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FASTENERS CHEMICAL INDUSTRY



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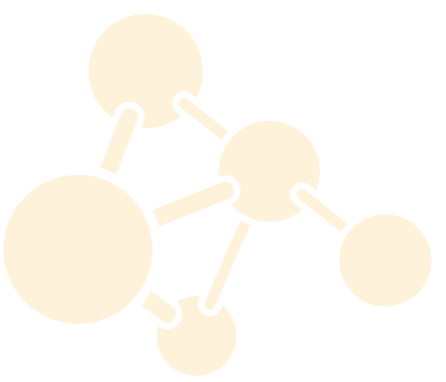
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■ About REYHER

With over 125 years' experience, REYHER is one of Europe's leading distributors of fasteners and fixing technology supplying industrial and commercial customers worldwide. Over 650 employees at our central location in Hamburg, Germany, working on individual, flexible solutions, safeguard our daily fill-rate of over 99 per cent to ensure your supply of C-parts.





Chemical industry – a versatile influential sector

Worldwide the sector is dominated by chemical corporations as well as the chemicals divisions of major oil companies. In addition numerous mid-sized companies are typical for this business. For Germany, as the largest chemicals producer in Europe, the chemical industry is a strong and important industrial cornerstone.

This industry produces chemicals for various commercial sectors and is a catalyst for innovations in other fields. Customers come from industrial sectors such as mechanical engineering, construction materials, automotive industry, plastics and food industries.

REYHER in the chemical industry

For fasteners in the chemical industry, safety, reliability and quality are of the utmost importance. REYHER is well-known in the market for its high quality and reliability and is well aware of the specific demands and requirements in this industry.

Safety aspects have a very high priority when producing chemical products, because of the extreme conditions. This is why fasteners made from special materials with specific testing requirements are used. REYHER's industry-specific product range includes products in line with the application standards AD-W2 and AD-W7 as well as the harmonised standards EN 1515-4, EN 13445-2 and EN 13480-2. The fasteners in accordance with the AD 2000 data sheets are already well established at REYHER. In addition we have 450 EN standard-sized items of material 1.7218 (25CrMo4) on stock.

Occupational health and safety as well as environmental protection has the highest priority, which is why regulations play a very important role. The Pressure Equipment Directive (PED) is a main guideline for the application of fasteners in Europe. For example, by implementing harmonised standards and the AD 2000 data sheets. These regulations lay down all technical and essential safety requirements.

In addition fasteners available on stock from BUMAX 88 (M 6 to M 36) range can also be used in pressure vessels. For these materials there is a particular material appraisal (PMA No. 1326W101430), which makes it possible to use such fasteners in pressure vessels in line with the Pressure Equipment Directive and AD-W2.

Whether for production, revision or plant maintenance, fast "tailored to needs" deliveries are important. REYHER supplies, quickly and flexibly directly from stock with a daily fill-rate of over 99 per cent. An additional alternative for reliable material supply is a Kanban supply system. ROM – REYHER Order Management has individual solutions ready for you.

Compilation of item sets especially simplifies the process for maintenance or assembly. RKP – REYHER Kitting & Packaging meets individual customer needs, also supplying stocked containers.



Reliable product quality



High safety aspects and extreme conditions for fasteners in the chemical industry demand high quality. Our approved suppliers tailored to fulfil strict quality criteria. In addition we inspect incoming products once again in-house using cutting-edge methods and technology. With REYHER, you have continual and reliable quality.

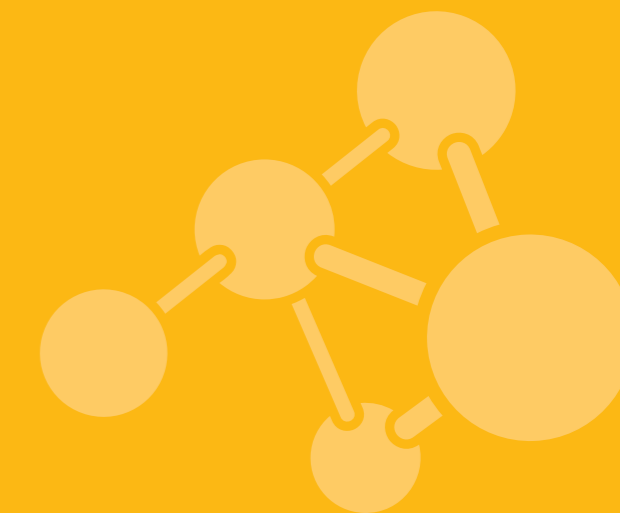
Technical competence



REM – REYHER Engineering Management deals with all technical questions and details involving fasteners and fixing technology. Through continuous in-service training, our staff keep their all-round technical knowledge up to date with the latest information. In the chemical industry there are many technical challenges for fasteners, especially at high temperatures. Knowledge of the content of relevant regulations must always be kept up to date. Experienced engineers and technicians in our REM team are always on hand to consult our customers.

