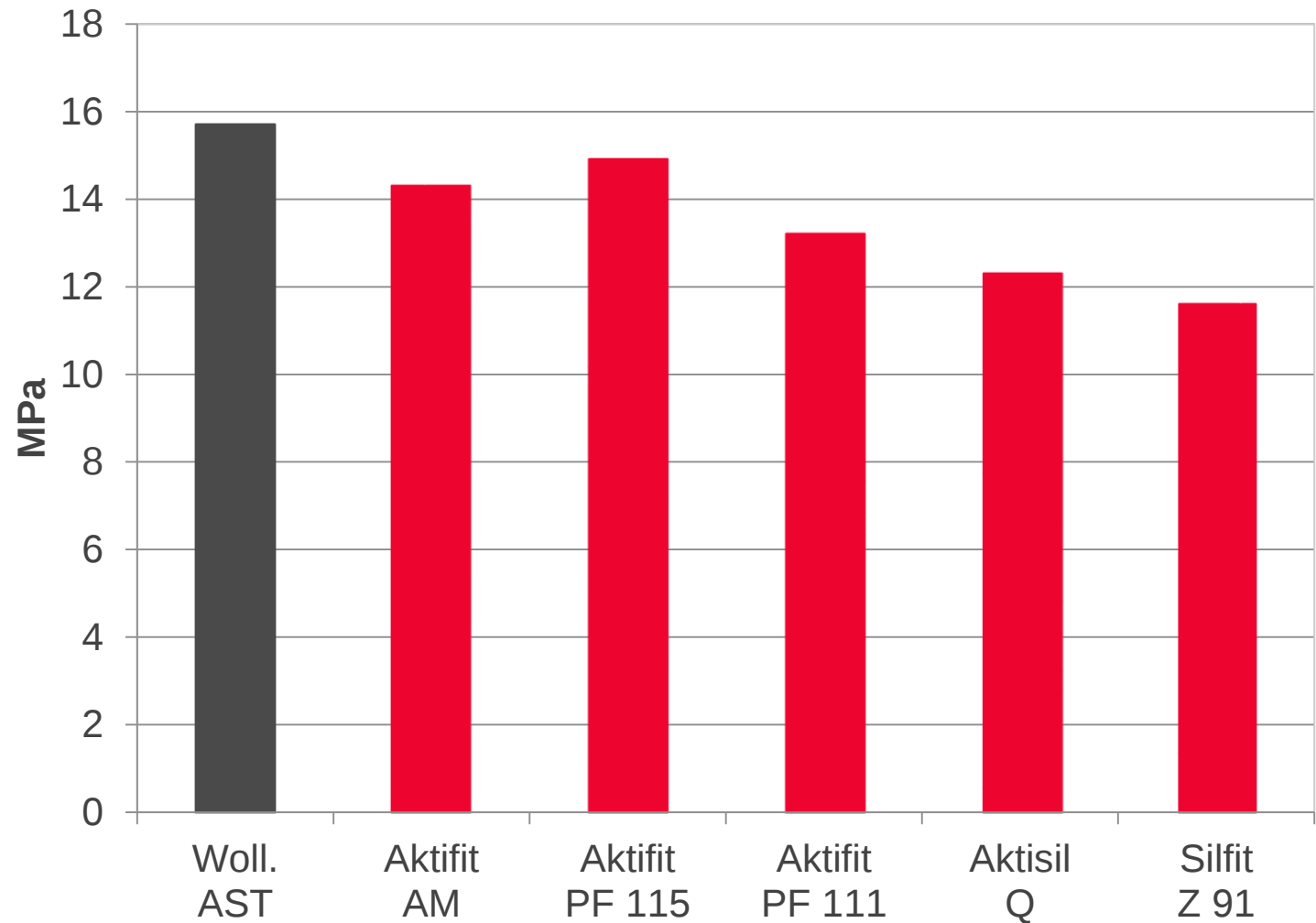


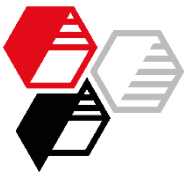
Woll. AST - Viton A-201C

Tensile Strength

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DIN 53 504, S2





Woll. AST - Viton A-201C

Elong. at Break vs. CS ISO

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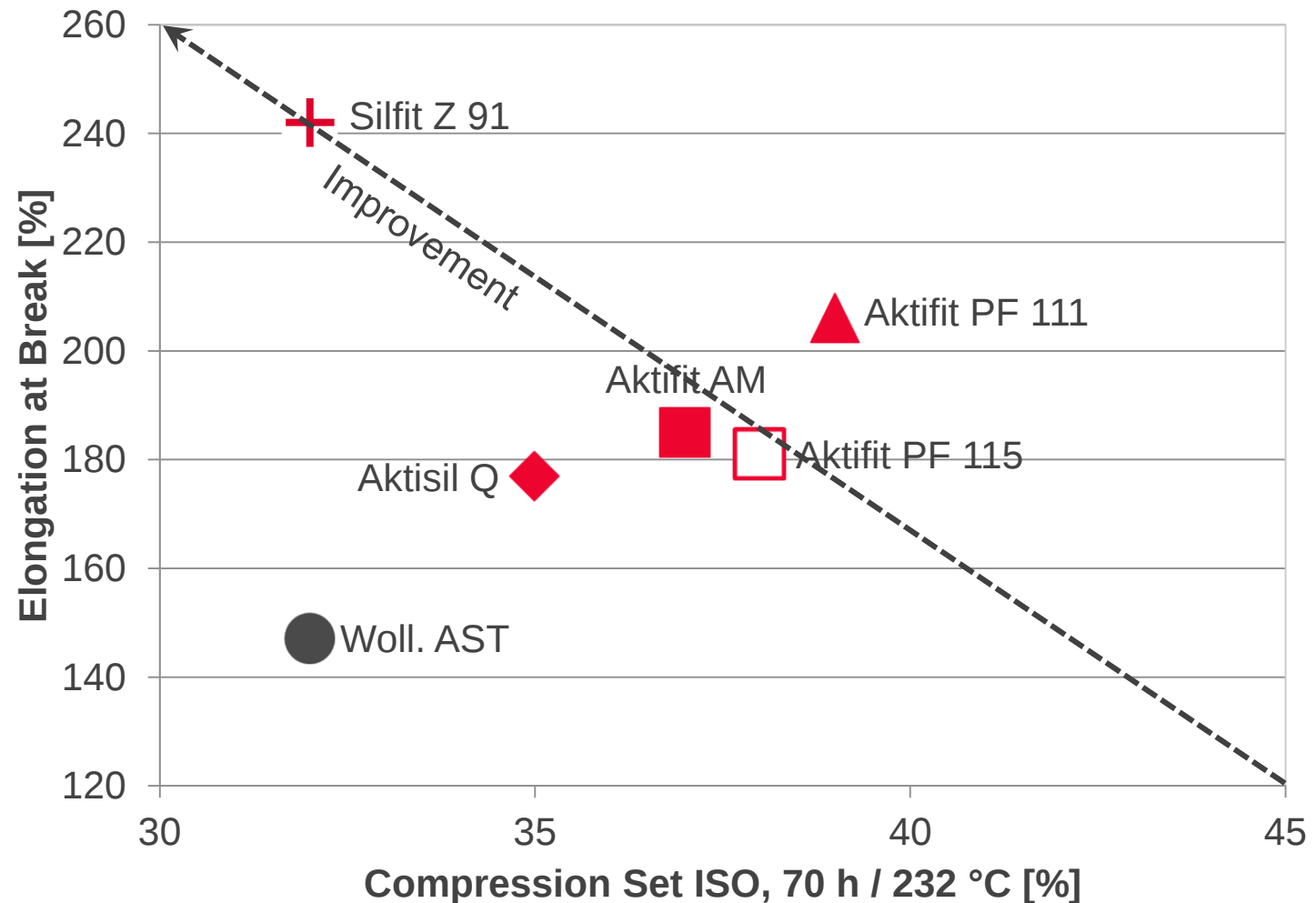
EXPERIMENTAL

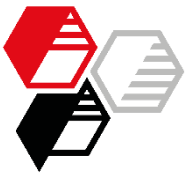
RESULTS

Viton A-201C

Wollastonite AST

SUMMARY

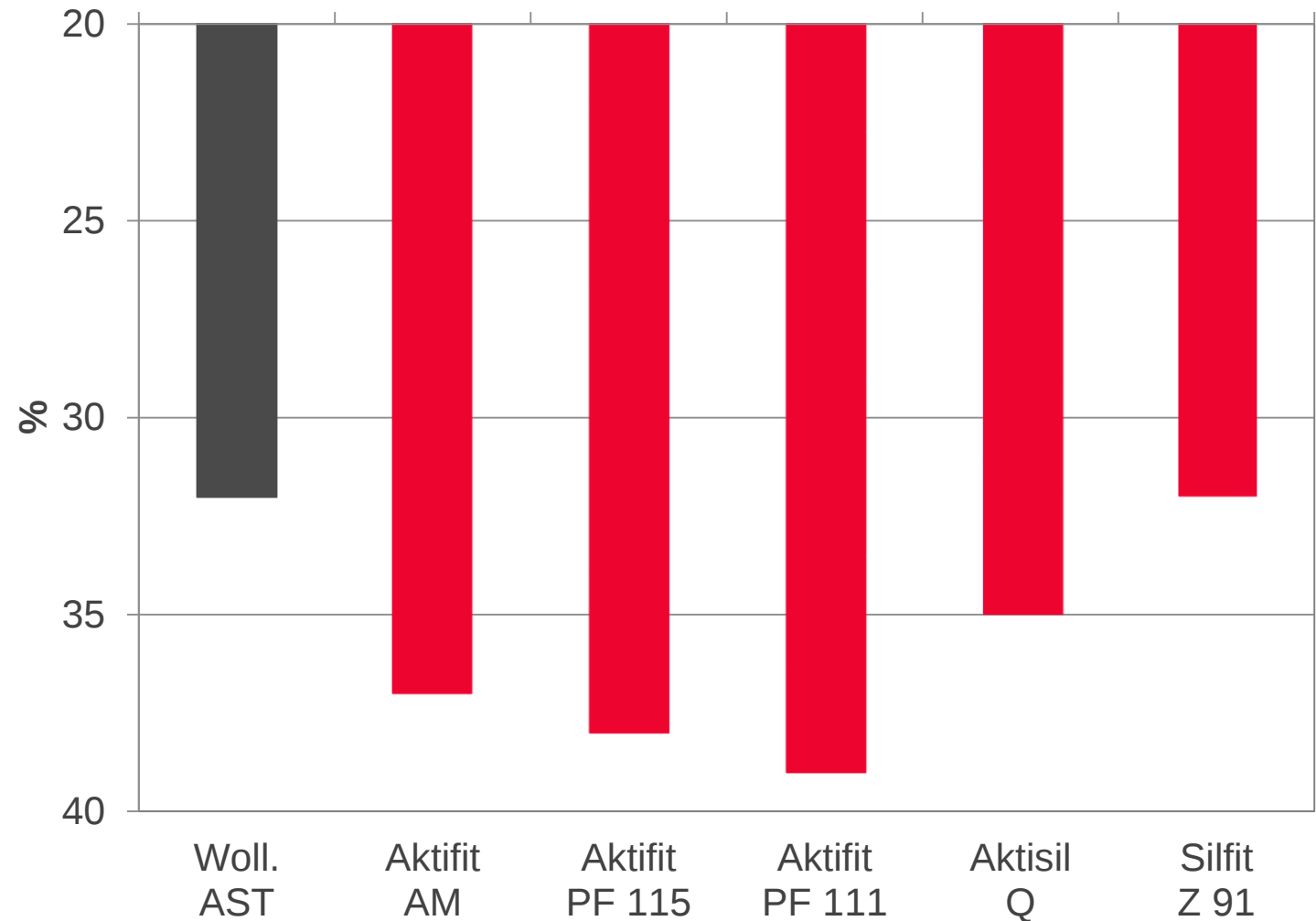




Woll. AST - Viton A-201C Compression Set ISO

HOFFMANN
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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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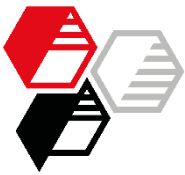
RESULTS

Viton A-201C

Wollastonite AST

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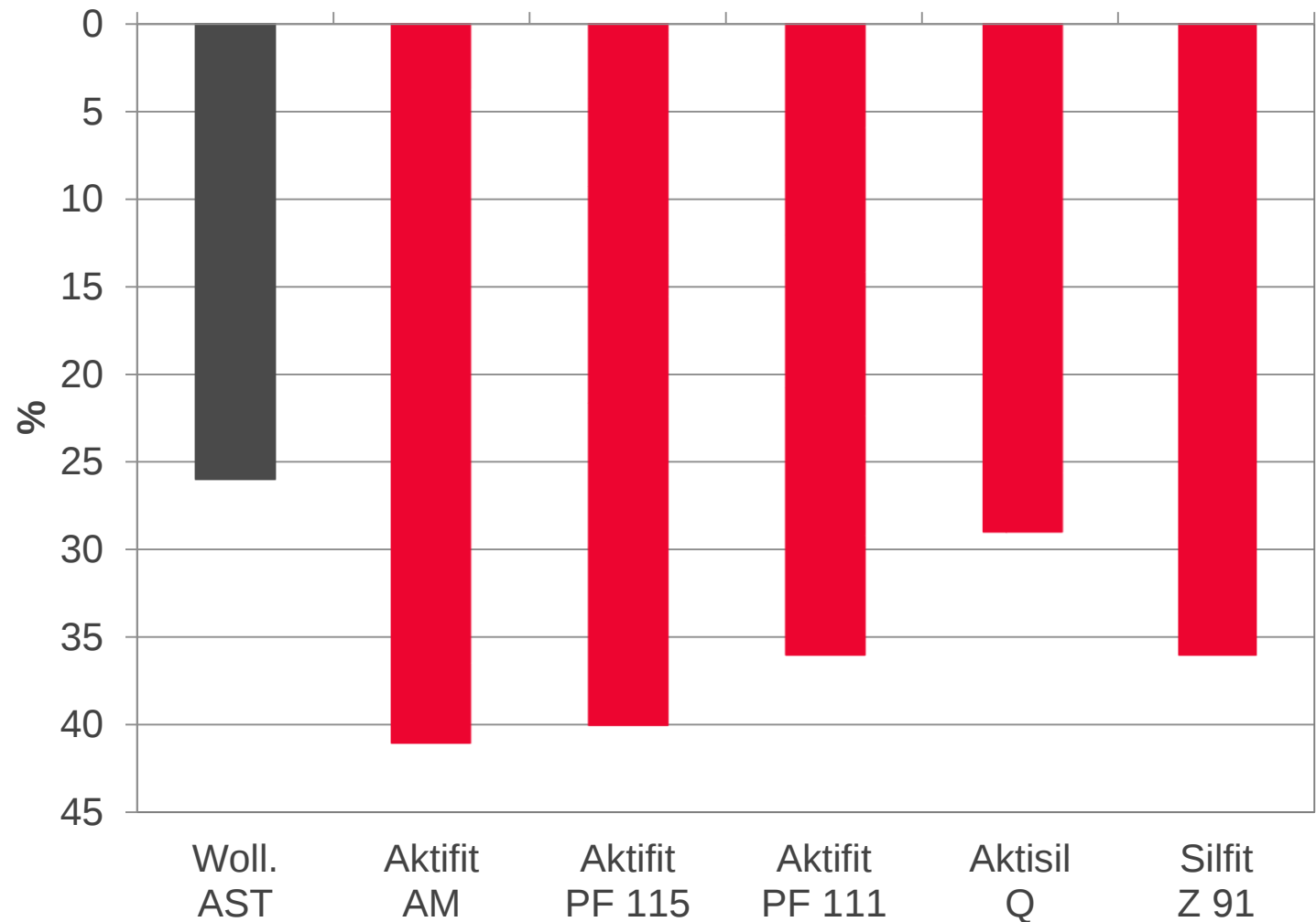




