



SEE - BERUFS GENOSSENSCHAFT
SCHIFFSSICHERHEIT

Annual report 2007





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Excerpt: Accident insurance

Accident insurance

Trends and perspectives

Increasing membership

As in previous years, the See-Berufsgenossenschaft gained new members in 2007: the present annual average stands at 36,784 insured persons, roughly a thousand more than in 2006. This increase is due to a growing maritime market. New personnel were recruited for employment both on board German ships as by shore-side maritime businesses.

In 2007, as in 2006, the See-Berufsgenossenschaft was able to reduce its contribution rate for member companies. The rate dropped to 6.8% (7.3% the year before) and was again lowered to now 5.8% at the beginning of 2008. Unlike other accident insurance associations, the See-BG has no risk rating. The contribution payable by member companies is calculated from a uniform rate and complemented by an equalization factor.

Expenditure, both benefits payments made to insured members and pension payments, continued to fall slightly in 2007. However, large sums are invested every year to the benefit of the injured and the ill: benefits expenditure amounted to roughly €29m, whereof €24.5m were pension payments.

Accident prevention

Findings on occupational accidents

In 2007, accidents were again most likely to occur in two well-known high risk areas: “decks, floors and gangways” as well as “stairs, ladders, doors and hatches” with 132 notifiable occupational accidents. The figures are almost identical to those of the previous year and constitute 37% of all notifiable occupational accidents of mariners on board ships (39% in 2006).

On the occasion of their annual surveys, the technical surveyors will raise awareness about the accident risks in these areas. They will base their work on the insurance associations’ programme “Sicherer Auftritt” (Mind your step), developed in 2003/2003 to highlight the risks of slip, trip and fall accidents.

Commuting accidents are the single most frequent type of accident on shore. In 2007, 71 shore-based employees and 13 mariners were concerned. Accordingly, the See-Berufsgenossenschaft is holding open its offer to pay 85 euros to each member taking part in a safe-driving course. 82 insured persons made use of this offer. (If your company is interested, please contact Mr. Weener of the ship safety division.)



Loading and unloading cargo ...



... is high precision work

Thorough training helps prevent occupational accidents

Well-trained onboard safety wardens and safety specialists help to prevent occupational accidents. Accordingly, on all seagoing ships a safety warden must be appointed. These safety wardens assume their responsibilities as colleagues and are therefore mostly chosen among the ratings. Their work is key to preventing accidents.

Experts for occupational safety fulfil the tasks detailed in clause 5 of the German Occupational Health and Safety Act (Arbeitssicherheitsgesetz) and thus help ensure compliance with their employers' health and safety duties. These accident prevention experts are trained at the See-Berufsgenossenschaft's training centre. In 2007, ten safety wardens, 19 onboard experts for occupational safety and 13 experts for occupational safety for the shipping company attended training courses with instructors of the See-Berufsgenossenschaft.