REYHER – your partner in the chemical industry

- ▶ Items in accordance with Pressure Equipment Directive (PED) and in line with application regulations AD-W2, AD-W7, EN 1515-4, EN 13445-2, EN 13480-2
- ▶ Partner for the BUMAX® range
- ▶ Items of material 1.7218 (25CrMo4) – comprehensive range with over 450 sizes
- ▶ Engineered parts service
- ▶ Reliable product quality
- ▶ Secure logistics
- ▶ Technical expertise
- ▶ Flexible Kanban supply systems
- ▶ Diverse e-business solutions (e.g. electronic catalogues, EDI)
- ▶ Individual kitting and packaging (e.g. sets)





■ Engineered parts service

Special customer requirements, special service: with selected partners, REYHER realises high-quality, reliable products for its customers in the chemical industry.

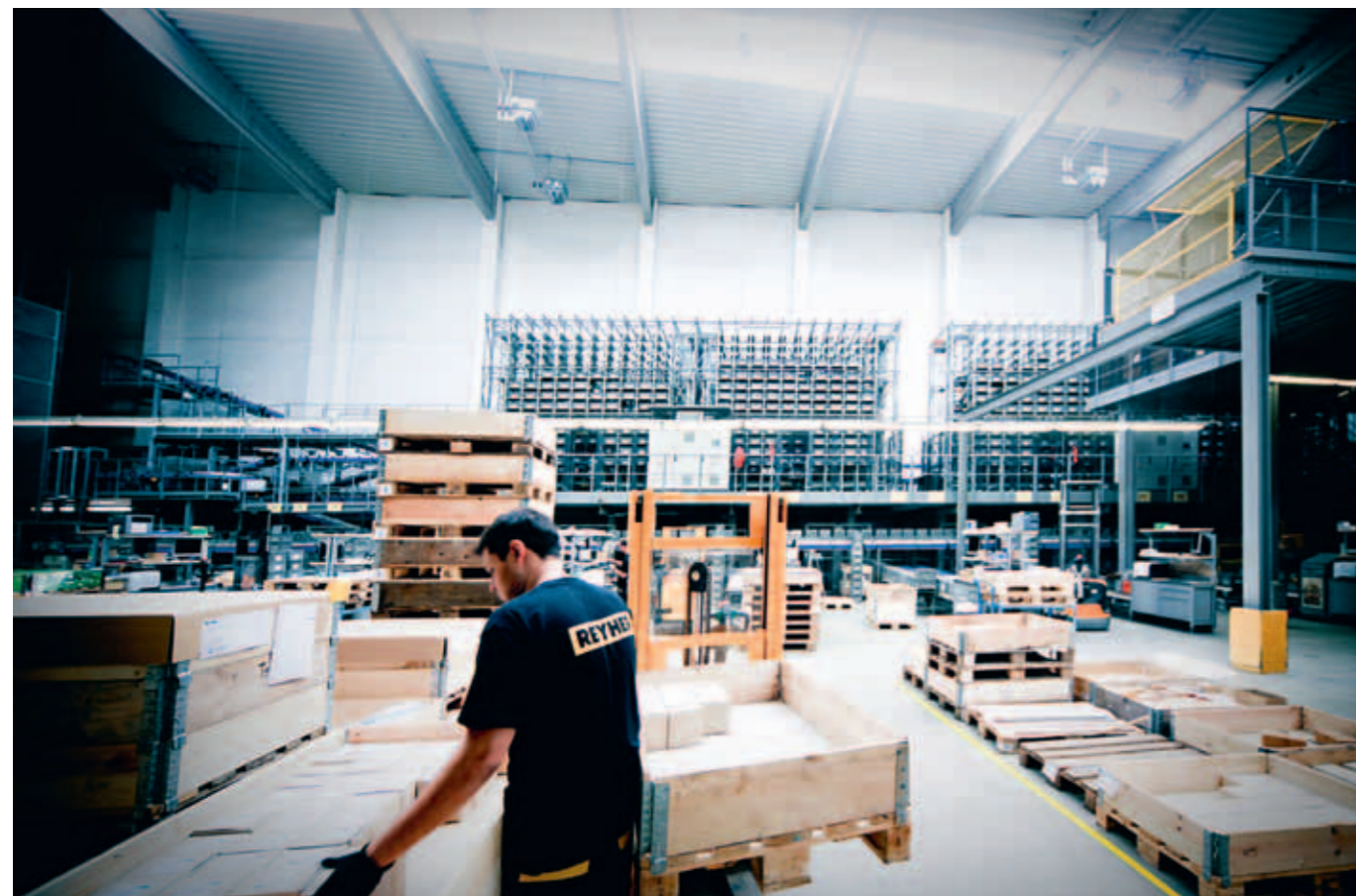
REYHER accomplishes product sourcing to meet individual customer needs in all materials and types, and takes all the necessary inspections and inspection certificates into consideration when supplying goods. As a matter of course, we stock these items for our customers.



■ Secure logistics

Whether for production, internal auditing or plant maintenance, fast "tailored to needs" deliveries are important. REYHER is a reliable partner and delivers standard and special items on demand directly from our warehouse stock. A shuttle system controls incoming and outgoing

goods in our state-of-the-art logistics centre with 60,000 pallet places and 120,000 bin places. Our daily fill-rate is over 99 per cent. In addition our highly reliable delivery systems with short delivery times ensure planning certainty for our customers in the chemical industry.



