



AFM 34

AFM 34

Technical Data Sheet 334 (previously TD 277)

Edition: 05/2013, supersedes all prior editions.

Please see the latest issue under www.reinz.com/datasheet

Material

AFM 34 is an asbestos- free gasket material. It consists of aramide fibers, inorganic fillers and other asbestos substitutes that are resistant to high temperatures. These are firmly bonded to high- grade elastomers under elevated pressure and temperature to achieve exceptionally high gas sealability.

Properties

AFM 34 does not contain any physiologically harmful substances or colour pigments.

AFM 34 exhibits high tensile strength plus stress and shearing resistance. The material is ideally suited for sealing gases and fluids, e.g. oils, solvents, fuels, Freons, liquid gases, water/ antifreeze mixtures, saline solutions and many other media. It is also suitable for sealing hot water and steam up to approx. 200 °C in stationary applications and with an installation surface pressure of at least 50 N/ mm². Please consult us if you have a specific application.

Other characteristic properties of the material are excellent temperature resistance, stress resistance under high operating pressure, and ease of handling.

In most cases, **AFM 34** can be used to replace CAF materials without problems within a temperature range of up to 200 °C.

Application

- for DIN and ANSI flanged joints, apparatus, pumps, fittings and pipelines in industrial plants
- for fittings with very narrow sealing surfaces, e.g. in gas and hot water units, solar panels, convection radiators and couplings, etc.
- for sealed joints in IC engines subject to high mechanical and thermal stress (oil filters, intake manifolds, water, fuel & vacuum pumps, etc.)
- for transmissions, gearboxes, refrigerating & air compressors, etc.

Since **AFM 34** is physiologically safe, it is particularly suitable for use in contact with drinking water & foodstuffs, and for sealing highly pure, pollutant- sensitive products such as paint bases, vitamins, etc.

Surfaces

As standard, both sides of **AFM 34** are coated with a non- stick, high- friction layer that greatly facilitates disassembly. In most cases, additional surface treatment is unnecessary.

However, a graphite coating on one or both sides of the gasket is required when used with components that rotate on the gasket during assembly, e.g. in threaded couplings, radiator plugs, etc., as a low friction value is required in these cases.



AFM 34

Approvals

DIN- DVGW

(acc. to DIN 3535, part 6 FA)

SVGW

Swiss Gas And Water Society

ÖVGW Quality Mark

FDA- compliant

acc. to 21 CFR § 177.2600 – suitable for flat gaskets with all types of foodstuffs

KTW/ DVGW- Arbeitsblatt W270

Plastics in contact with drinking water

WRAS tested by WRC- NSF

Certification of gasket materials for use in drinking water (acc. to British Standard BS 6920)

Vienna Institute for Food Analyses

Hungarian drinking water approval

VP 401

Gaskets with higher thermal resistance

HTB

Higher thermal resistance acc. to DIN 3374/3376
(0.1 and 1.0 bar at 650 °C for 30 minutes)

Fire Safe

acc. to British Standard BS 6755

BAM

German Federal Institute for Materials Research and Testing,
flanged joints in oxygen- conducting steel pipes up to 100 bar and 80 °C

Grade X

acc. to BS 7531

UVV 61

"Gases", AD- B7 (VdTÜV) in conjunction with metal inner eyelet, blowout-proof gasket

TA Luft

High- quality gasket (200 °C for 48 h and 2000 h)

Germanischer Lloyd

Approval for shipbuilding



AFM 34

Technical Data

(nominal thickness 2.00 mm)