Revised accident prevention regulations

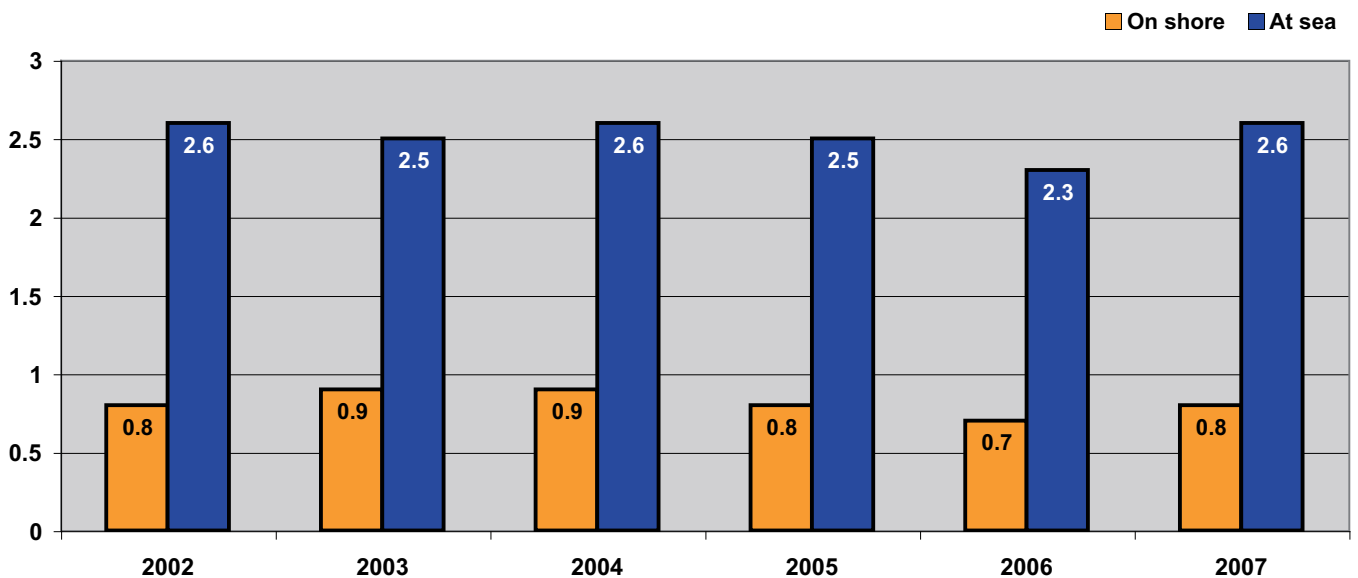
In 2007 the revision of the new accident prevention regulations for shipping enterprises (UVV See), according to the rules set forth by the Deutsche Gesetzliche Unfallversicherung (German statutory accident insurance DGUV, formerly HVBG), has nearly been finished. The so called Berufsgenossenschaftlichen Vorschriften (accident insurance associations' regulations) now apply. Building on that, a working group involving members of the self-administration as well as experts of the See-BG's ship safety division developed rules for the professional guidance and qualification of onboard experts for occupational safety.



In 2007, the fishing sector saw an increase in accidents

nistration as well as experts of the See-BG's ship safety division developed rules for the professional guidance and qualification of onboard experts for occupational safety.

Notifiable accidents of seagoing and shore-based personnel (per 100 insured persons)



Insurance cases

Accident rate remains low

The incidence of notifiable occupational accidents remains low: in all, 579 notifiable accidents were reported in 2007, whereof 355 occurred aboard ships. On shore, 51 mariners and 171 shore-based employees as well as two rehabilitation employees suffered accidents. The accident rate per 100 insured persons stands at 1.6% (1.4% the year before).

If only accidents at sea are taken into account, the accident incidence rate has slightly risen: from 2.0 to 2.3 notifiable accidents per 100 insured persons. For the most part, accident victims sustained light or medium injuries with no permanent damage to their health. However, there were two fatal occupational accidents, of which we give detailed accounts in the section “Fatal accidents” below. The unusually high number of eight fatalities in 2006 can therefore be regarded as an exceptionally high incidence.

Accidents are still most likely to happen on merchant vessels. In 2007, 259 accidents were reported in the merchant shipping sector (up by 10 from the previous year) as opposed to 96 accidents in the fishing sector. This increase in accident figures is less significant than it seems, however, as 2007 saw more persons insured on a yearly average than 2006 (15,672 onboard personnel in 2007, up from 15,646

in 2006, both figures averaged over the year). The accident rate is therefore still very low.

The fishing industry has seen an increase in the number of notifiable accidents. 96 accidents were reported, up from only 69 accidents in the previous year. This is a considerable increase of 39%. The accident causes are being further investigated and assessed, in order to find and introduce suitable preventative measures. Fortunately, there was no fatal accident in the fishing industry in the reporting year.

Onboard accidents

Fatal accidents

Fatal accident during maintenance work

On 27 April 2007 the German tanker “SEACOD” was sailing north-west of the Azores when a Philippine able-bodied seaman was fatally injured while carrying out maintenance work on a mooring line on the main deck after edge forecastle. An eye splice on a wire rope was to be rigged on deck. Due to spray water washing overboard, several metres of rope were unrolled from the forward port spring winch. The rope was several times deflected by an auxiliary construction, mounted at a ventilation pipe at the after edge forecastle and tightened. In the process a ladder rung broke to which a strop was attached.