Woll. AST - Viton A-201C Compression Set VW

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VW PV 3307, 50 % Defl., 22 h / 150 °C, 5 s



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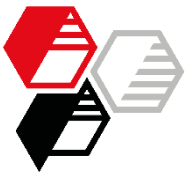
RESULTS

Viton A-201C

Wollastonite AST

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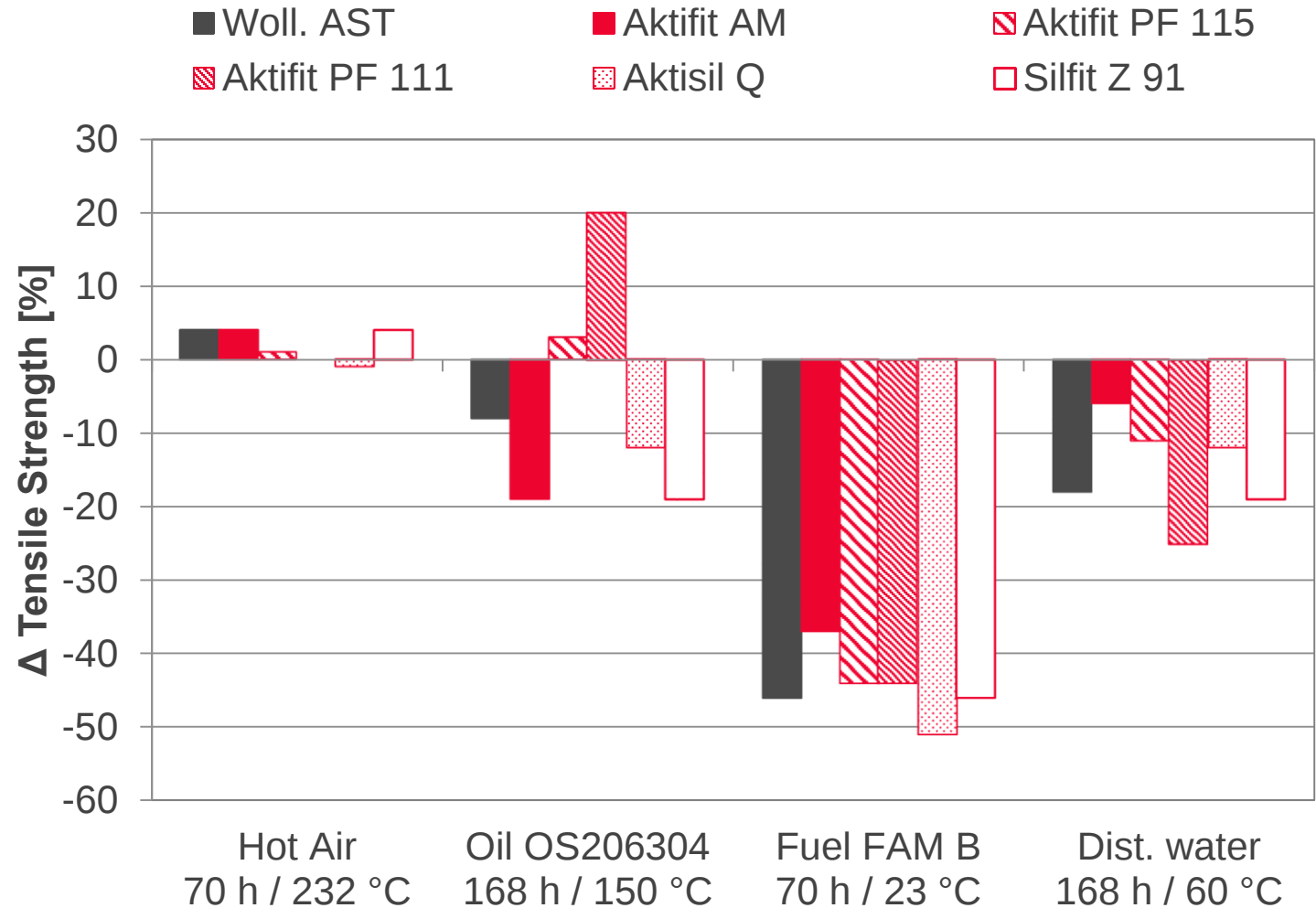


Woll. AST - Viton A-201C

Media Resistance

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Change of tensile strength after storage in media



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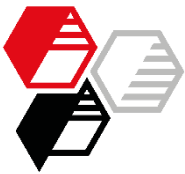
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Viton A-201C

Wollastonite AST

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Woll. AST - Viton A-201C

Engine Oil vs. Water

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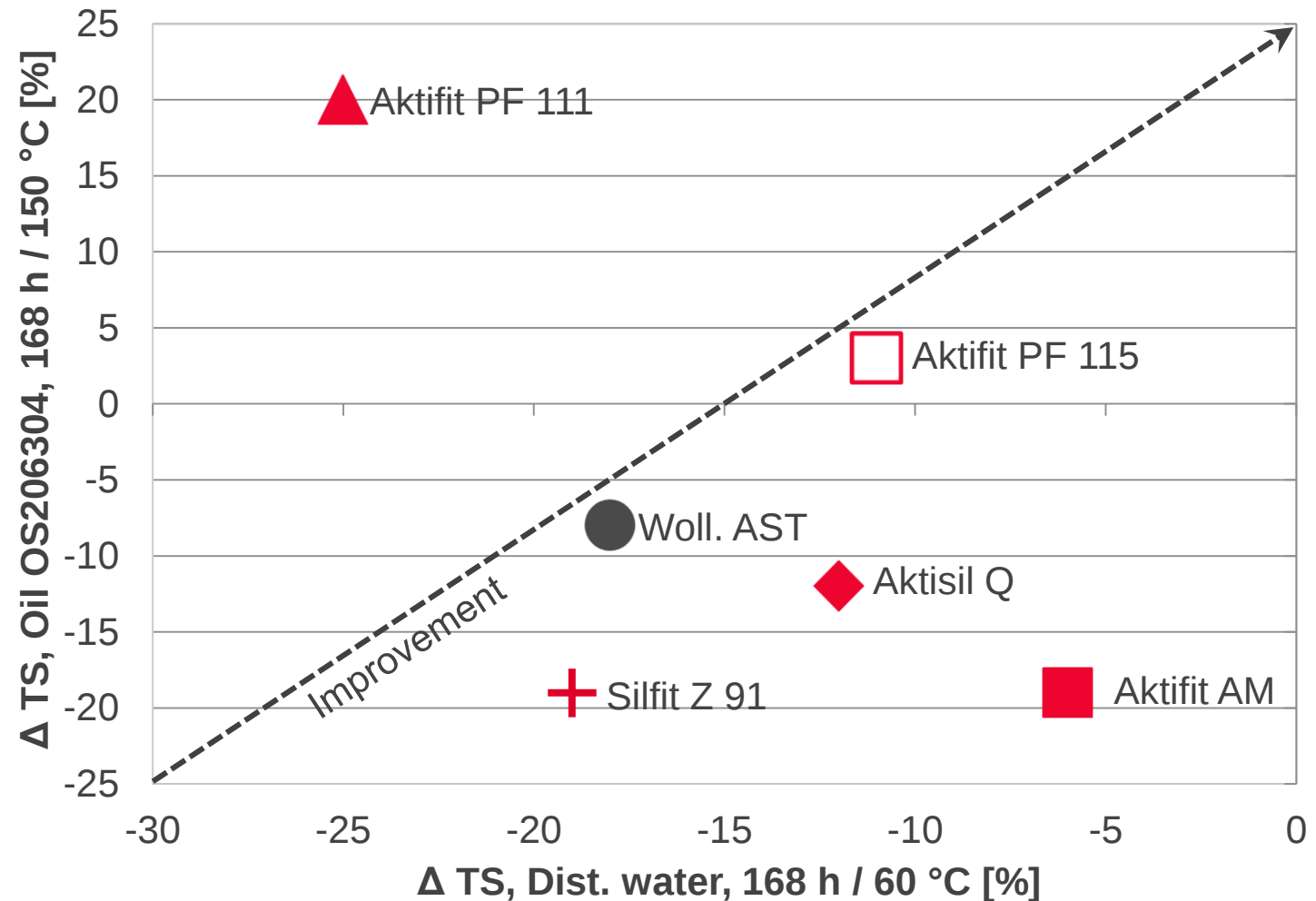
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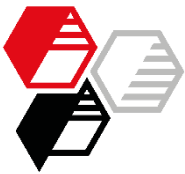
RESULTS

Viton A-201C

Wollastonite AST

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Evaluation

NSE vs. Wollastonite AST

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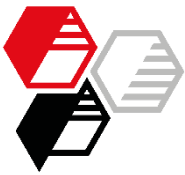
Viton A-201C

Wollastonite AST

SUMMARY



Viton A-201C	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength		=			
Elong. at Break	+	+	+	+	+
CS ISO					=
CS VW				=	
Hot Air Resistance	=	=	=	=	=
Water Resistance	+	+	=	+	=
Fuel Resistance	+	=	=		=
Oil Resistance		+	+	=	
Cure Speed	+	=		=	
Viscosity / M _{min}		+	=	+	