■ Flexible Kanban supply system



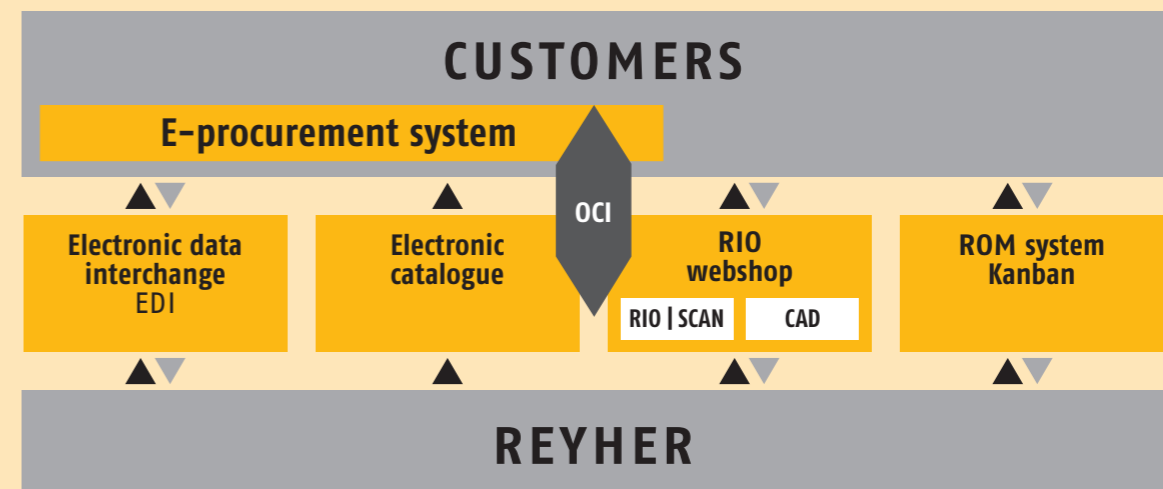
Using ROM – REYHER Order Management provides our customers with the highest supply and process reliability. Combinable modules, RFID technology, barcode systems, flexible labelling and modern data transfer systems make up our all-inclusive package for seamless materials sourcing. Reliable, precise and flexible tailored to meet individual customer needs.

■ Individual set kitting



Sets facilitate increased efficiency in processes, especially for maintenance and assembly in the chemical industry. RKP – REYHER Kitting & Packaging fulfils every customer wish. With "tailored to needs" compilation of items, packaging and labelling, we create customised sets for each and every application. Thanks to this kitting capability, all materials are readily available, and that saves time. Delivery of goods is customised for each individual customer in cartons or boxes. In addition RKP can provide stocked containers.

■ Diverse e-business solutions



To reduce procurement activities for C-parts, REYHER offers a variety of e-business solutions: EDI (Electronic Data Interchange), electronic catalogues and the webshop RIO – REYHER Internet Order where barcode scans can be used. The webshop can be integrated via OCI interfaces to the customer's sourcing process. Business data can be exchanged electronically via EDI, orders

and call orders can be created at a click and sent automatically. Standards provide simple, fast processes. The electronic catalogues are one possible basis for e-procurement, and at REYHER they are structured individually for customers to achieve this. We have numerous catalogue formats and classification systems available.



Comprehensive range on stock ready for immediate delivery

■ Products comply with Pressure Equipment Directive (PED):

Range ISO 4014/4017/4032 of material 1.7218 (25CrMo4), with inspection certificate 3.1

► In line with EN 1515-4, EN 13445-2, EN 13480-2 and PAS listed 1057-10

OVER 450 SIZES AVAILABLE!



■ Products comply with Pressure Equipment Directive (PED) and regulation AD-W2:

BUMAX 88 ~ property class 8.8

Information: The European approval of materials makes it possible to use them in pressure vessels in line with Pressure Equipment Directive and AD-W2.



■ Products comply to the AD 2000 regulations:

Range ISO 4014/4017/4032 in the property class 5.6/5-2, in line with AD-W7

Range ISO 4014/4017/4032 in the property class 8.8/8, in line with AD-W7

Range ISO 4014/4017/4032 of material A 2 -70/A 4 -70, in line with AD-W2

Range DIN 2510 of material 1.7709/1.7218, in line with AD-W7



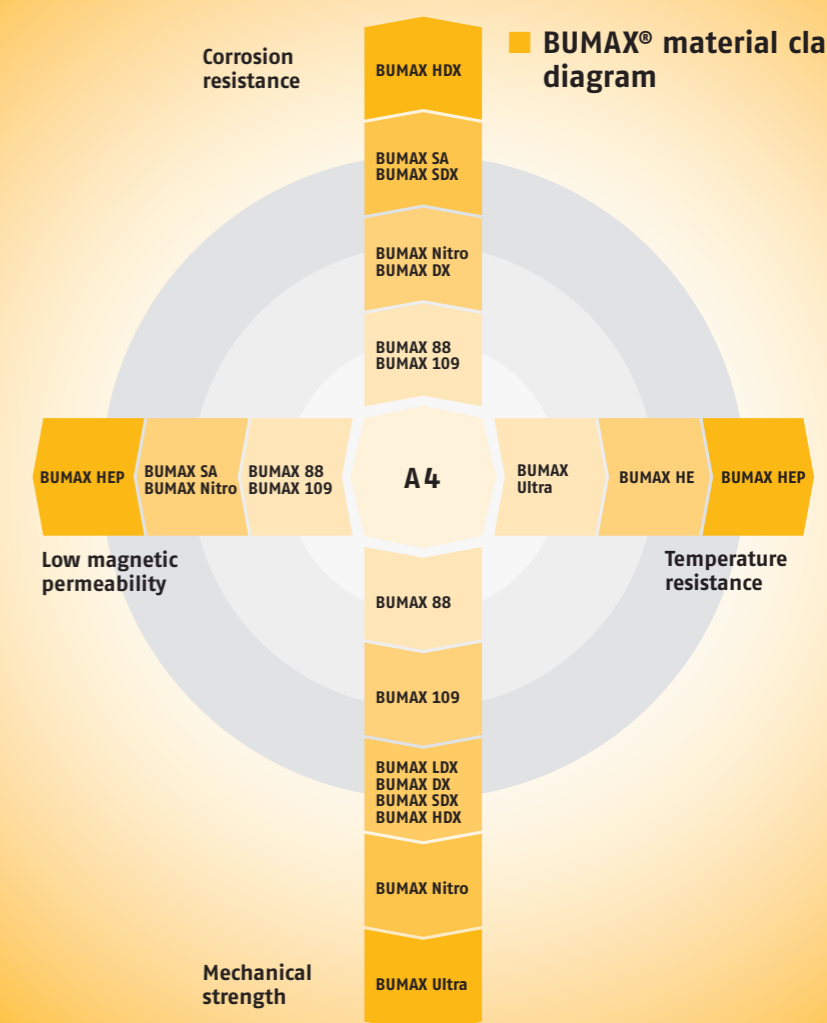
■ BUMAX® – high-tensile stainless steel fasteners

Overview of all materials

Material class	Material number/standard
BUMAX 88*	1.4432, 1.4436, 1.4435
BUMAX 109	1.4432, 1.4436, 1.4435
BUMAX Nitro	-
BUMAX SA	1.4547
BUMAX LDX	1.4162
BUMAX DX	1.4462
BUMAX SDX	1.4410
BUMAX HDX	1.4658
BUMAX Ultra	-
BUMAX HE	1.4980
BUMAX HEP	2.4952

*With particular material appraisal for PED and AD-W2 (PMA No. 1326W101430).