Notifiable occupational accidents of all insured persons – incidence rate and classification

	Total	whereof		No. of insured persons on a yearly average*)	Accident incidence rate per 100 insured persons	
		commuting acc.	fatalities		2006	2007
Merchant shipping	259	–	2	13,676	1.8	1.9
Deep-sea fishing	50	–	–	296	9.4	16.9
Coastal fishing	46	–	–	1,700	2.3	2.7
At sea in total	355	–	2	15,672	2	2.3
Onboard crew on shore	51	13	–	15,672	0.3	0.3
Onboard crew in total	406	13	2	15,672	2.3	2.6
Shore-based employees	171	71	–	21,112	0.7	0.8
Rehabilitation employees	2	–	–	–	–	–
Total	579	84	2	36,784	1.4	1.6

*) As in the year before, the accident incidence rate was calculated from the number of accidents divided by the averaged number of insured for that year. This is because the number of insured workers varies seasonally on 31 December, the end of period date. For the whole of 2007, the statutory accident insurance had an averaged 36,784 insured members.

ched that deflected the line at a 90° angle. The rebounding line hit the casualty and hurtled him on deck. First aid was immediately administered and an emergency physician flown in by helicopter. However, the life of the seaman could not be saved.

Summary of the BSU investigation report dated 1 February 2008

The accident was caused by the makeshift auxiliary construction for rigging a splice to the forward spring. The 90° deflection of the spring with a strop caused high friction loss, distributing the power in a ratio of 15:1 in front of and behind the strop. This made the ladder rung crack and possibly the strop as well. The casualty was hit by the rebounding tightened Atlas line and hurtled onto the main deck or deckstringer and fatally injured.

The assisting ordinary seaman who was standing by the winch had pointed out the accident risk and had voiced his misgivings about the construction. Internal safety instructions issued by the shipowner require all employees to report non-conformities to a superior.

On the other hand, according to the policy set forth by the shipowner, safety rules and work assignments given by authorised persons must be strictly adhered to. Respect for the experienced colleague may have been greater than safety concerns

and the urge to intervene. From a formal point of view, the assisting seaman had been obliged to report his concerns to the officer on watch.

The next officer available was the officer on watch on the bridge. He was called only after the accident had happened. From the bridge neither the auxiliary construction nor its purpose was clearly visible. There was no written work assignment. Therefore it is doubtful whether the officer on watch was briefed on the work carried out on deck. There was no log and usually the chief mate and the bosun decided about imminent work on deck between them.

Rigging a mooring line is rope work - a core competency of able-bodied seamen. The rigging of a splice does not impair the strength of the Atlas rope and is not urgent. Whereas the manufacturer carries out this work with a rigging device, on board there is only a serving mallet. Therefore, there were no particular concerns as to special safety precautions, e.g. closer supervision. An auxiliary construction as it was used in this case was not foreseeable by the supervisors (bosun, officers). The persons assigned with the task had their superior's trust in that they could independently carry out the rigging. This required tightening of the forward spring with a winch so that the rigging would stay in place. The fatally injured able-bodied seaman was considered experienced and had received high marks in all fields in his last letter of reference.

Notified accidents and occupational diseases for all insured persons

Year	Notified accidents +occ. diseases	Notifiable accidents, whereof				Notifications of suspected occ.diseases
		commuting acc.	fatalities	per 100 insured persons	in total	
1997	2,756	93	12	2.5	844	107
1998	2,804	113	6	2.6	878	109
1999	2,698	95	9	2.2	714	118
2000	2,549	81	4	2.2	664	113
2001	2,561	89	6	2	620	104
2002	2,401	90	5	1.9	591	125
2003	2,452	92	3	1.8	550	128
2004	2,267	93	5	1.8	553	180
2005	2,172	80	4	1.6	522	135
2006	2,328	73	8	1.4	504	156
2007	2,339	84	2	1.6	579	159

The accident could possibly have been prevented if the chain of information had functioned properly - starting with the ordinary seaman voicing safety concerns via the able-bodied seaman, bosun and officer - and if the right measures had then been taken. Special attention should be paid to this aspect in safety drills in the framework of the training plan, which schedules drills on mooring devices in six-week intervals. The BSU sees no reason to issue further safety recommendations.