Neuburg Siliceous Earth vs. Wollastonite EST

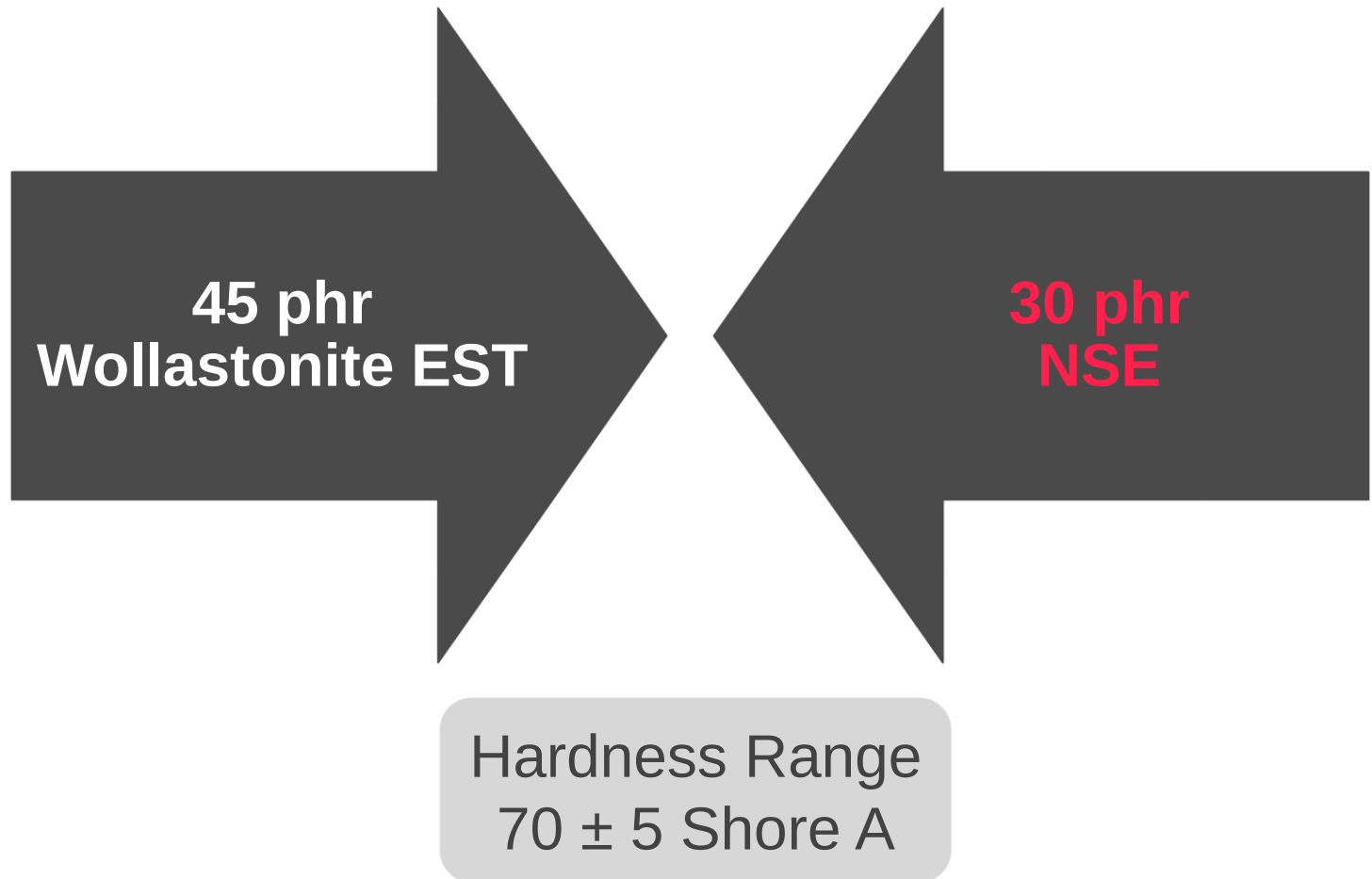
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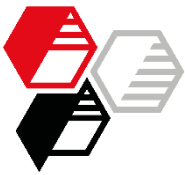
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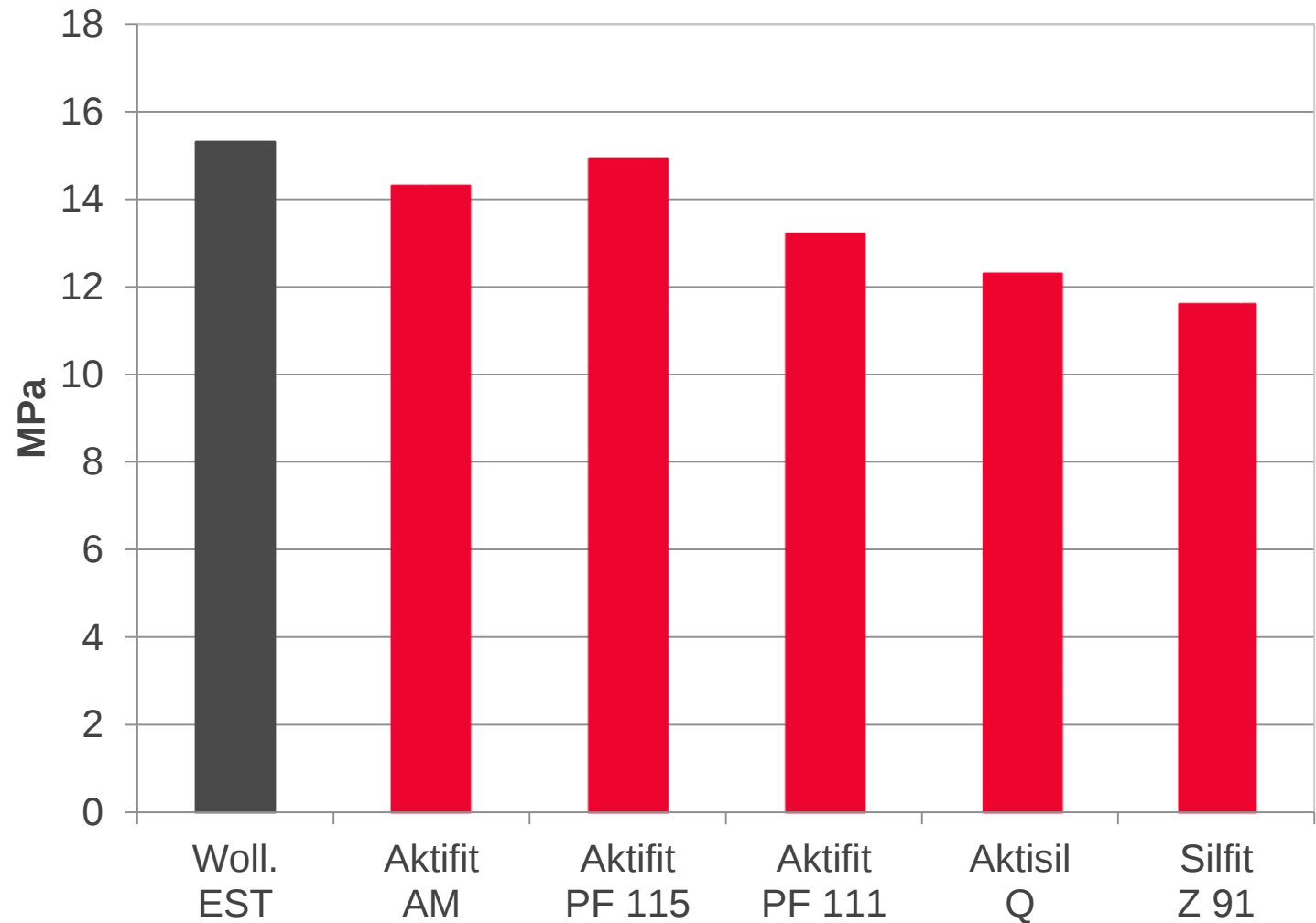


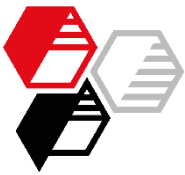
Woll. EST - Viton A-201C

Tensile Strength

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DIN 53 504, S2



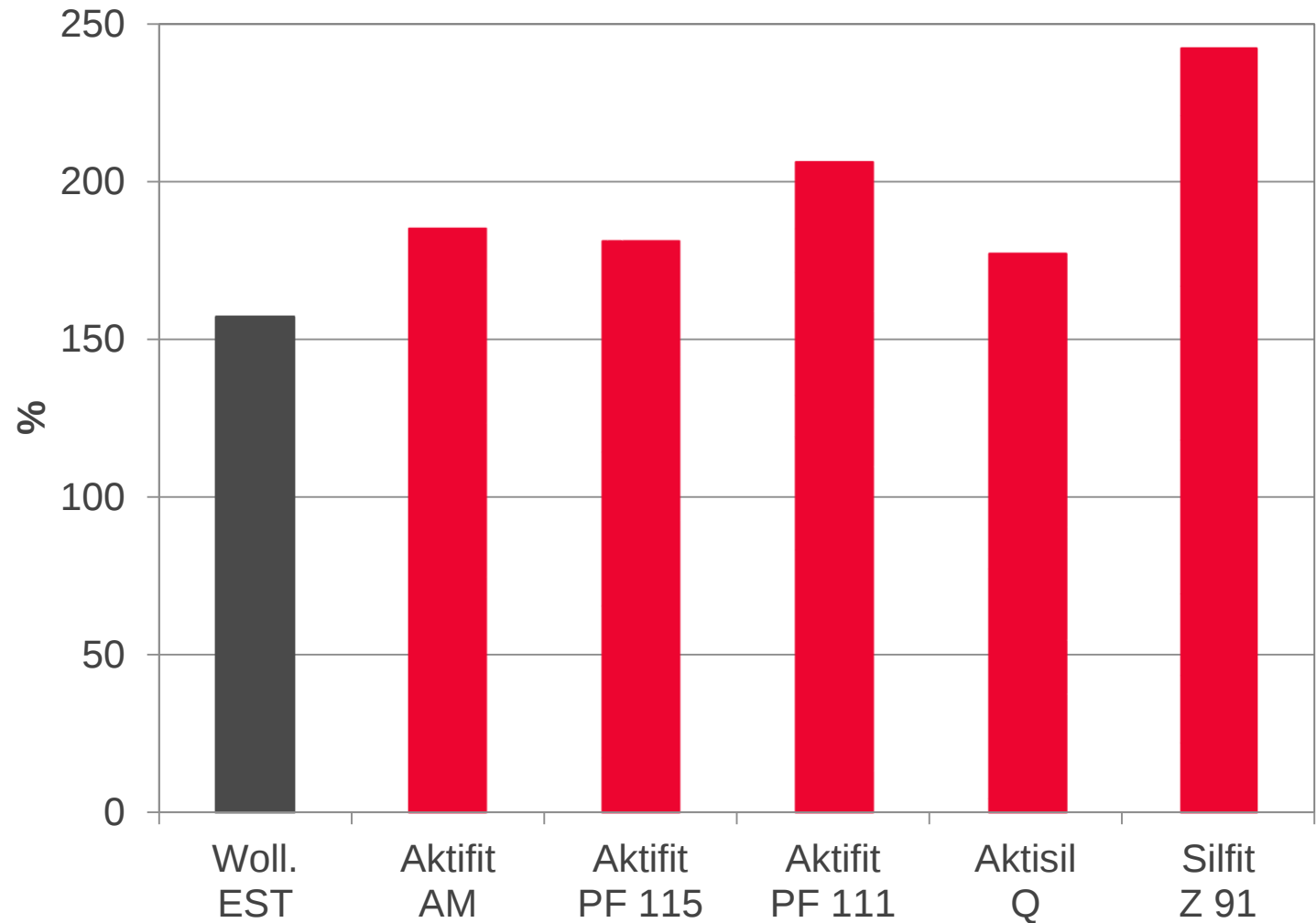


Woll. EST - Viton A-201C

Elongation at Break

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DIN 53 504, S2



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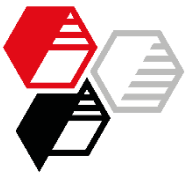
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY





Woll. EST - Viton A-201C

Elong. at B. vs. Tensile Str.

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INTRODUCTION

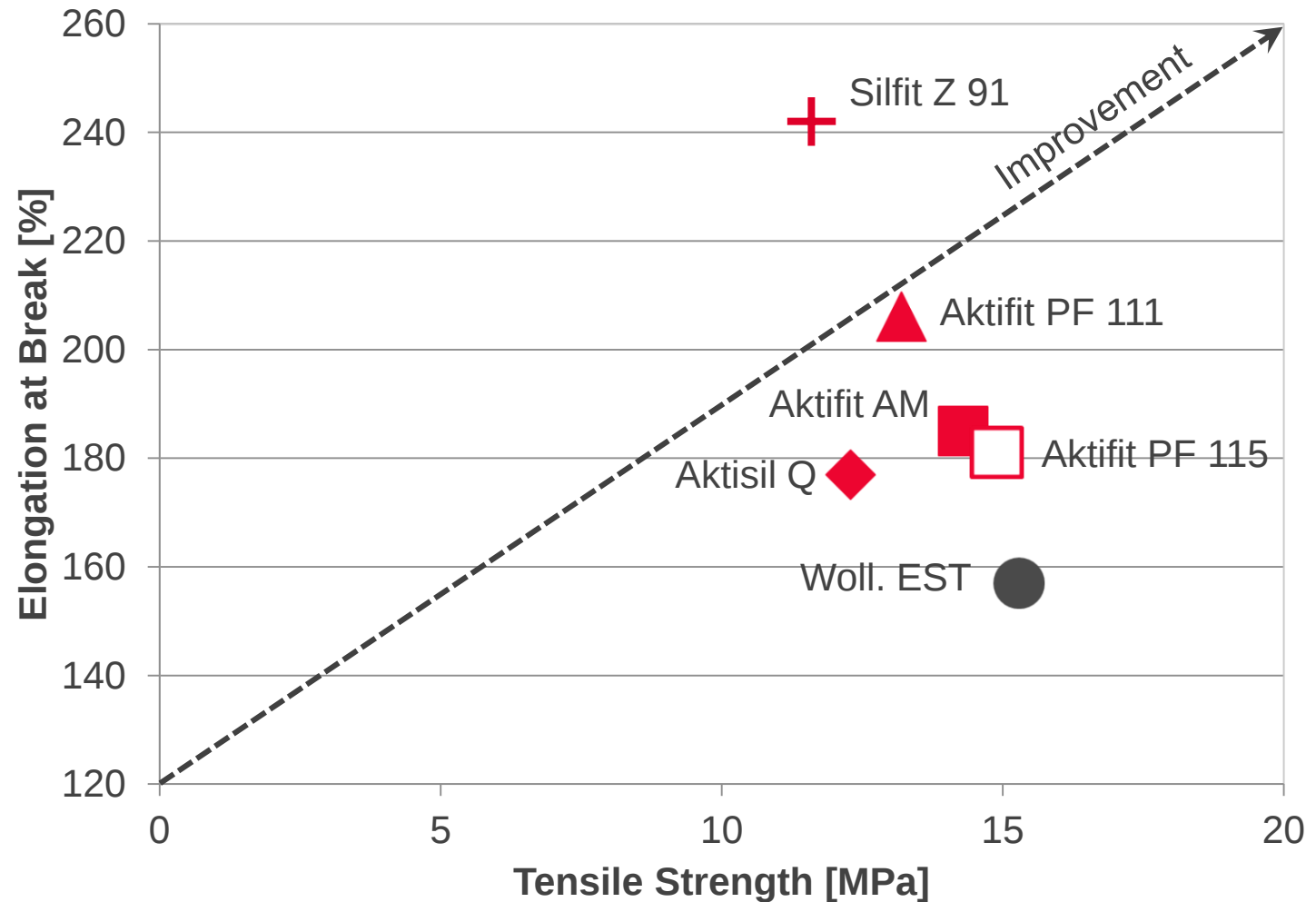
EXPERIMENTAL

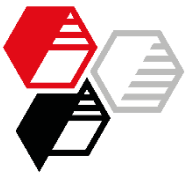
RESULTS

Viton A-201C

Wollastonite EST

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Woll. EST - Viton A-201C

Elong. at Break vs. CS ISO

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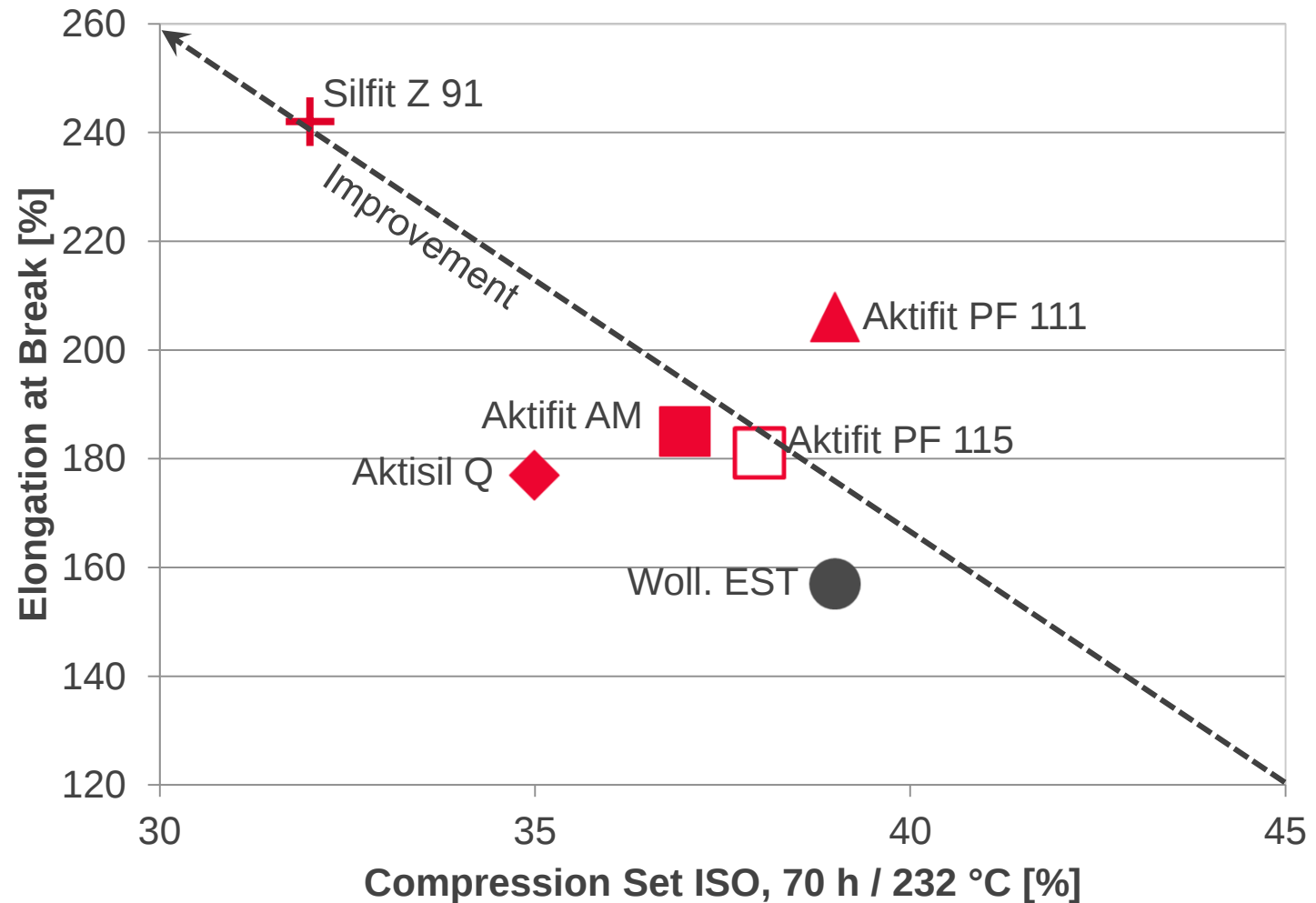
EXPERIMENTAL