Density	g/ cm ³	1.8 - 2.0
Ignition loss acc to DIN 52 911	%	< 34
Tensile strength		
acc. to ASTM F 152 accross gain	N/ mm ²	> 18
acc. to DIN 52 910 accross gain	N/ mm ²	> 12
Residual stress acc. to DIN 52 913		
16 h, 300 °C	N/ mm ²	≈ 25
16 h, 175 °C	N/ mm ²	≈ 36
Compressibility and recovery		
acc. to ASTM F 36, procedure J		
compressibility	%	5 - 8
recovery	%	> 55
Sealability against nitrogen		
acc. to DIN 3535, part 6 FA	mg/ (s·m)	≈ 0.02
Swelling acc. to ASTM F 146		
in IRM 903 Oil (replaces ASTM Oil No. 3)		
5 h, 150 °C		
increase in thickness	%	< 7
increase in weight	%	< 7
in ASTM Fuel B		
5 h, room temp.		
increase in thickness	%	< 10
increase in weight	%	< 10
in water / antifreeze (50:50)		
5 h, 100 °C		
increase in thickness	%	< 10
increase in weight	%	< 10
Content of water- soluble chloride	ppm	< 100
Iron content	%	< 0.3
Thermal conductivity	W/ (m·K)	≈ 0.7
Dielectric strength		
after storage at 50% relative		
humidity, 48 h	kV/ mm	≈ 20
at 300 °C, 4 h	kV/ mm	≈ 30
Electrical specific resistance		
after storage at 55% relative		
humidity, 48 h	Ω·cm	≈ 1 x 10 ¹²
at 120 °C, 1 h	Ω·cm	≈ 2 x 10 ¹³
Short- term peak temperature	°C	400
Maximum continuous temperature	°C	250
with steam up to	°C	200
with metal inner bead (AFM 34 CO ME)		
with steam up to	°C	220
Maximum operating pressure	bar	150



Max. continuous temperature and max. pressure must not occur simultaneously, please refer to the table entitled

"Max. operating pressures at various temperatures and with various media".

AFM 34

DIN 28091-2:		
Cold creep ϵ_{KSW}	%	5 - 8
Cold recovery ϵ_{KRW}	%	3 - 5
Hot creep during service $\epsilon_{WSW/T}$	%	9 - 12
Hot recovery $\epsilon_{WRW/T}$	%	≈ 0,9
Recovery R	mm	≈ 0,016
Specific leakage rate λ	mg / (s·m)	< 0,1
Media resistance		
see " AFM 34: Resistance to chemical media "		
Residual surface pressure after 1000 h (in air at 100 °C)	%	> 50

Sealing parameters: see corresponding [table](#).
Characteristics acc. to EN 13555 are available on request.



The data quoted above are valid for the material "as delivered" without any additional treatment. In view of the countless possible installation and operating conditions, definitive conclusions cannot be drawn for all applications regarding the behaviour in a sealed joint. Therefore, we do not give any warranty for technical data, as they do not represent assured characteristics. If you have any doubt, please contact us and specify the exact operating conditions.

Form of delivery

Gaskets	according to a drawing, dimensions supplied, or other arrangement.
Sheets	1500 x 1500 mm (standard size)

Nominal thicknesses and tolerances acc. to DIN 28091-1 (mm)
Dimensional limits within a shipment

0.30	±0.10
0.50	±0.10
0.75	±0.10
1.00	±0.10
1.50	±0.15
2.00	±0.20
3.00	±0.30
4.00	±0.40
5.00	±0.50

Max. thickness variation in a sheet:
0.1 mm for sheet thickness ≤1.00 mm, and 0.2 mm for thickness >1.00 mm


VICTOR REINZ®
Sealing Products
AFM 34
Maximum operating pressures at various temperatures and with various media (guiding values)

Edition: 05/2012, supersedes all prior editions.

 Please see the latest issue at www.reinz.com/datasheet
[Print](#)
Max. operating pressure (bar) ¹⁾ with medium