Fatal accident in the cargo hold

On 23 May 2007 the cargo ship “Fembria”, carrying softwood logs, was moored in the harbour of Östrand and was being unloaded. At noon, the crew took a lunch break. When the bosun failed to appear in the dining area, two crew members set out to look for him. They discovered that the access hatch leading to cargo hold I stood open. Looking down into the hold, they saw a man lying on the floor of the cargo hold access. They immediately notified the ship’s master, who joined them at the hatch some minutes later. The master went through the hatch and climbed down the ladder. A short moment later, he began climbing up again, but suddenly, one of the men saw him fall down and collapse onto the floor.

After sounding a general alarm, the crew began rescue operations. The third engineer who arrived at

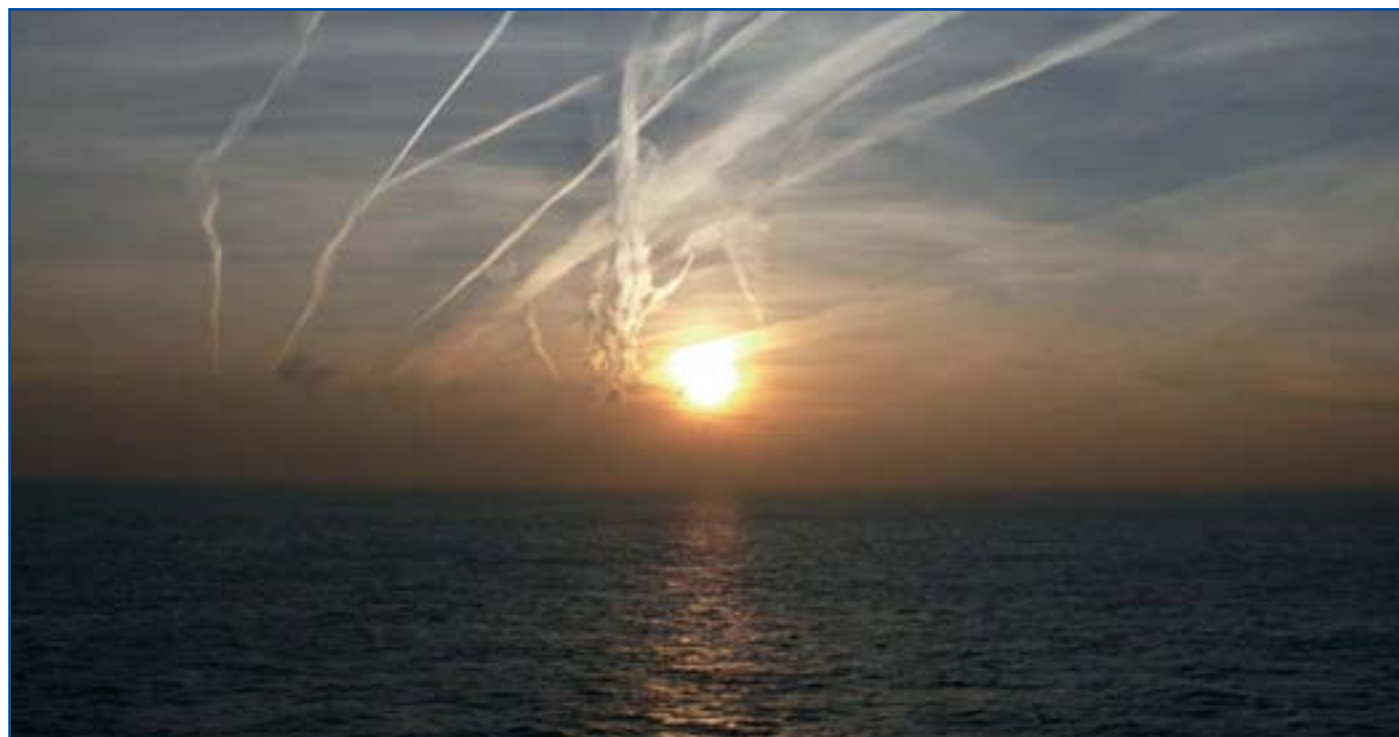
the scene donned a face mask equipped with a gas filter. He began climbing down the ladder, but realizing that the mask did not offer sufficient protection he returned to the deck. After this, a seaman equipped with a breathing apparatus went through the hatch. He found the master lying on top of the bosun. He fetched a safety belt. First the master and then the bosun were lifted on deck. After immediate resuscitation attempts performed by the crew, paramedics of two ambulances that had been called in took over.