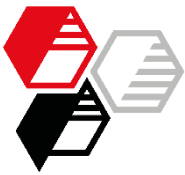
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY



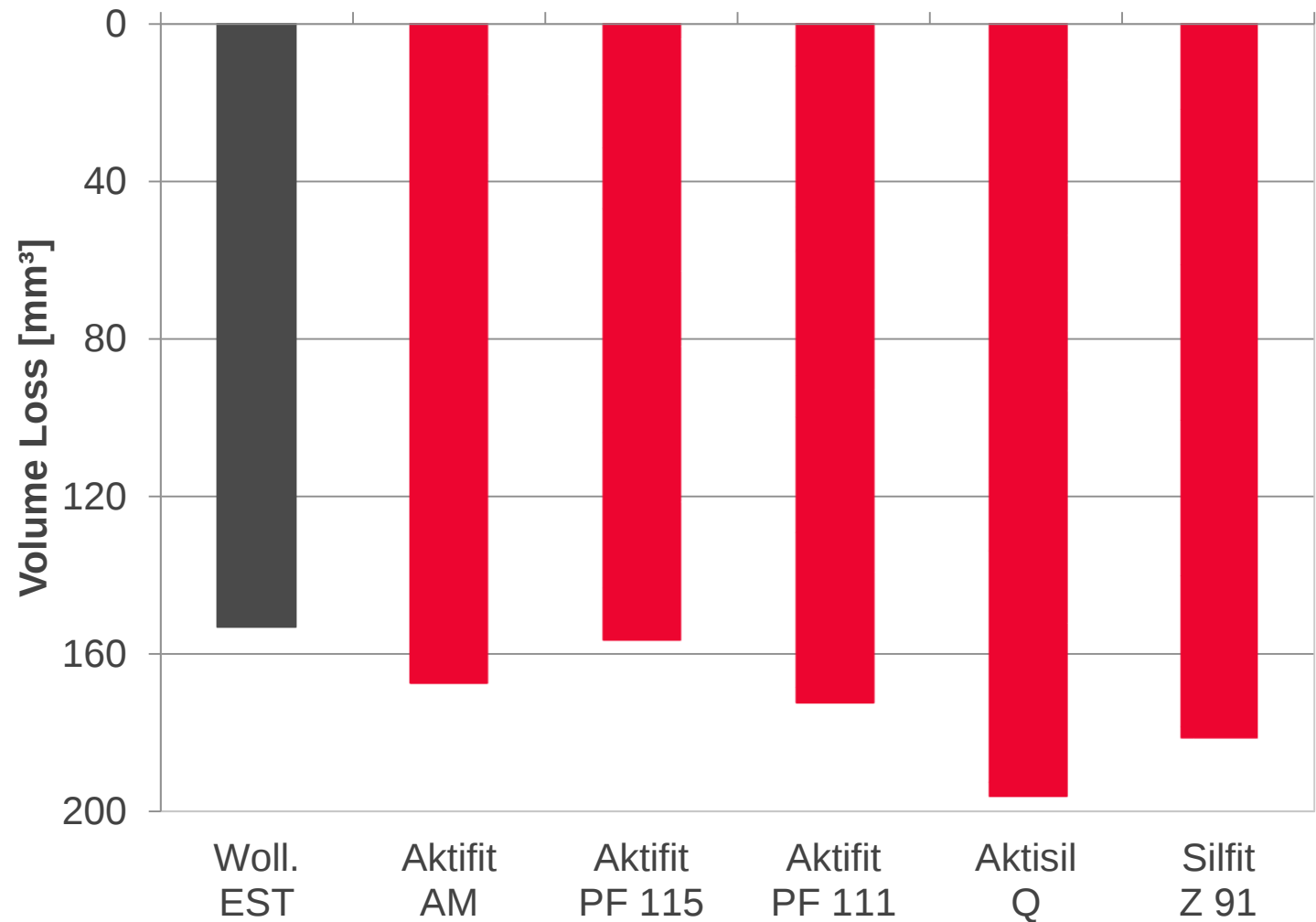


Woll. EST - Viton A-201C

Abrasion Loss

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DIN ISO 4649



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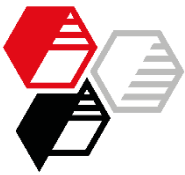
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY



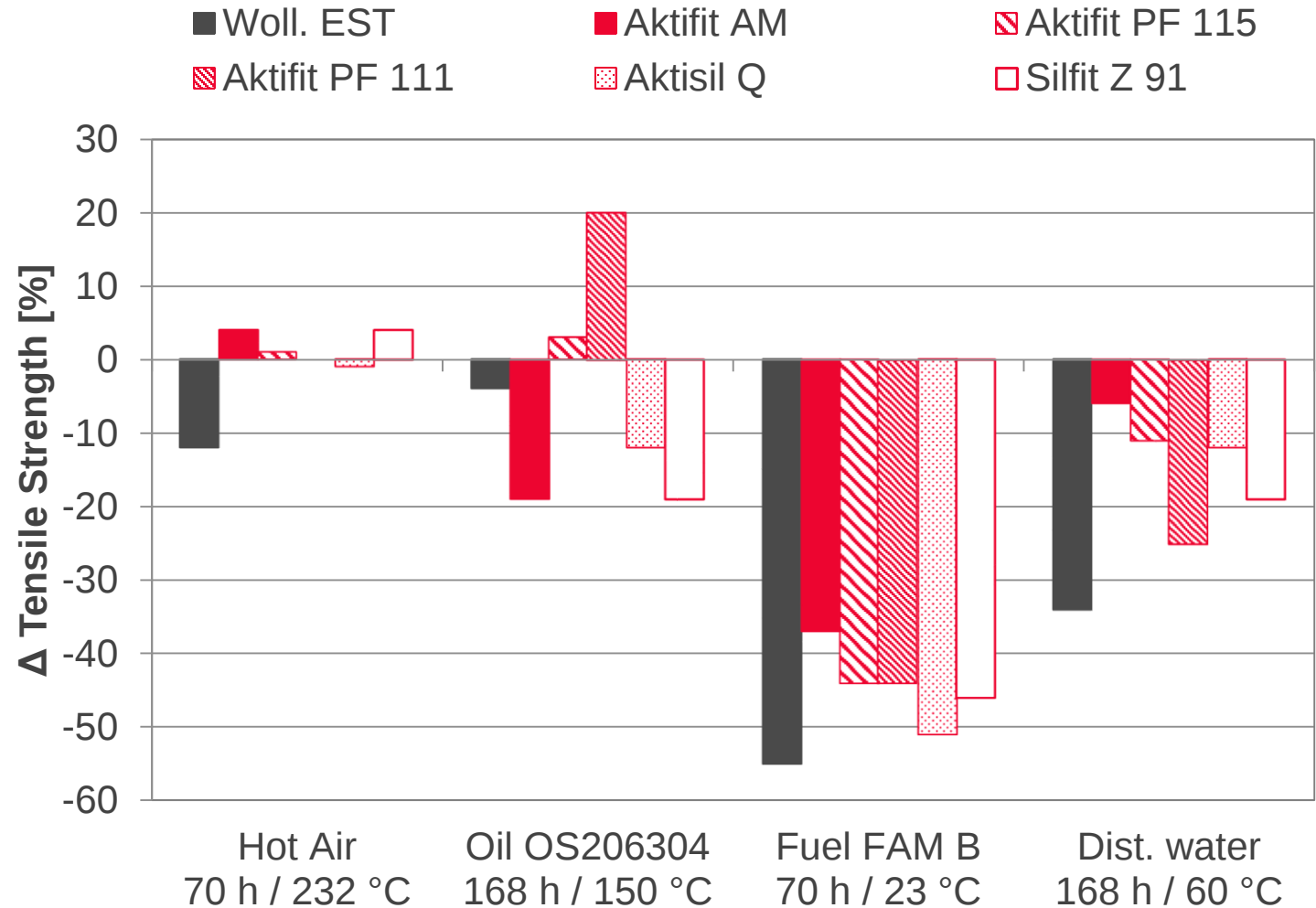


Woll. EST - Viton A-201C

Media Resistance

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Change of tensile strength after storage in media



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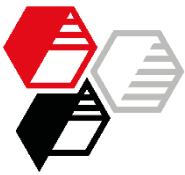
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY





Woll. EST - Viton A-201C

Oil Resistance

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Oil OS206304, 168 h / 150 °C

INTRODUCTION

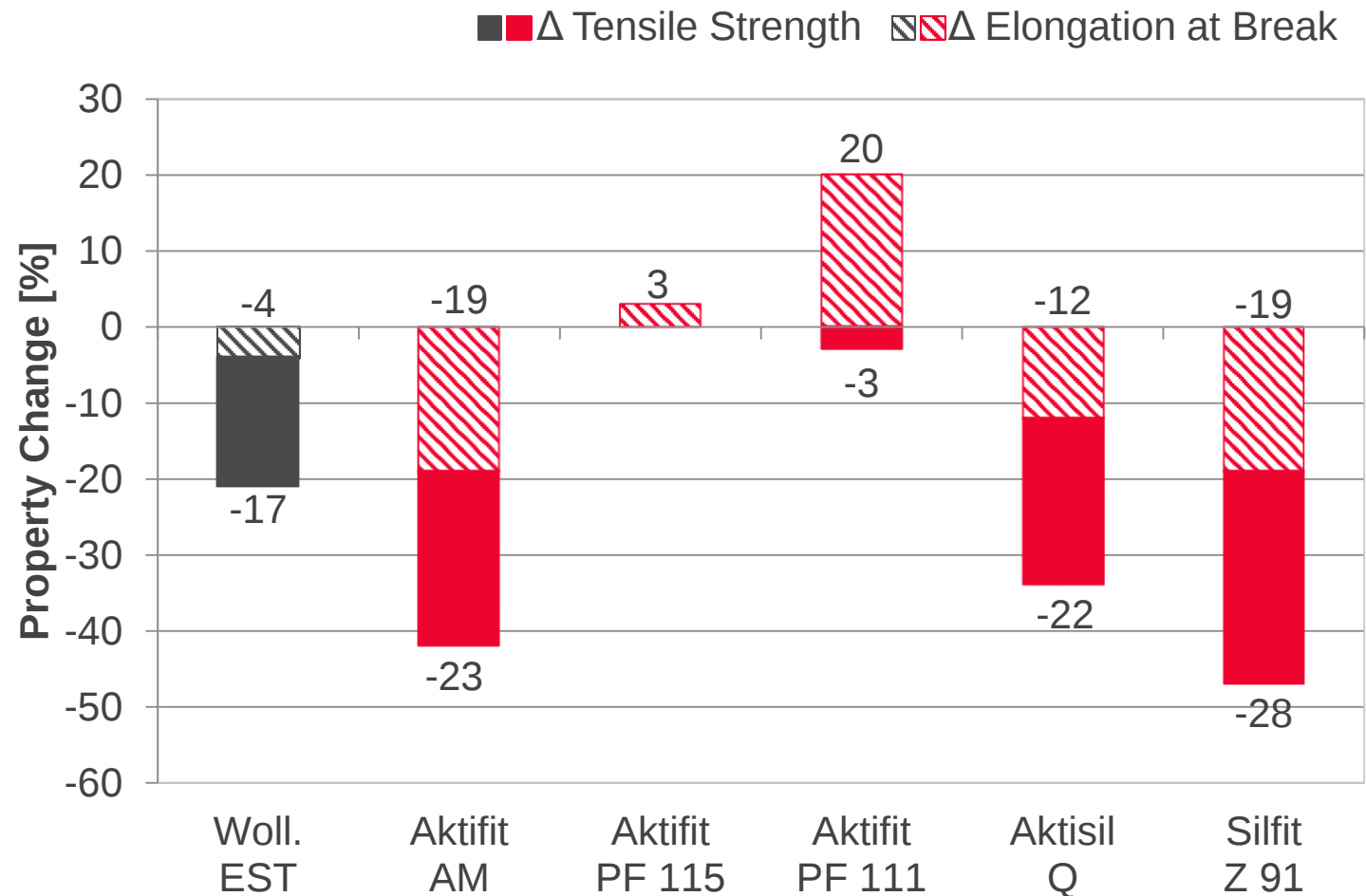
EXPERIMENTAL

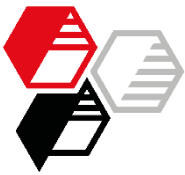
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY





Woll. EST - Viton A-201C

Fuel vs. Water

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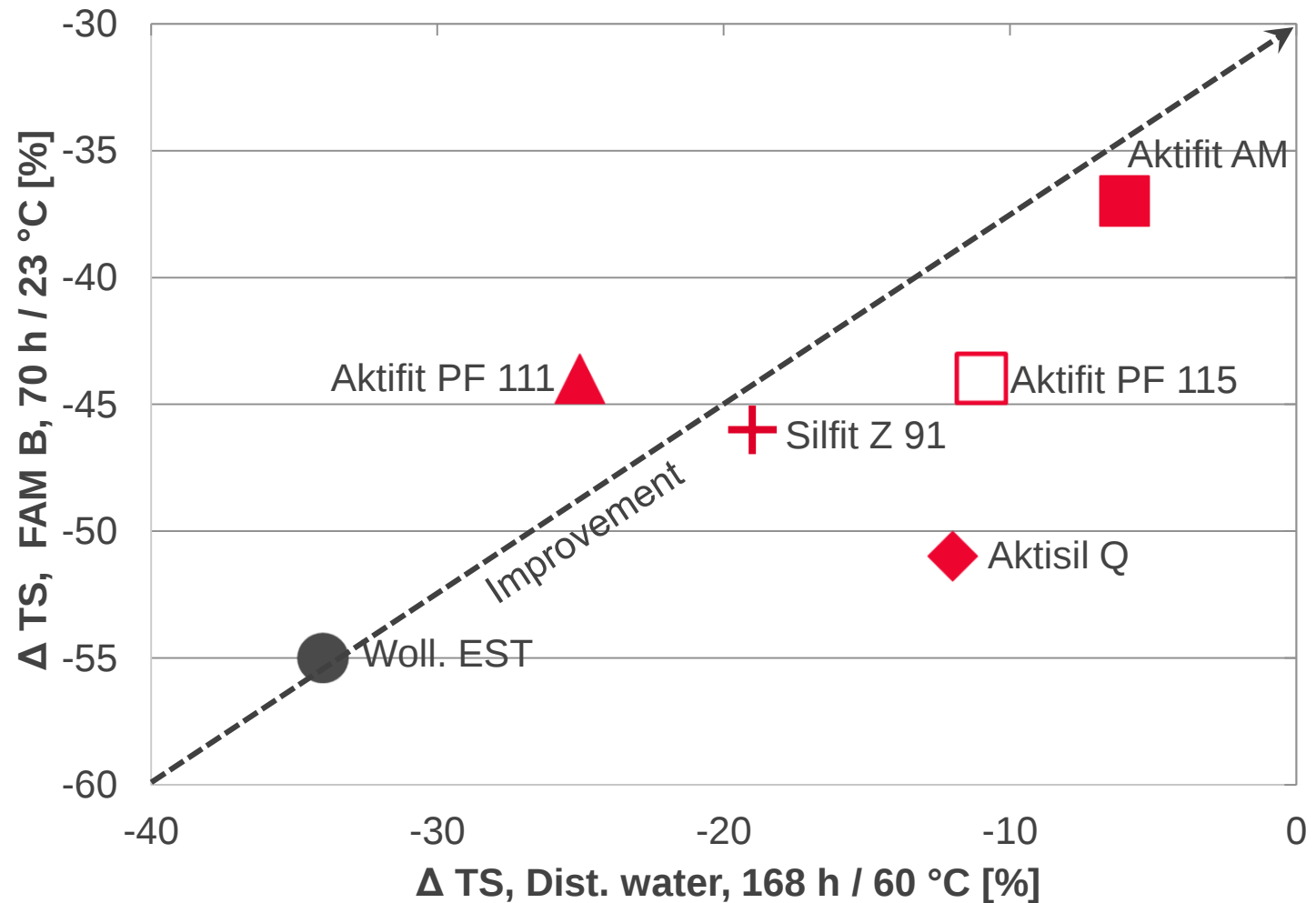
EXPERIMENTAL

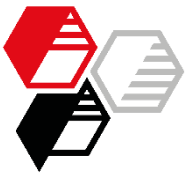
RESULTS

Viton A-201C

Wollastonite EST

SUMMARY





Evaluation

NSE vs. Wollastonite EST

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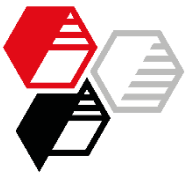
Viton A-201C

Wollastonite EST

SUMMARY



Viton A-201C	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength		=			
Elong. at Break	+	+	+	+	+
CS ISO	=	=	=	+	+
Abrasion Resist.		=			
Hot Air Resistance	+	+	+	+	+
Water Resistance	+	+	+	+	+
Fuel Resistance	+	+	+	=	+
Oil Resistance		+	=		
Cure Speed	+				
Viscosity / M _{min}	=	+	=	+	=



Neuburg Siliceous Earth vs. Barium Sulfate

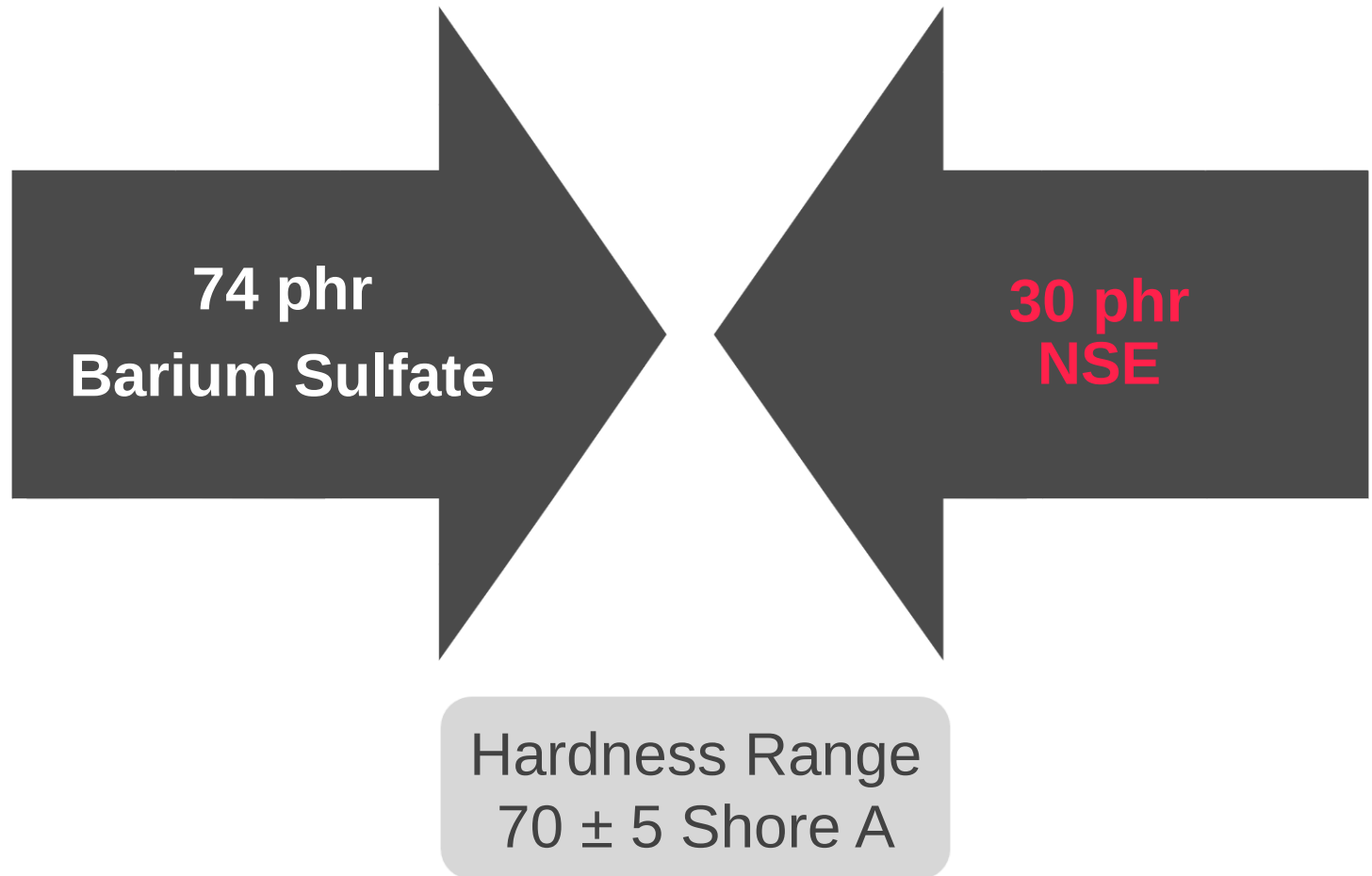
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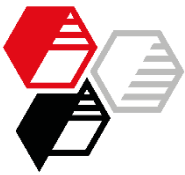
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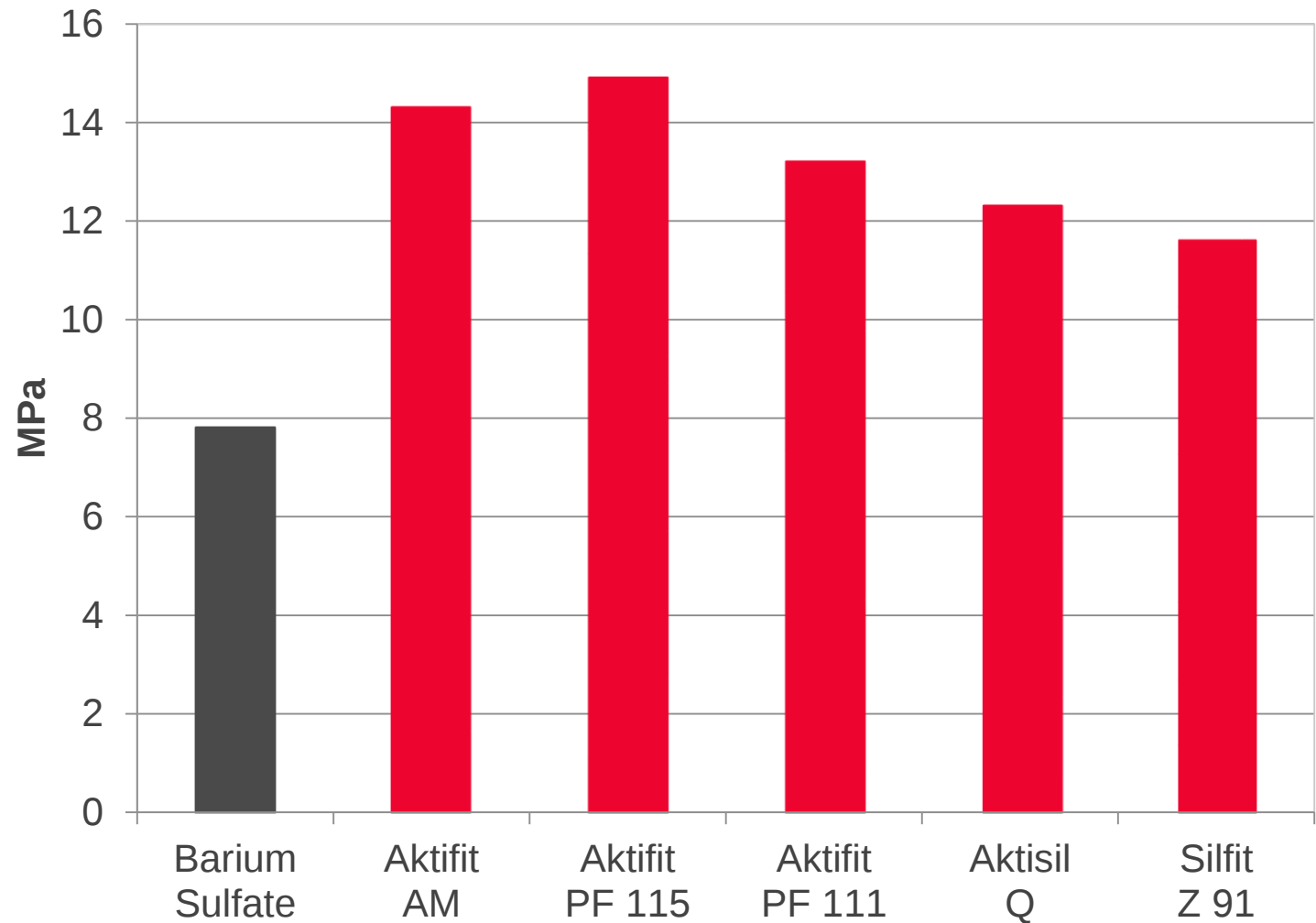


BaSO₄ - Viton A-201C

Tensile Strength

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DIN 53 504, S2



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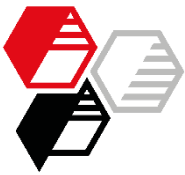
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY





BaSO₄ - Viton A-201C

Elong.at Break vs. Abr. Loss

HOFFMANN
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INTRODUCTION

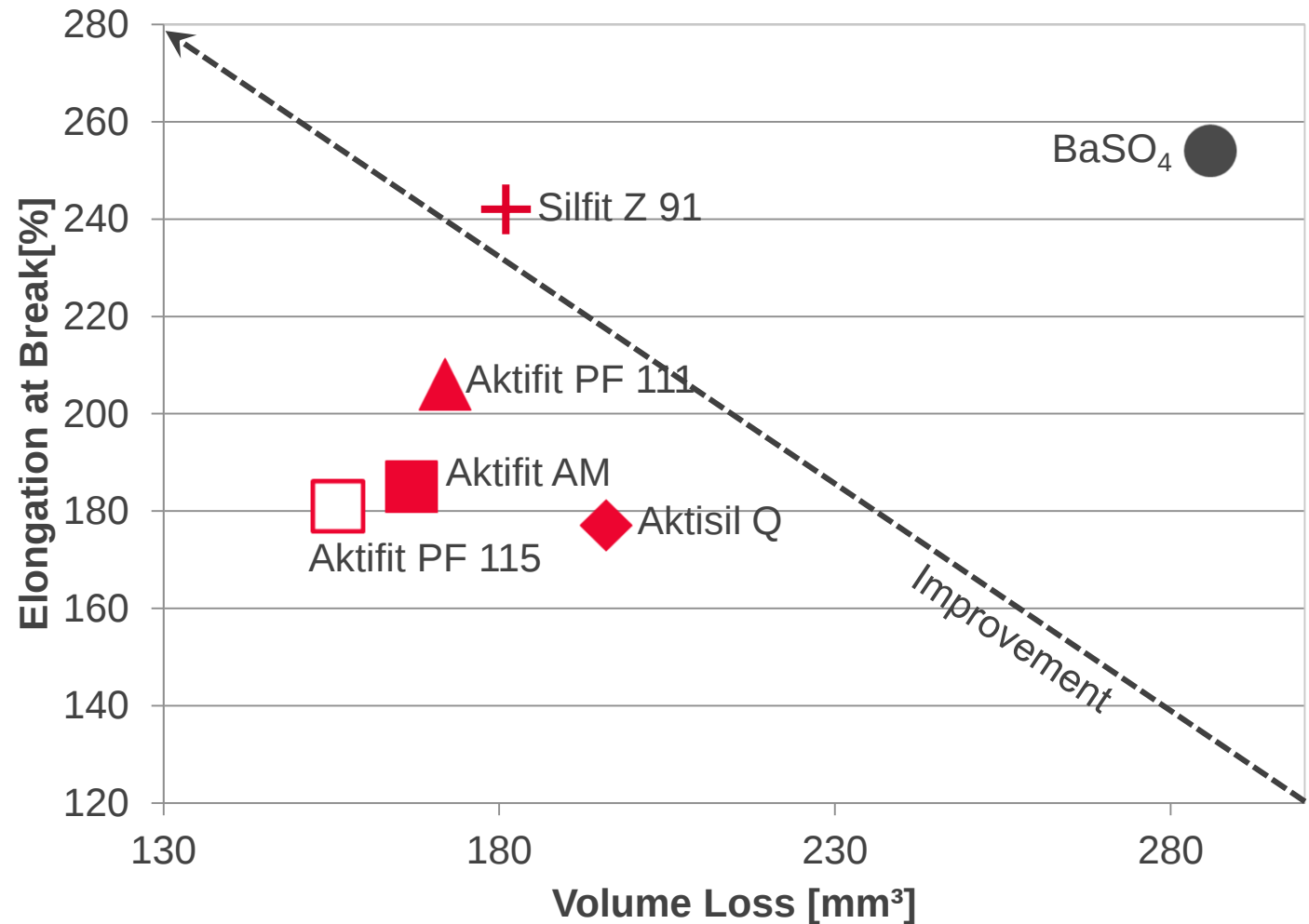
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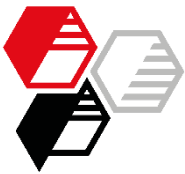
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY



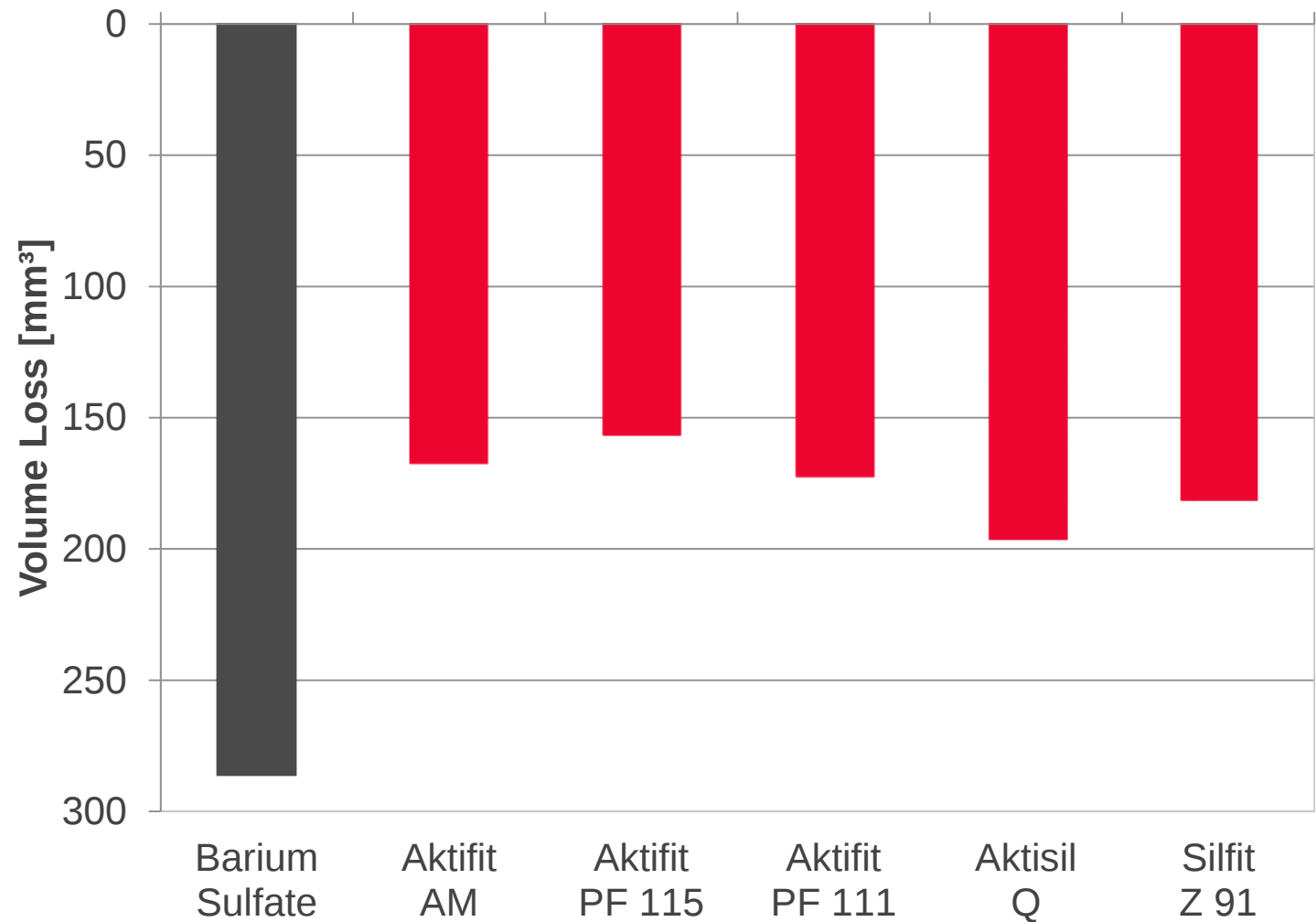


BaSO₄ - Viton A-201C

Abrasion Loss

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DIN ISO 4649



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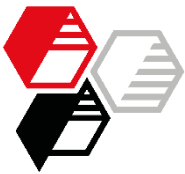
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY

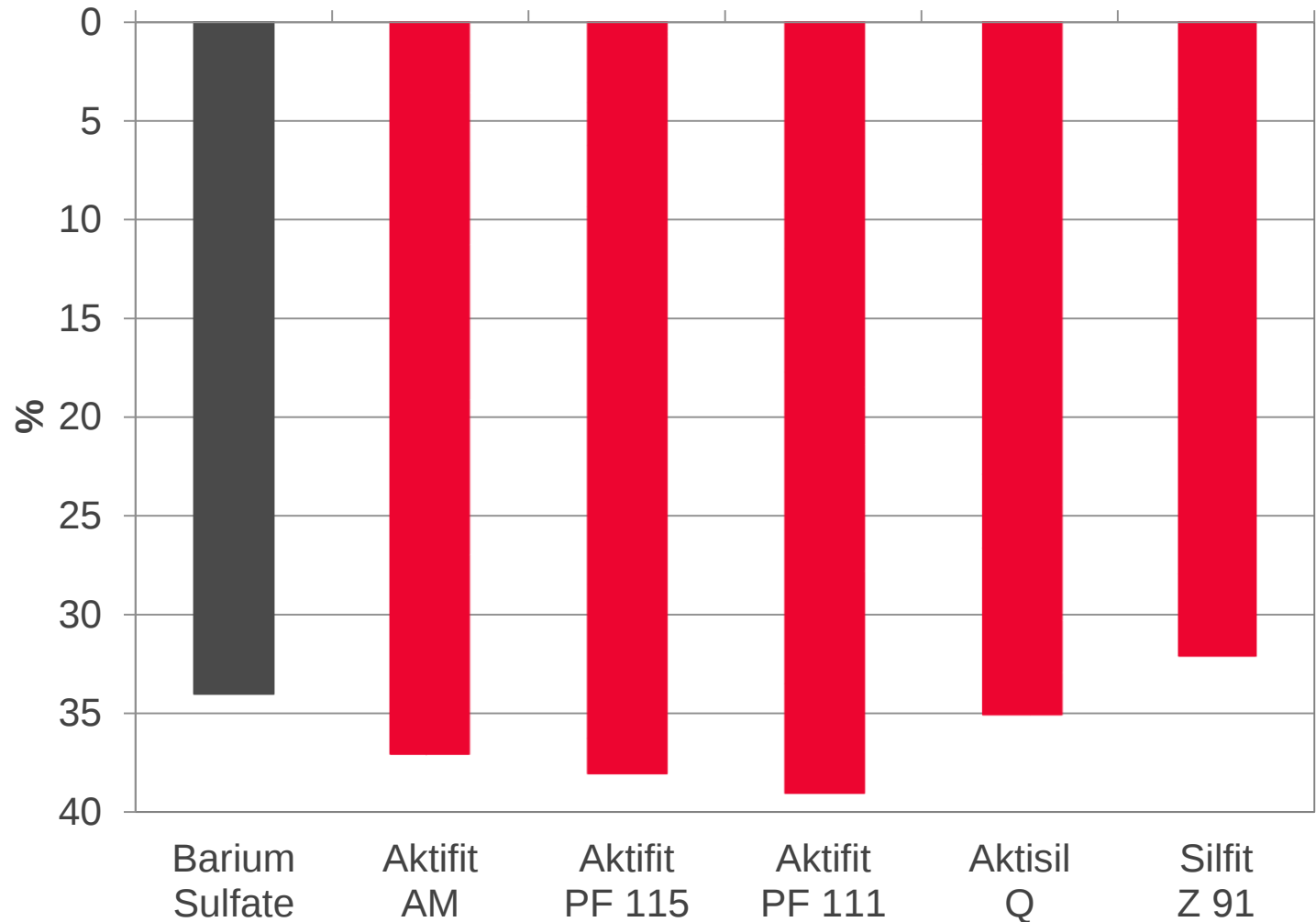




BaSO₄ - Viton A-201C Compression Set ISO

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DIN ISO 815-1 B, 25 % Defl., 70 h / 232 °C



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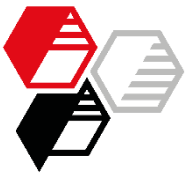
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY

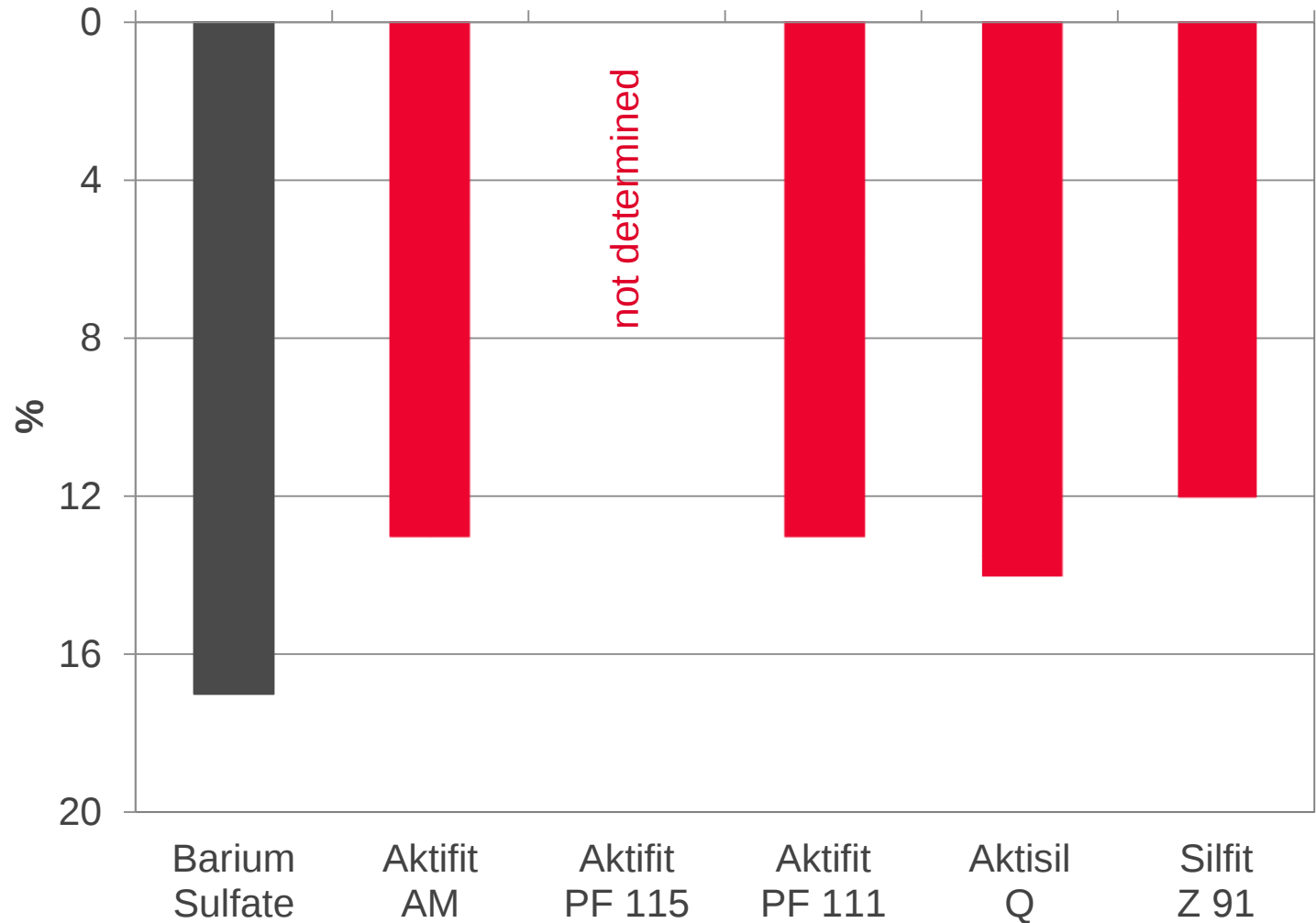




BaSO₄ - Viton A-201C Compression Set ISO

HOFFMANN
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DIN ISO 815-1 B, 25 % Defl., 70 h / 200 °C



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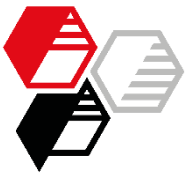
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY



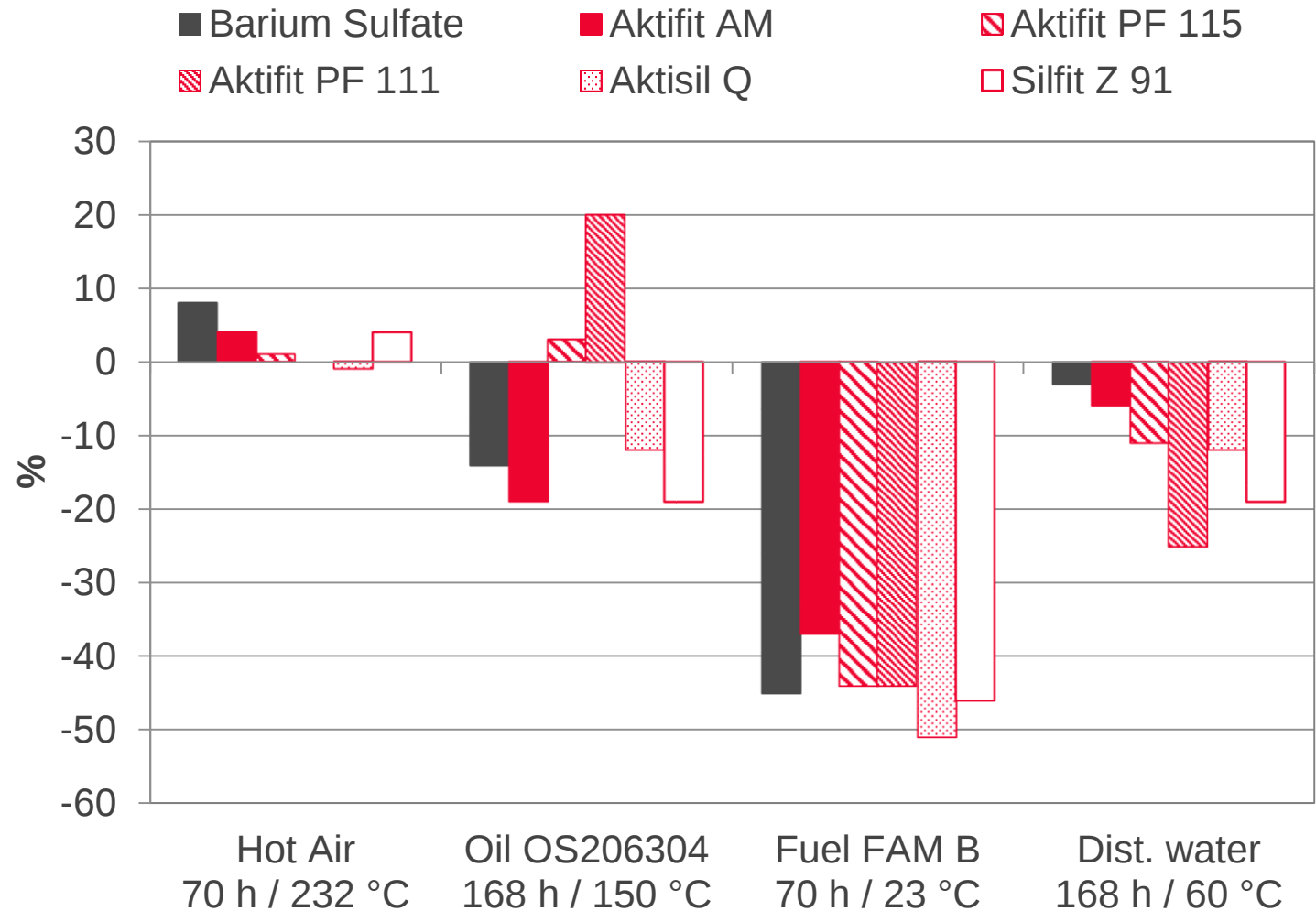


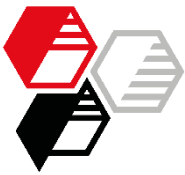
BaSO₄ - Viton A-201C

Media Resistance

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Change of tensile strength after storage in media





BaSO₄ - Viton A-201C

Oil Resistance

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Oil OS206304, 168 h / 150 °C

INTRODUCTION

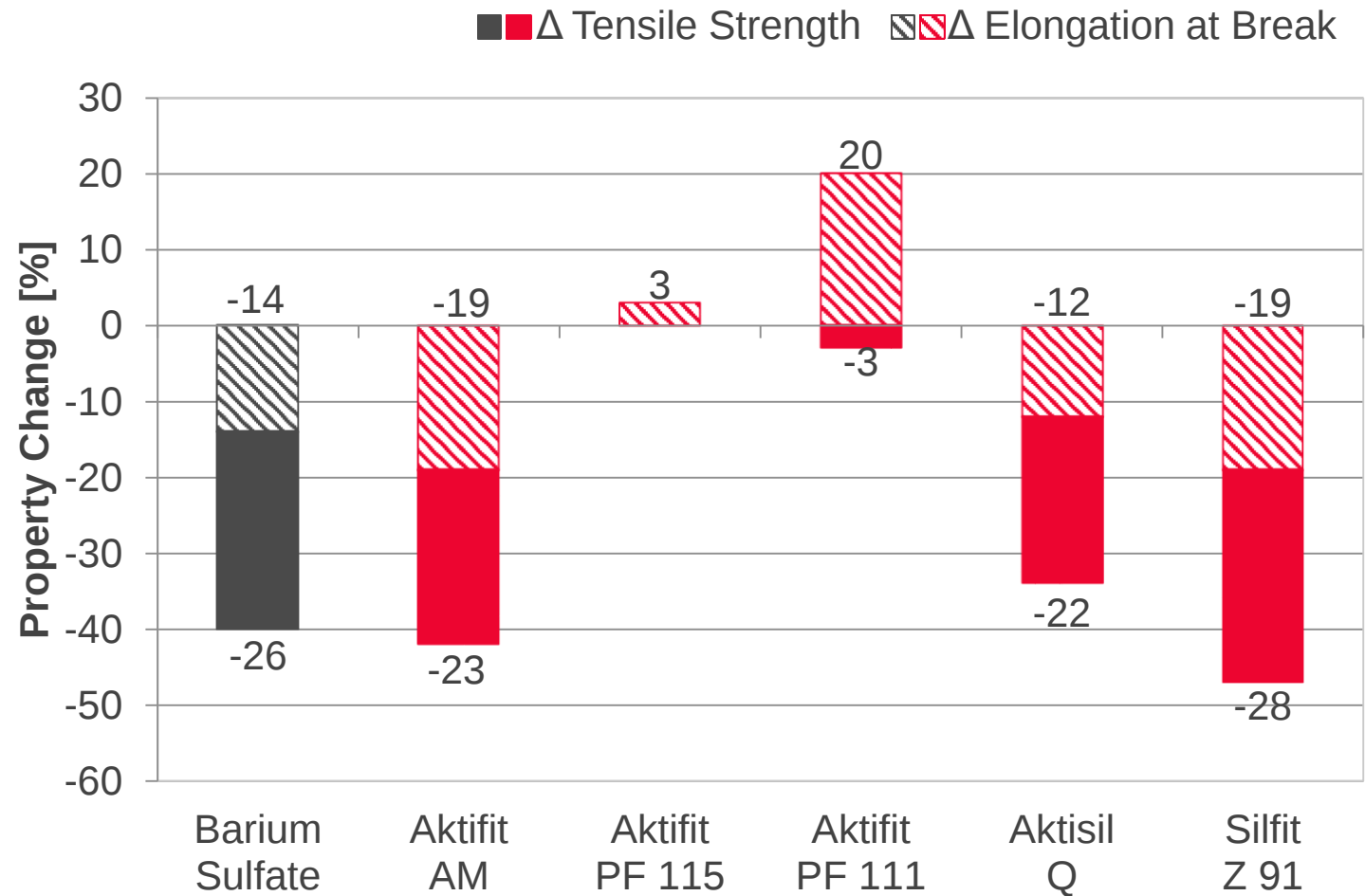
EXPERIMENTAL

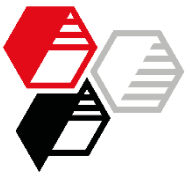
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY





BaSO₄ - Viton A-201C

Fuel Resistance

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FAM B, 70 h / 23 °C

INTRODUCTION

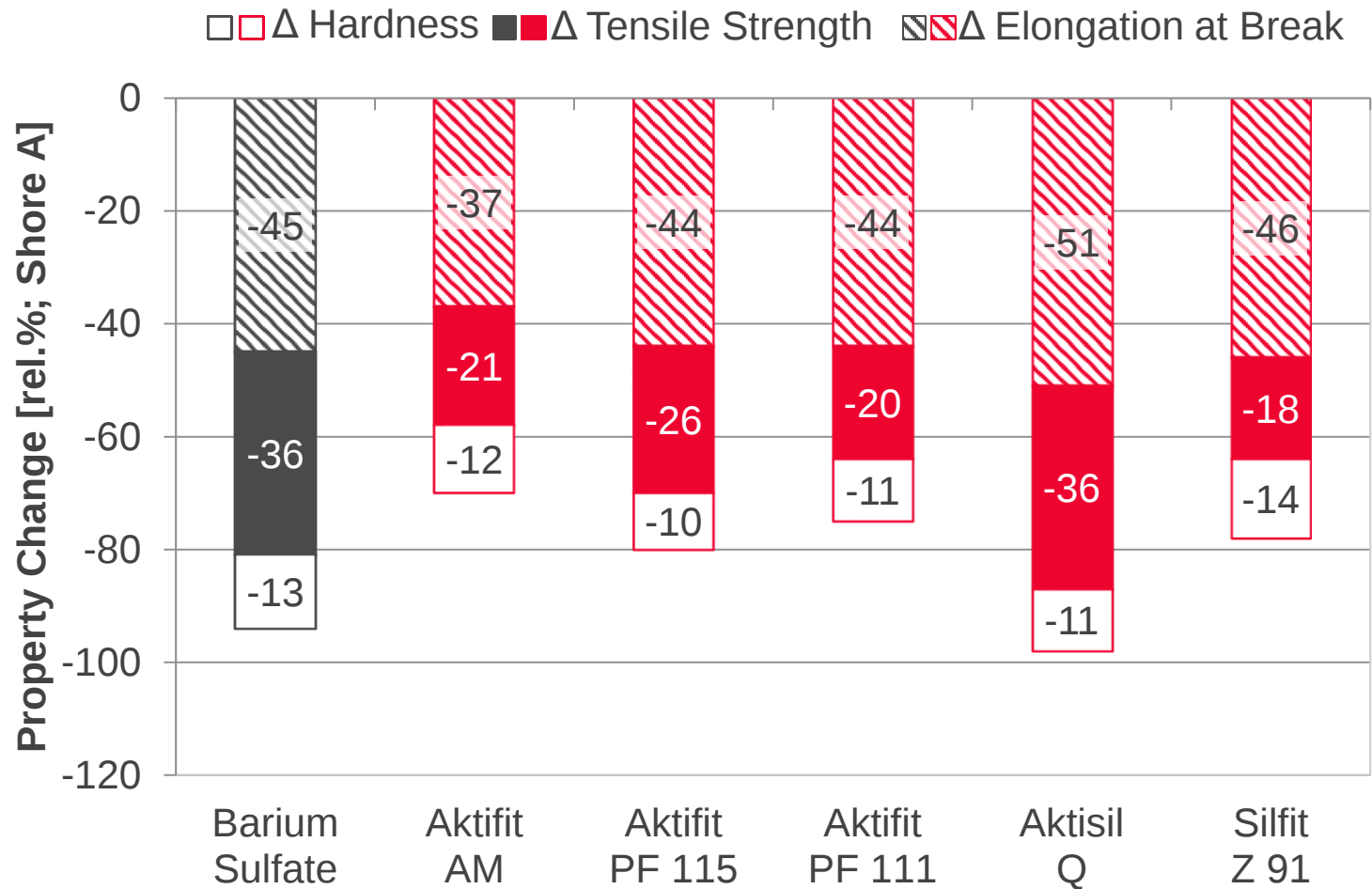
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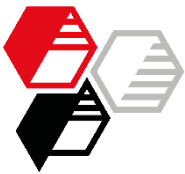
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY





BaSO₄ - Viton A-201C

Engine Oil vs. Fuel

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INTRODUCTION

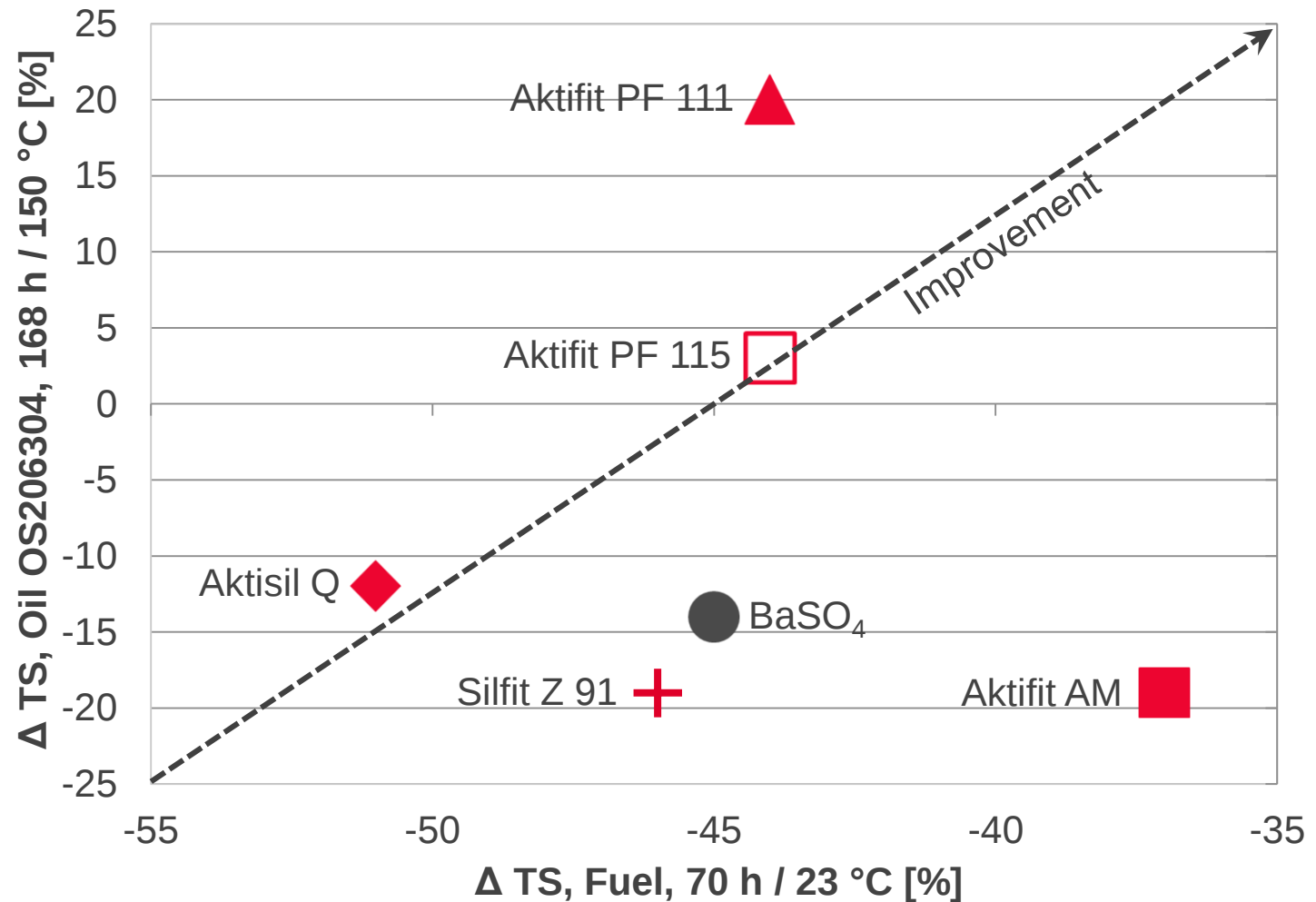
EXPERIMENTAL

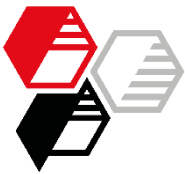
RESULTS

Viton A-201C

Barium Sulfate

SUMMARY





Evaluation

NSE vs. Barium Sulfate

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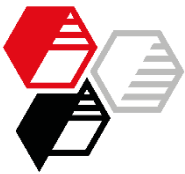
Viton A-201C