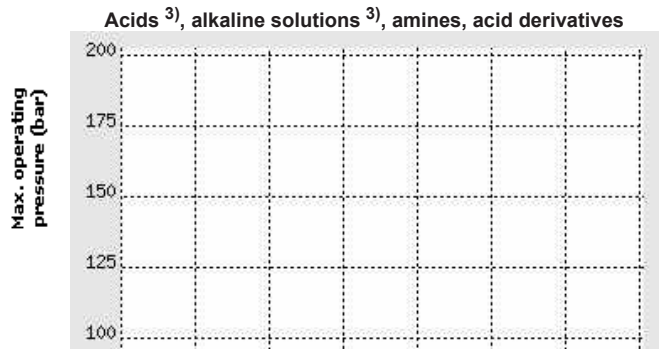
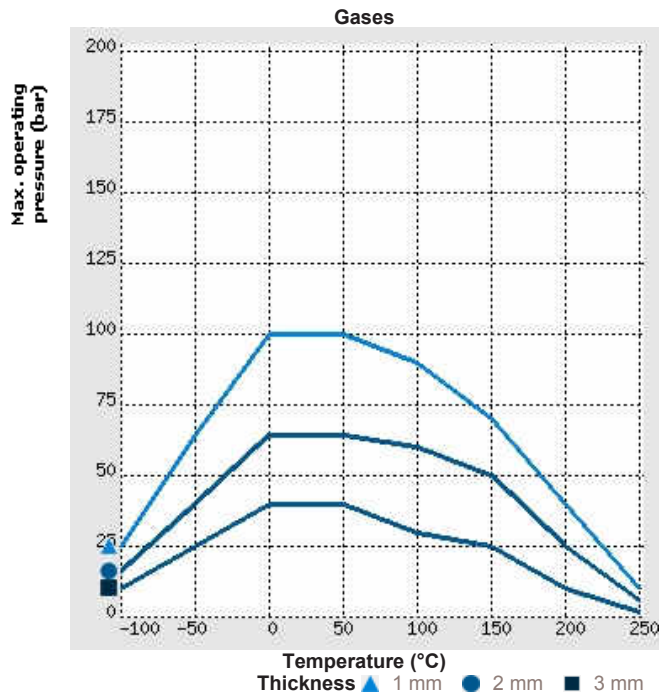
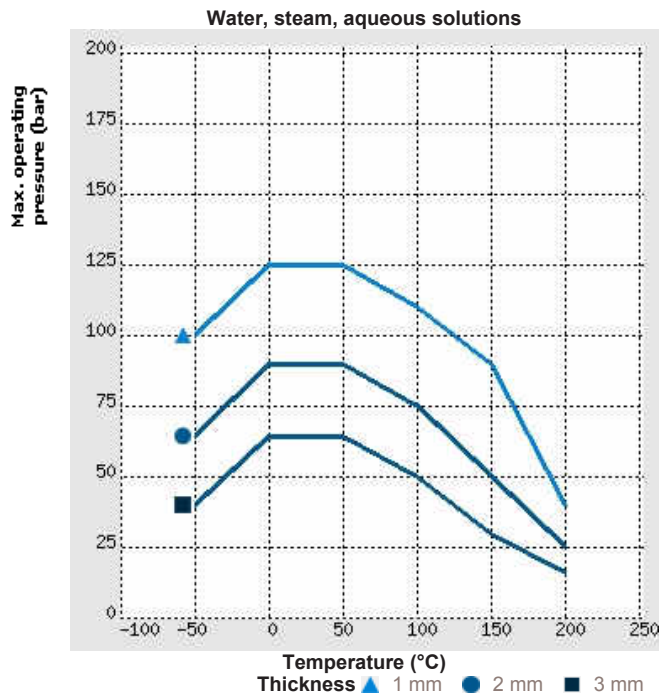
Temperature (°C)	Thickness (mm)	Water, steam, aqueous solutions	Gases	Acids ³⁾ , alkaline solutions ³⁾ , amines, acid derivatives	Oils, greases	Fuels, solvents
-100 ²⁾	1	-	25	-	40	25
	2	-	16	-	25	16
	3	-	10	-	10	10
-50	1	100	64	25	80	64
	2	64	40	16	64	40
	3	40	25	10	40	25
0	1	125	100	40	150	80
	2	90	64	25	100	64
	3	64	40	20	64	40
50	1	125	100	40	150	80
	2	90	64	25	100	64
	3	64	40	20	64	40
100	1	110	90	30	120	75
	2	75	60	20	90	50
	3	50	30	16	50	25
150	1	90	70	25	90	50
	2	50	50	16	70	30
	3	30	25	10	30	16
200	1	40	40	-	64	25
	2	25	25	-	35	16
	3	16	10	-	16	10
250	1	-	10	-	40	-
	2	-	6	-	16	-
	3	-	2	-	10	-