The lives of the master and the bosun could not be saved. The third engineer who went down first felt ill and dizzy. Therefore, a third ambulance was called. After being treated in intensive care he was discharged and sent back to the ship.

This case is still under investigation.

Looking back: fatal accidents in 2006

In 2006 eight insured persons died in fatal accidents. These cases were still under investigation at the time of print of last year’s annual report. In the meantime, the Federal Bureau of Maritime Casualty Investigation BSU has completed its investigation reports on these fatalities which can be downloaded at www.bsu-bund.de.



In 2007 two insured mariners died in severe accidents

Accident reports

Electrical installations and equipment

After power failure at a shore connection box on the ship "W", the machinist concluded that a fuse had blown. When he tried to remove the fuse in question, he received an electric shock.

Before beginning work on switchboards, control panels and similar electrical equipment it is essential to ensure that the operating and maintenance area is sufficiently insulated. Insulation mats must be approved according to the relevant VDE standard. Also refer to UVV See §138

*

On the fishing cutter "K" the deckman received an electric shock when he switched off an electric cooking pot. He was admitted to hospital.

On connecting a dishwashing machine in the galley, Ms. E. received an electric shock.

During repair and maintenance work in the shipyard, Mr. P. received an electric shock when he tried

to disconnect the plug of a grinding machine from an extension cable. He sustained burns on the left hand.

Mr. R. injured himself with an angle grinder when he cut off a water pipe support. Switched on, the grinder started up with delay and twisted in R's hand, inflicting cuts on R's arm and thigh.

On all seagoing ships the crew is under obligation to check all mobile electrical equipment every six months and the stationary protective earthing system every two years. The proper functioning of ON/OFF switches and the insulation must be checked in particular. Any defect must be fixed immediately!

Mobile equipment are all electrically powered appliances and tools, cable lamps, hand lamps and extension cables. The plug casings and connecting sockets of mobile electrical equipment must be made of suitable moulded material (plastics). Also refer to UVV See §158 and instruction sheet F6 on the handling of electrical equipment, UVV See §141 (3)

*



Fully alert during ship manoeuvres

The chief engineer on the container ship "M" sustained deep cuts on his forearm while operating an angle grinder. The accident happened when the wheel became caught on the workpiece, causing the tool to spin out of control and to continue running uncontrollably when it came free.

Before starting work, the operator must check whether the required protecting hood on the grinding machine is in place. During operation a correct and safe working position is essential, allowing to swiftly leave the danger zone in case of an emergency.

Fire on board

The fishing vessel "C" burnt completely - the cause of fire was a short circuit in the ship's 24V supply. The fire was difficult to extinguish because the engine room fire flaps were missing. Accordingly, the fire could not be contained. The crew escaped with just a fright.



Stairs and ladders are high accident risk areas

The shipowner is responsible for checking all electric cable connections, plug and socket connections as well as screw terminal strip connections for damages and correct seat. If alterations of the ship's network become necessary, the See-Berufsgenossenschaft must always be notified of the changes and a copy of the modified wiring diagram must be submitted. Outside plug connections on electrical equipment must additionally be protected from dirt and splash water by protective caps. Important: The See-Berufsgenossenschaft calls for means on all ships to shut all inlets and outlets of engine room ventilation systems from the outside, so that in the event of a fire the engine room can be sealed. The fire flaps may not be removed. Also refer to UVV See §141, §165 and §273

Working with ladders

On the ship "P" a ladder was used to inspect and check a cylinder liner. When Mr. W was climbing down, a safety bracket on the liner support gave way, causing the ladder to tilt backwards. Mr. W fell one metre down onto the floor plates, landing on his back and injuring his left hand and two thoracic vertebrae.