■ BUMAX® material classes diagram

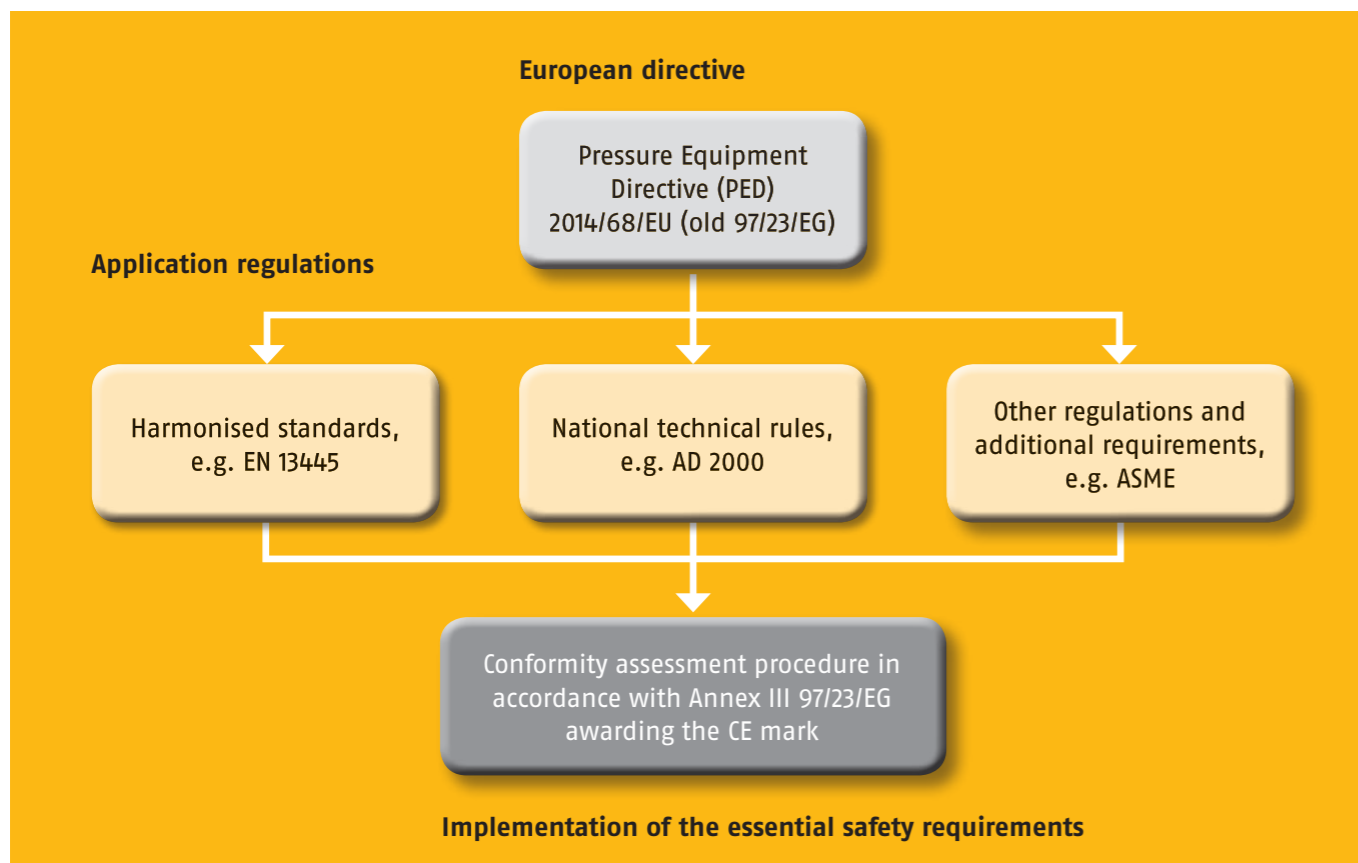


Further products:

- Products from highly corrosion-resistant materials.
- Products from special materials for a temperature range from -200 °C (-328 °F) to +1,000 °C (1,832 °F).



Pressure Equipment Directive and application regulations



■ Pressure Equipment Directive (PED)

The European Union Directive 2014/68/EU (old 97/23/EG) defined the requirements and the quality of pressure vessels for placing or making them available on the market in the European economic region. The directive unifies the regulations of European Union member countries and is one of many harmonising directives in line with Article 95 of the EC Treaty of the free movement of goods.

The Pressure Equipment Directive is valid, same as all European Directives, and must be implemented in the national laws of all member countries. In Germany, this is achieved today through the product safety law (ProdSG) and forms the basis of the pressure law (14 ProdSV). The PED has been valid since May 2002.

Pressure equipment and sub-assemblies can only be introduced and made operative when they do not endanger the health and safety of people, animals or goods during installation, maintenance and proper use. PED lays down the basic safety requirements for pressure equipment with a permissible pressure of PS >0.5 bar. Pressure equipment includes all vessels and pipes as well as sub-assemblies and all parts fitted such as flanges and fasteners.

■ Application regulations

Here, technical regulations are to be seen as a help to apply the requirements of the Pressure Equipment Directive.

Application regulations to fulfil the Pressure Equipment Directive are, for example:

- ▶ Harmonising standards
- ▶ National regulations
- ▶ Other regulations, e.g. ASME

These regulations are complete guidelines (development, calculation, manufacture) and must not be combined together or exchanged against each other.



■ Harmonised standards

Harmonised standards are European standards (EN) which comply with the directives of the European Union to unify technical regulations within the European domestic market.

The European Committee for Standardisation (CEN – Comité Européen de Normalisation) is responsible for the content

of the harmonised standards. The standards are not checked by European or national authorities, but the cooperation of these authorities is desired. Harmonised standards do not necessarily need to be revised: existing ones can be put forward for harmonisation. To create harmonised standards, there must be a mandate from the European Commission.

■ Harmonised standards for pressure equipment – requirements for fasteners

The following standards specify requirements for fasteners, etc.:

- ▶ EN 1515 (Parts 1 to 4) – flanges and their joints Part 4 – requirements for screws and nuts
- ▶ EN 13445 (Parts 1 to 8) – unfired pressure vessels Part 2 – materials (including requirements for fasteners)
- ▶ EN 13480 (Parts 1 to 8) – metallic industrial piping Part 2 – materials (including requirements for fasteners)

Taking special note of the following points:

- ▶ Test certificates must accompany deliveries.
- ▶ Fasteners must be sufficiently ductile and tough. For steel elongation A $\geq 14\%$ is valid.
- ▶ The absorbed impact energy at the lowest operative temperature ≥ 27 J (ISO V specimen).
- ▶ There is no regulatory duty to mark products with batch/melting only traceability requirements.

■ Conformity assessments for harmonised standards

The use of harmonised standards for conformity assessment procedures automatically assumes conformity. Further proof of conformity to the Pressure Equipment Directive is not required.

National regulations for pressure equipment in Europe:

- ▶ AD 2000 (Germany)
- ▶ Directive TRD (2012 officially withdrawn)
- ▶ British Standards
- ▶ CODAP (France)
- ▶ RACCOLTA (Italy)
- ▶ Stoomwezen – Dutch Rules for Pressure Vessels
- ▶ Swedish Pressure Vessel Code

When using national regulations, conformity is not automatically given.





German national AD 2000 Regulations – data sheets

The AD 2000 data sheets were compiled by a pressure vessels working group (AD) made up of seven associations and then published by TÜV, a recognised certification association.

The data sheets are national regulations implementing the requirements of the Pressure Equipment Directive (PED). Assumption of conformity is normally given when pressure equipment is approved by an expert from TÜV, the originator of the regulations.