Barium Sulfate

SUMMARY



Viton A-201C	Aktifit AM	Aktifit PF 115	Aktifit PF 111	Aktisil Q	Silfit Z 91
Tensile Strength	+	+	+	+	+
Elong. at Break					=
CS ISO 232 °C				=	+
CS ISO 200 °C	+	n.d.	+	+	+
Abrasion Resist.	+	+	+	+	+
Hot Air Resistance	=	=	=	=	=
Water Resistance	=				
Fuel Resistance	+	+	+	=	+
Oil Resistance	=	+	+	=	=
Cure Speed	+	=		=	
Viscosity / M _{min}	=	+	=	+	



Examples of Use



Automotive Sector

- DIN 73379
Road vehicles – Fuel hoses

Oil Extraction

- Stators in eccentric screw pumps

Aerospace

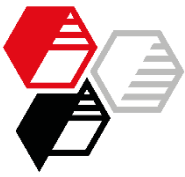
- DIN EN 2798
Fluorocarbon rubber, low compression set

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Automotive Sector

DIN 73379

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* 70 h / 232 °C
** FAM B, 70 h / 23 °C

DIN 73379

45 phr Aktifit PF 111
D. FC 2181Z

45 phr Aktisil Q
D. FC 2181Z

Properties of cured compounds

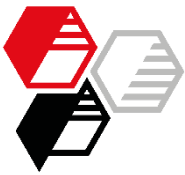
Hardness	Shore A	75 ± 5	79	75
Tensile Strength	MPa	min. 8	19.8	17.7
Elongation at Break	%	min. 200	215	242
Tear Resistance Trouser Tear	N/mm	min. 4	4	4
Compression Set 22 +2 h / 150 °C	%	max. 70	33 *	30 *

Resistance to gasoline 168 h / 23 °C – no redrying

Hardness	Shore A	bis -20	-11 **	-11 **
Tensile Strength	MPa	min. 5	10.2 **	9.9 **
Elongation at Break	%	min. 150	222**	205 **
Weight Change	%	max. +20	+5.6 **	+5.9 **

suitable for DIN 73379





Oil Extraction

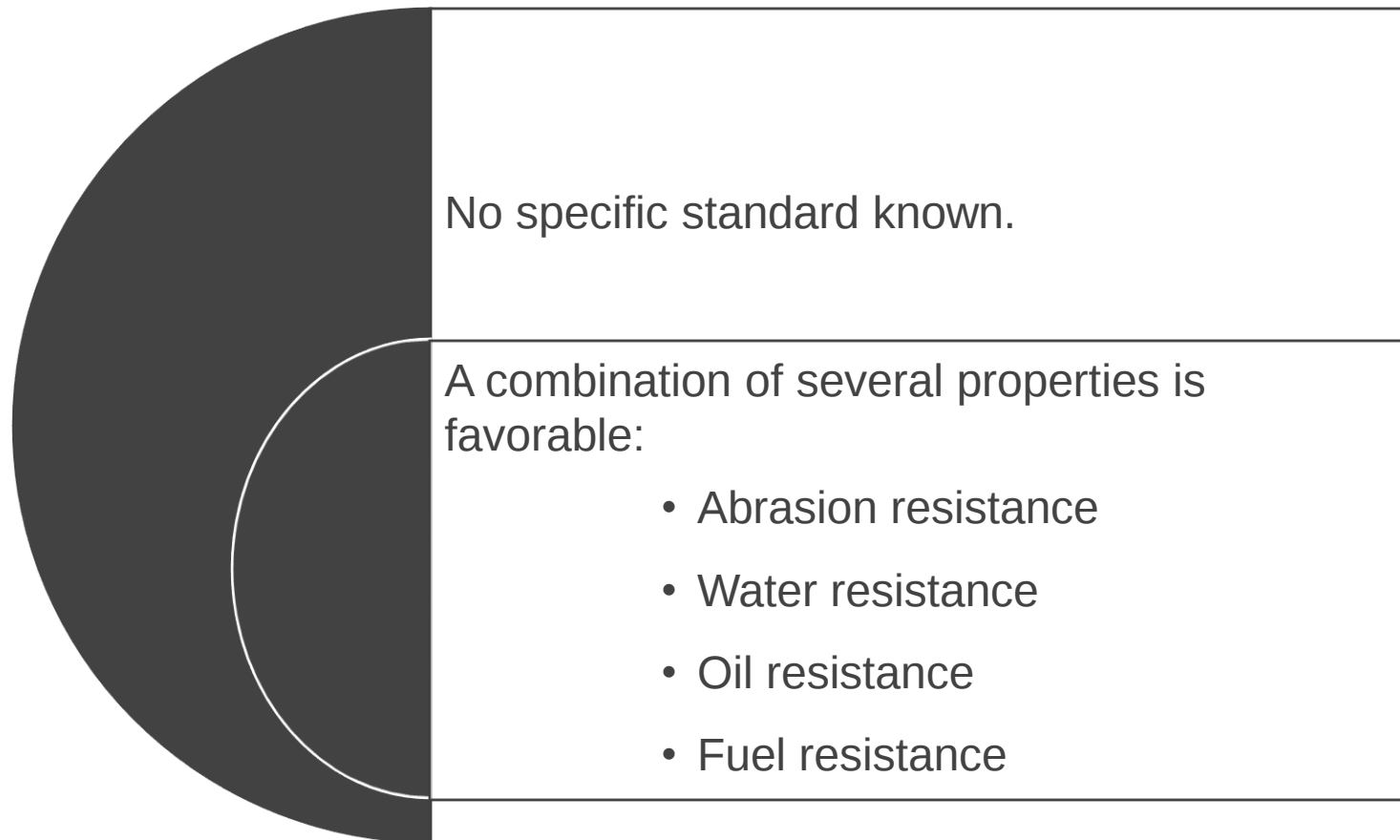
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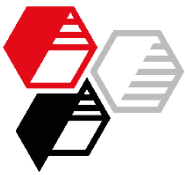
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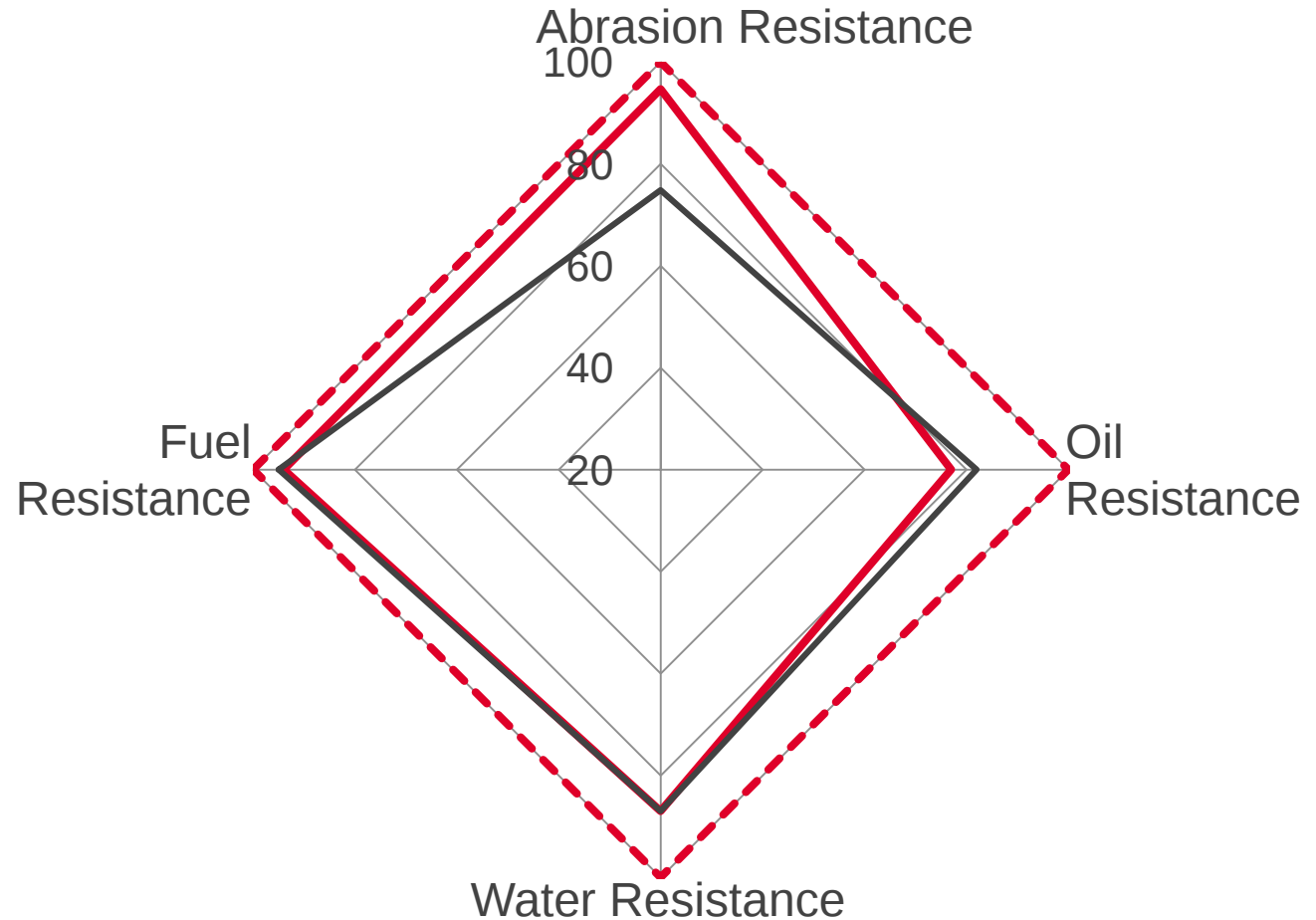




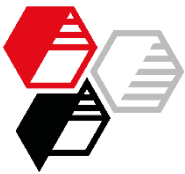
Oil Extraction Combination of Properties

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Filler loading: 45 phr, Dyneon FC 2181Z



— Aktifit AM - - - Aktifit PF 115 — N990



Aerospace

DIN EN 2798

HOFFMANN
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* Shore A

DIN EN 2789

**45 phr
Silfit Z 91
Viton A-201C**

**45 phr
Aktifit PF 111
Viton A-201C**

Properties of cured compounds

Hardness	IRHD	76 - 85	80 *	83 *
Tensile Strength	MPa	min. 11	12.2	14.5
Elongation at Break	%	min. 120	213	174
Compression Set 70 h / 200 °C	%	max. 25	17	17

Basic requirement of DIN EN 2798
further tests necessary for a complete evaluation

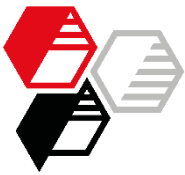


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Benefits of **Aktifit AM**

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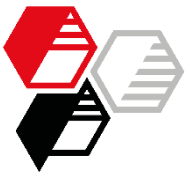
SUMMARY

high cure speed

high tensile strength

very good abrasion
resistance

good to very good resistance
against water and fuel



Benefits of **Aktifit PF 115**

Similar to Aktifit AM. Additionally:

lower viscosity

very good oil resistance

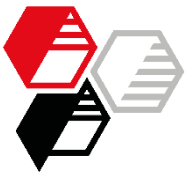
improved
abrasion resistance
at high filler loadings

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Benefits of **Aktifit PF 111**

Similar to Aktifit AM. Additionally:

higher elongation at break

improved oil resistance

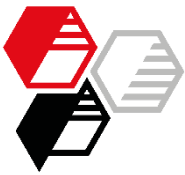
improved compression set
at high loadings
acc. to VW test procedure

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Benefits of **Aktisil Q**

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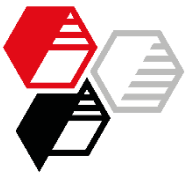
Similar to Aktifit AM. Additionally:

lower viscosity

higher elongation at break

very good compression set

good resistance to
water and oil



Benefits of **Silfit Z 91**

Similar to Aktifit AM. Additionally:

highest elongation at break

good compression set
(depending on the polymer)

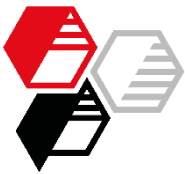
medium resistances

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Conclusion

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Neuburg Siliceous Earth improves compound properties over carbon black and other mineral fillers.



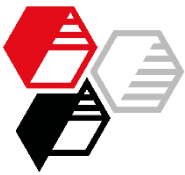
Possibility of colored vulcanizates with Neuburg Siliceous Earth.



Potential for optimization of compound costs.



Principally all tested Neuburg Siliceous Earth applicable. Choice of best suiting grade is dependent on the requirements.



We supply material for good ideas!

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E-mail: info@hoffmann-mineral.com

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