Leaning ladders may only be leant against points of safe support.

Also refer to UVV See §73 and instruction sheet F8 on leaning ladders in ship operation

*

During repair work on a pipe an assisting colleague slipped on an exhaust turbocharger and stumbled against the working platform on which Mr. M was standing. Mr. M. lost his balance and fell backwards onto the floor plates, lacerating his head.

During maintenance work it is essential to ensure good stability of the working platforms. If leakage occurs the surface should be dried. If necessary, the soles of working boots should be cleaned to prevent slip accidents. Accessible floor surfaces and floor coverings must have an anti-skid coating. Working platforms with more than three steps must be equipped with a protective guard or handrail on both sides.

Also refer to UVV See §94 b



A number of accidents occurred during servicing and maintenance work

Servicing and maintenance work

During maintenance work on the main engine's cylinder head assembly Mr. J sustained an eye injury: while he operated the compressed-air pistol, the coupling piece of the pressurized air pipe came loose and hit his eye.

All pressurized tools and equipment (e.g., rust removal machines, compressed-air pistols) as well as their locking and coupling pieces such as quick or swivel couplers must be able to withstand the mechanical stress that they are normally subjected to in use. The seals must be leak-proof and may not pose any danger. For safety reasons the equipment must be serviced in regular intervals. Before starting work, check the hose connections (clamp collars) for tight seat and the coupling piece seals. Also refer to UVV See §120

*

On the ship "P", a cylinder cover was fitted using a chain hoist block. In the process, the gasket on the exhaust duct shifted. Using a metal pin, the watch

engineer realigned the gasket and checked its correct seat with his index finger. At this moment, a colleague lifted the cylinder head up again with the chain hoist block. The engineer sustained a severed finger tip.

Anyone working on mobile pressurized hydraulic supports or mechanical lifting gear must take care not to reach into the danger zone. The lifting gear must first be depressurized and the machine parts put down safely before servicing can start. In this case, the accident could have been prevented if prior to starting work a clear, explicit and unmistakable agreement had been reached on the use of the chain hoist gear. This would have prevented the lifting gear operator from acting on his own authority. Additionally, the correct positioning of the exhaust duct gasket should have been checked with the metal pin before fitting the screws. Also refer to UVV See §127

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After a complete failure of the power supply on board a container ship, the watch engineer procee-



Apprentices benefit from their experienced colleagues while at sea

ded to the next staircase. In doing so, he fell through a floor plate opening into the bilge and dashed against a pipe. He sustained injuries to his knees and elbows and broke a rib.

As a general rule, installation openings created by removing floor plates must be secured in an accident-proof way. After completion of work the floor plate opening must be closed and bolted. Also refer to UVV See §151 (9) and 152 (2)

Accidents during loading operations

While the after hatchcover opened, the first navigating officer sprained his thumb on the hatchcover's roller.

A person operating hatchcovers must first make sure that no-one is present in the dangerous area and that the appliance is ready for operation. Hatchcovers may only be operated if the operator has a good overview of all potentially dangerous movements of the appliance.

Also refer to UVV See §206 (1) and (2) and instruction sheet F3 on the handling of steel hatchcovers

Accidents on tug-boats

After completion of ship assistance the tow cable was to be hauled in. During heaving, for unknown reasons it suddenly went by the run opposite to the heaving direction and hit a machinist, dashing him against the stern bulwark. The cable severed the man's left lower leg and he sustained a basal skull fracture. Additionally, the towing gear injured a ship mechanic who sustained bruises and skin abrasions on both his thighs. Why exactly the cast-off tow cable went by the run could not be ascertained. Supposedly, the tow cable, including fore runner and tripping line, became wrapped around the cast-off vessel's propeller and was wound up by its turning shaft.

This case is still under investigation.

Accidents of apprentices while at sea

In 2007 apprentices were again involved in accidents aboard ships. Several accident causes are explained below:

An apprentice (fishing sector) was standing on a wooden crate while the fishing gear was being unloaded. He put the fishing nets into the crate

intended for this purpose. Once finished, he jumped down from the crate instead of using the provided ladder. He bruised his right foot.