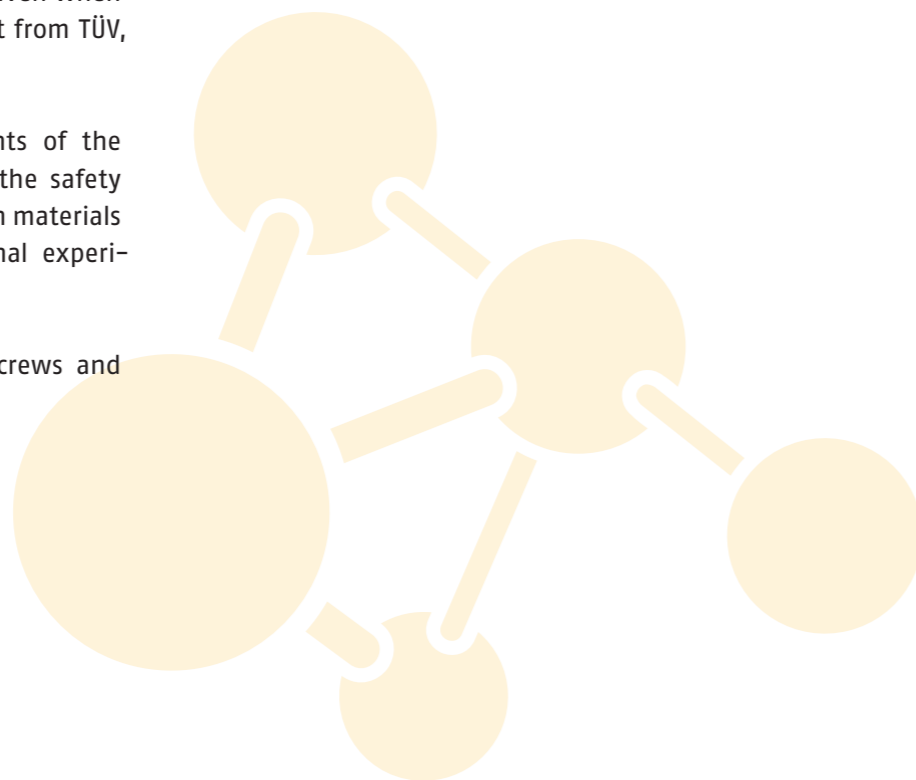
In case of deviations from the requirements of the AD 2000 data sheets, one must prove that the safety assessment is met in another way, e.g. through materials checks, trials, stress analyses and operational experience.

The technical regulations are relevant for screws and nuts in pressure and steam vessels:

- ▶ **AD 2000 data sheet W0**
General principles for materials
- ▶ **AD 2000 data sheet W2**
Austenitic and austenitic-ferritic steels
- ▶ **AD 2000 data sheet W7**
Screws and nuts of austenitic steels
- ▶ **AD 2000 data sheet W10**
Materials for low temperatures

Only materials and property classes listed in these data sheets are allowed to be used in the pressure/temperature sector.

The AD 2000 data sheets are continuously updated to keep pace with the advances in technology.



■ VdTÜV data sheet material 1253

Certified manufacturers of screws and nuts from approved materials must verify, to the responsible authority, that they fulfil the requirements of AD 2000 data sheet W0. Manufacturers that fulfil these requirements are listed in VdTÜV data sheet 1253-1 and are under continual monitoring. The standards listed in the technical regulations, e.g. for screws and nuts, have legal status.

For manufacturers listed in VdTÜV data sheet 1253-4, the need for inspection certificate 3.1 for applications listed in the AD 2000 regulations can be disregarded.



The importance of PAS in the chemical industry

PAS stands for Publicly Available Specification. In the chemical industry, safety and quality play a vital role. To ensure these factors with suppliers, representatives from highly reputable chemical companies have compiled specifications for the chemical industry. It concerns the summarising of technical delivery conditions, which must fulfil the very strict safety guidelines and high quality standards. In 2008, PAS 1057 was derived from this. PAS 1057 is the guideline for the chemical industry,

but it is not a standard, even though it is published by the German institute for standardisation (DIN). The compilers are responsible for PAS content, not DIN. The successors of PAS are the DIN specifications, DIN SPEC, introduced in 2009. The current PAS will be valid until it is withdrawn.

AD 2000 data sheet W0 General principles for materials

This data sheet lays down the general principles for manufacture, testing and assessment of the quality features of products.

AD 2000 data sheet W2 Austenitic and austenitic-ferritic steels

This code of conduct applies to screws and nuts (mechanical fasteners) made of austenitic and austenitic-ferritic steels for use in constructing pressure vessels used at operating temperatures and surrounding temperatures from -10 °C (14 °F) to a maximum of +400 °C (752 °F). These steels are also generally usable for temperatures below -10 °C (14 °F), if they are listed in AD 2000 data sheet W10.

AD 2000 data sheet W7 Screws and nuts of ferritic steels

This guideline is valid for the manufacture of screws and nuts as well as long products of unalloyed and alloyed steels for use in constructing pressure vessels, which can be run at operating and surrounding temperatures of -10 °C to +300 °C (14 °F to 572 °F) and higher.

AD 2000 data sheet W10 Materials for low temperatures

These features are valid for ferrous metal products such as sheet metals, pipes, rods (e.g. screw materials), forged parts (e.g. flanges) and cast pieces used in constructing pressure vessels, piping and parts for interior or exterior excessive pressure at operative temperatures below -10 °C (14 °F). It complements the other AD 2000 data sheets.