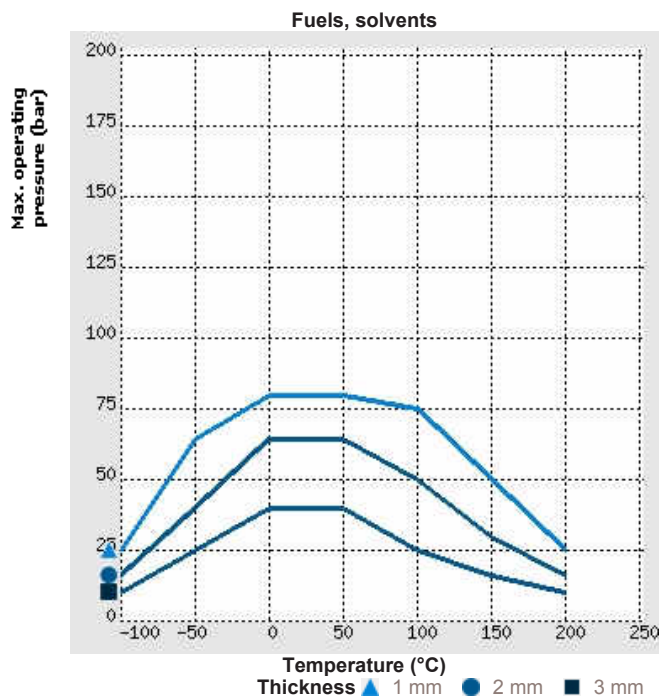
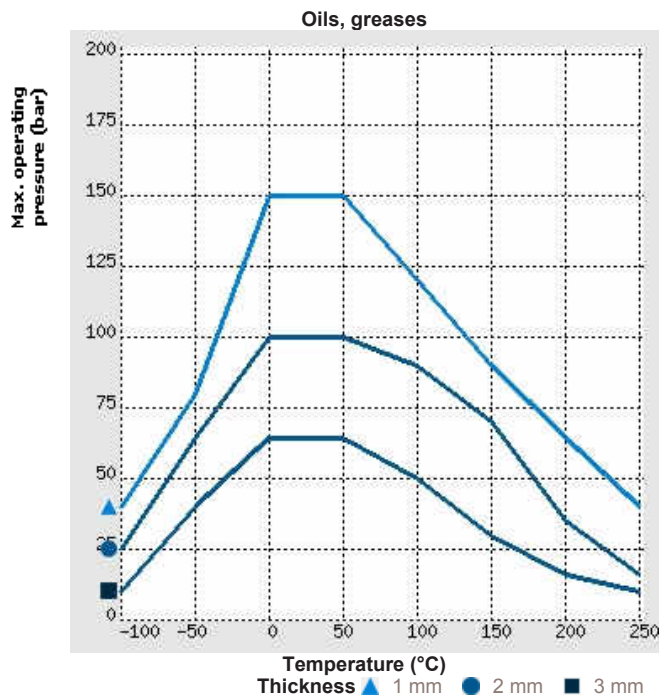
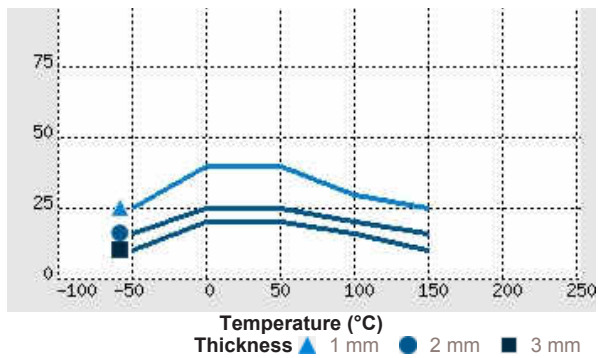


The data quoted above are valid for the material "as delivered" without any additional treatment and with sufficient surface pressure, e.g. according to DIN 28 090ff. In view of the countless possible gasket designs as well as installation and operating conditions, definitive conclusions cannot be drawn for all applications regarding the behaviour in a sealed joint. Therefore, we do not give any warranty for technical data, as they do not represent assured characteristics. If you have any doubt, please contact us and specify the exact operating conditions.

- 1) It is possible that far higher pressures are permitted for flanges with projections and recesses or grooves & tongues. Please consult us in individual cases, specifying the exact sealing conditions.
- 2) Use at temperatures below -50 °C is possible, if surface pressure is not less than approx. 15 N/mm² in liquids or 30 N/mm² in gases (internal pressure must be taken into account). In addition, the gasket must not be subjected to bending or flexing stresses. At temperatures below -100 °C, operating pressures may not be higher than the max. values given for -100 °C.

- 3) With strong acids or alkaline solutions such as hydrochloric acid or caustic potash solution, and temperatures above 50 °C, the data in the table "AFM 34 – Resistance to chemical media" should be observed. If the material is not resistant to the medium in question, we recommend using gaskets made of REINZOFLOON E (PTFE); please refer to [Technical Data Sheet TDS 480](#).





© VICTOR REINZ 2012