Jumping down from objects is accident-prone behaviour and therefore not allowed. The employer must instruct the apprentice accordingly – and the apprentice is obliged to observe his employer’s instructions.

Also refer to UVV §18 and §25

*

While hauling in the trawl warp an apprentice (fishing sector) used a guide bar, lost control of it and dashed his hand against the winch frame. His hand was caught between the guide bar and the frame and he broke a finger.

It was and is a common mistake, when hauling in the trawl warp, to use guide bars in order to force the line to reel in accurately. This practice is prohibited. Instead, rope-spooling devices must be present on trawl warp drums to forcibly guide the rope when it is being coiled up. Portable guide bars may only be used to guide a net onto a net drum.

Also refer to UVV See §257 (2) and §261 (5)

*

An apprentice ship mechanic was using an angle grinder to cut off retaining brackets when the tool slipped. It cut deeply into her right leg above the knee.

The employer must instruct his employees on the safe use of grinding tools. The insured persons are obliged to observe the instructions they receive.

Also refer to UVV §18

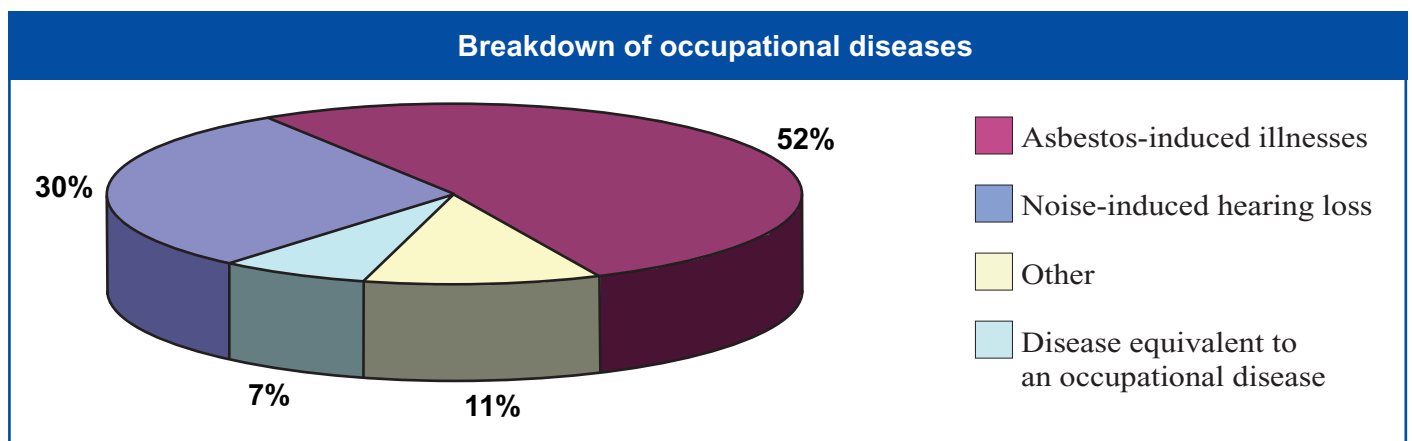
Occupational diseases: asbestos-induced illnesses and noise-induced hearing loss most frequent

In the reporting year, 159 new cases of occupational diseases were reported, a figure corresponding roughly to that of the previous year. A closer look at the different illnesses behind notifications of suspected occupational diseases show - as in previous years - that asbestos-induced illnesses and noise-induced hearing loss are most frequent - they account for more than 80% of all notifications.

The incidence of notified noise-induced hearing loss remains stable at a high level. However, severe hearing loss entitling to a disability pension is increasingly rare. In isolated cases provision of a hearing aid was necessary to ensure ideal rehabilitation results.

Asbestos-induced illnesses, however, can cause very severe medical conditions that cannot be fully remedied even with intensive medical care. 61 cases of asbestos-induced occupational diseases were recognised. In 21 cases insured members or surviving dependents received pension payments. 11 seamen died from asbestos-related cancer.