Material number	Material name	Designation	Standard	AD 2000 data sheet	Inspection certificate acc. to AD 2000 (see remark 1)	Conforms to PED (EN 1515-4, EN 13345-2, EN 13480-2)	Inspection certificate acc. to PED	Temperature range (regarding combination of materials)
Austenitic steels								
1.4301 (A 2)	X5CrNi18-10		EN 10269 ISO 3506	W2 W10	3.1	Yes	3.1	-200 °C to +300 °C, -328 °F to +572 °F
1.4401 (A 4)	X5CrNiMo17-12-2		EN 10269 ISO 3506	W2 W10	3.1	Yes	3.1	AD 2000 data sheet W10 Bolts: -60 °C to +300 °C, -76 °F to +572 °F Stud bolts: -200 °C to +300 °C, -328 °F to +572 °F
1.4436 BUMAX 88	X3CrNiMo17-12-3	BUMAX A 4 - 80	VdTÜV WBL 548	W2 W10	3.1	Yes	3.1	-200 °C to +400 °C, -328 °F to +752 °F
1.4539	X1NiCrMoCuN25-20-5		VdTÜV WBL 421	W2	3.1/3.2 depending on dimension	Yes	3.1/3.2 depending on dimension	-200 °C to +500 °C, -328 °F to +932 °F Forged parts: -60 °C to +500 °C, -76 °F to +932 °F
1.4980	X6NiCrTiMoVB25-15-2	SD	EN 10269 VdTÜV WBL 435/3	W2 W10	3.1	Yes	3.2	-270 °C to +650 °C, -454 °F to +1,202 °F
1.4986wk	X8CrNiMoBNb16-16wk	S	VdTÜV WBL 113/2	W2	3.2	No		-10 °C to +650 °C, 14 °F to +1,202 °F
A 2 - 50 A 2 - 70		A 2 - 50 A 2 - 70	ISO 3506	W2 W10	3.1	Yes (regarding combination of bolt/nut materials)	3.1	-200 °C to +300 °C/+400 °C, -328 °F to +572 °F/+752 °F (see remark 2)
A 4 - 50 A 4 - 70		A 4 - 50 A 4 - 70	ISO 3506	W2 W10	3.1	Yes (regarding combination of bolt/nut materials)	3.1	AD 2000 data sheet W10 Bolts: -60 °C to +300 °C/+400 °C, -76 °F to +572 °F/+752 °F (see remark 2) Stud bolts: -200 °C to +300 °C/+400 °C, -328 °F to +572 °F/+752 °F (see remark 2)
Ferritic steels								
1.1181	C35E + QT bolts	YK	DIN EN 10269	W7	3.1 (for raw material and bolts/nuts)	Yes	3.1	-10 °C to +300 °C, +14 °F to +572 °F
	C35E + N nuts	Y						
1.4923	X22CrMoV12-1 + QT1	V	DIN EN 10269	W7	Bolts: - Raw material 3.2 - Finished bolt - with QT 3.2 - without QT 3.1	Yes	3.1	-10 °C to +500 °C, +14 °F to +932 °F
1.5680	X12Ni5 + QT	KB	DIN EN 10269	W7	Bolts: - Raw material 3.2 - Finished bolt - with QT 3.2 - without QT 3.1	Yes	3.1	EN 10269 -90 °C to +300 °C, -130 °F to +572 °F W7 -120 °C to +300 °C, -184 °F to +572 °F
1.6562	40NiCrMo84		VdTÜV WBL 380	W7	3.2	No	3.1	-10 °C to +350 °C, 14 °F to +662 °F
1.6772-I 1.6772-II	20NiCrMo14-5		VdTÜV WBL 337	W7	3.2	Yes	3.1	-40 °C to +400 °C, -40 °F to +752 °F
1.6958	26NiCrMo14-6		VdTÜV WBL 390	W7	3.2	No	3.1	-10 °C to +350 °C, +14 °F to +662 °F
1.7218	25CrMo4 + QT	KG	DIN EN 10269	W7	Bolts: - Raw material 3.2 - Finished bolt - with QT 3.2 - without QT 3.1	Yes	3.1	-60 °C to +500 °C, -76 °F to +932 °F
1.7709	21CrMoV5-7 + QT	GA	DIN EN 10269	W7	Bolts: - Raw material 3.2 - Finished bolt - with QT 3.2 - without QT 3.1	Yes	3.1	-10 °C to +500 °C, +14 °F to +932 °F
5.6 bolts 5-2 nuts		5.6 5-2	ISO 898-1 ISO 898-2	W7	3.1 (for raw material and bolts/nuts)	Yes, if material is listed in EN 10269 or PMA is available	3.1	-10 °C to +300 °C, +14 °F to +572 °F
8.8 bolts 8 nuts		8.8 8	ISO 898-1 ISO 898-2	W7	3.1/3.2 (for raw material and bolts/nuts, see remark 3)	Yes, if material is listed in EN 10269 or PMA is available	3.1	-10 °C to +300 °C, +14 °F to +572 °F

Remark 1: An inspection certificate 3.1 must not be delivered if the manufacturer is listed in VdTÜV 1253-4 and if the manufacturer has got the approval from authorities.

Remark 2: The maximum temperature depends on the resistance against intergranular corrosion. See AD 2000 W2, table 7.

Remark 3: The inspection certificate 3.1 only applies to pressure vessels with volume (in litres) and pressure (in bar) ≤5,000. Otherwise an inspection certificate 3.2 is required.