Occupational diseases			
(> five notifications)		2006	2007
Noise-induced hearing loss	(BK No. 2301)	40	48
Lung and pleural asbestosis	(BK No. 4103)	46	34
Asbestos-induced lung cancer	(BK No. 4104)	31	38
Asbestos-induced mesothelioma	(BK No. 4105)	12	12
Disease equivalent to an occ.disease	(§ 9 clause 2 SGB VII)	9	11
Total		138	143
Total of notified occ. diseases		156	159





Benefit payments

Decreasing benefits expenditure

The number of pension beneficiaries dropped by 4% on 2006, from 3,349 to 3,231. Pension expenditure fell from €25.3m to €24.5m - a decline of effectively no more than roughly one percent, however, due to varying discontinuation dates throughout the year, new pensions of varying rate and a pension increase as of 1 July 2007.

The different categories of rehabilitation costs partly show significant changes on the previous year. Outpatient care expenditure rose by approx. €175,000, whereas expenses for inpatient stays fell, among other reasons revealing a continuing trend towards outpatient surgery.

Lesser injury benefits pay-outs and corresponding social security contributions indicate that fewer severe insurance cases occurred in the reporting

New pensions				
		Total	Injured	Survivors
2001	Occ. accidents	41	35	6
	Commuting acc.	5	5	–
	Occ. diseases	15	13	2
2002	Occ. accidents	36	32	4
	Commuting acc.	5	4	1
	Occ. diseases	15	11	4
2003	Occ. accidents	31	28	3
	Commuting acc.	3	2	1
	Occ. diseases	18	16	2
2004	Occ. accidents	33	25	8
	Commuting acc.	11	11	–
	Occ. diseases	16	8	8
2005	Occ. accidents	26	22	4
	Commuting acc.	4	4	–
	Occ. diseases	14	8	6
2006	Occ. accidents	30	23	7
	Commuting acc.	7	7	–
	Occ. diseases	11	5	6
2007	Occ. accidents	17	14	3
	Commuting acc.	0	0	0
	Occ. diseases	21*	15	6

* A further 70 cases of suspected occupational diseases were confirmed. However, no pension is paid out because, among other reasons, there is no impairment of earning capacity that would entitle the concerned to pension payments.

year. Compared to the previous year, expenses fell by approx. €188,000 or 21%.

The varying expenses for the various rehabilitation treatments leveled out and amount, as in the previous year, to roughly €4.1m.

Pension beneficiaries in numbers

Year	Pensions in total	Pension payments to			
		injured workers	widows	orphans	parents
1997	4,102	2,944	909	242	7
1998	4,002	2,890	896	210	6
1999	3,922	2,846	877	193	6
2000	3,843	2,803	854	182	4
2001	3,752	2,746	844	159	3
2002	3,682	2,697	833	149	3
2003	3,600	2,639	821	138	2
2004	3,563	2,608	806	147	2
2005	3,456	2,547	783	124	2
2006	3,349	2,463	769	115	2
2007	3,231	2,386	741	102	2

Review and appeal proceedings

See-BG's decisions confirmed

The review committee includes representatives of the insured and the employers. Its task is to review See-BG decisions that are contested by an insured or a survivor. In the reporting year, 88 review proceedings were handled.

18 review requests were withdrawn, four cases were dealt with by the administration and one case was settled by other means. In 65 cases the review committee upheld the See-BG accident division's decisions.

33 cases were brought before the social security tribunals. In two cases the insured or survivors won. In three cases legal proceedings were concluded with the See-BG making partial concessions. The other plaintiffs all lost their cases.

The See-BG's decisions are sound and well-founded and only rarely need to be revised, seen over the DGUV as a whole.

Service

Optimised proceedings – lesser costs

Until now, pension payments to some foreign countries required a separate payment procedure with the former Central Federation of the Industrial Employers' Liability Insurance Associations HVBG. In the reporting year, this procedure was discontinued. Pension payments to foreign countries are now processed by the pension service - along with all other pension payments. This meant abandoning a particular payment procedure and reducing associated payment fees.

The accident insurance head organisations have signed an agreement with an inter-regional supplier of hearing aids and accessories. The See-BG will significantly benefit in terms of hearing aids and battery supply.



Relaxed cooperation on the bridge