Material 1.7218 (25CrMo4)

REYHER's readily available items of material 25CrMo4 conform to the harmonised standards EN 1515-4, EN 13445-2 and EN 13480-2. They play an especially important role in the chemical industry, typically used in pressure vessels, pumps and piping.

These materials are characterised by temperature resistance from -60 °C to +500 °C (-50 °F to +932 °F).

Half-threaded screws with coarse thread made of 25CrMo4 quenched and tempered (QT) have a tensile strength of R_m of ≥ 600 N/mm². A yield strength of $R_{p0.2}$ is

>440 N/mm². Head markings for screws show the material designation KG for 25CrMo4 (acc. to DIN 267-13), the manufacturer's symbol and tracing batch marking to ensure tracing (this is beyond the standard). The marking on the nuts includes the material designation KG (acc. to DIN 267-13), for 25CrMo4 and the manufacturer's symbol. Products of this material are stocked with inspection certificates by default.

REYHER has a very comprehensive range of over 450 sizes in stock.

Preloading force and tightening torque for bolts made of 25CrMo4 + QT (1.7218 + QT) with bearing face like ISO 4762, ISO 4014, ISO 4017 and ISO 4032

Approximate values for half-threaded bolts with coarse thread made of 25CrMo4 + QT ($R_m \geq 600$ MPa, $R_{p0.2} \geq 440$ MPa) and a load of 90% yield strength

Dimension	P	Stress area (mm ²)	Preloading force F_y (kN) for μ_{tot}			Tightening torque M_a (Nm) for μ_{tot}		
			0.10	0.12	0.14	0.10	0.12	0.14
M 8	1.25	36.6	13.0	12.7	12.3	14.6	16.6	18.4
M 10	1.5	58.0	20.7	20.2	19.6	28.9	32.8	36.5
M 12	1.75	84.3	30.1	29.4	28.6	49.8	56.7	63.0
M 14	2.0	115.0	41.2	40.3	39.3	79.3	90.2	100.3
M 16	2.0	157.0	56.6	55.3	53.9	122.0	139.3	155.5
M 18	2.5	193.0	69.2	67.5	65.7	170.3	194.0	216.0
M 20	2.5	245.0	88.6	86.5	84.2	239.1	273.2	304.9
M 22	2.5	303.0	110.4	107.8	105.1	326.3	373.9	418.2
M 24	3.0	353.0	127.6	124.5	121.3	412.0	470.8	525.4
M 27	3.0	45.0	167.3	163.5	159.3	606.1	694.9	777.7
M 30	3.5	561.0	203.7	198.9	193.9	825.0	944.7	1056.2
M 33	3.5	694.0	253.3	247.5	241.3	1112.6	1277.0	1430.4
M 36	4.0	817.0	297.6	290.7	283.4	1433.1	1642.9	1838.5
M 39	4.0	976.0	356.9	348.8	340.1	1849.6	1642.9	2381.5



Materials 1.7218 (25CrMo4) as an alternative for the property class 5.6

To fulfil PED materials for property class 5.6 also have to comply with standard EN 10269. This is why the materials used up to now in line with AD regulations can no longer be used, because they didn't comply with EN 10269. The best alternative material is 1.7218 (25CrMo4). It has a far wider temperature range, better mechanical properties and meets the EN 10269 standard.

Comparison of properties

	5.6	1.7218
Tensile strength R_m	Min. 500 MPa	600-750 MPa
Yield strength $R_{p0.2}$	Min. 300 MPa	Min. 440 MPa
Temperature range*	-10 °C to +300 °C (+14 °F to +572 °F)	-60 °C to +500 °C (-76 °F to +932 °F)

*Valid temperature range in line with EN 1515-4, EN 13445-2 and AD-W7.

BUMAX® – high-tensile stainless steel fasteners

BUMAX stands for the strongest stainless steel fasteners in the world. They meet the highest requirements with reference to quality, corrosion resistance, hardness and fatigue strength as well as heat resistance and can be used in a wide temperature range from -200 °C to +815 °C (-328 °F to +1,499 °F). This provides a wide field of application – especially for use where there are huge temperature variations.

By lubricating the fasteners during the torque process, the targeted preload forces can be applied. In addition the range includes special and customised parts in various materials.

REYHER is the exclusive partner for the complete BUMAX range in Germany.

The BUMAX range includes

- BUMAX 88 and BUMAX 109 product groups. They are available for delivery from stock. They conform to steel property classes 8.8 and 10.9.
- further range of BUMAX materials. They are available as special parts on request. Some materials are unique and are only manufactured by BUFAB worldwide.

BUMAX 88 conforms to the Pressure Equipment Directive (PED)

BUMAX 88 screws and nuts in diameter sizes from M 6 to M 36 with a minimum length of 3 x d, can be used in pressure vessels in accordance with the Pressure Equipment Directive 97/23/EC. Suitability is confirmed with acceptance test certificate 3.1, which is available by default. The requirements are listed in TÜV Nord PMA No. 1326W101430_rev_01.





REYHER:
Partner of highly
reputable companies



Industry-specific product range,
comprehensive services,
flexible logistics and reliable deliveries –
REYHER convinces!

