



AVTO G D.O.O.

Industrial/technical ceramics and spare parts

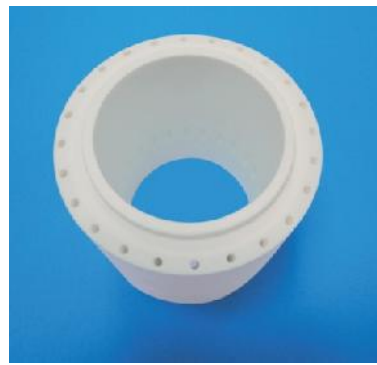
FACTS

- Factory production was established in 1972.
- 350 employees/ 28 engineers in R&D department
- We are exporting our products to 78 countries.
- Annual turnover around 20 million EUR.



MAIN PRODUCTS

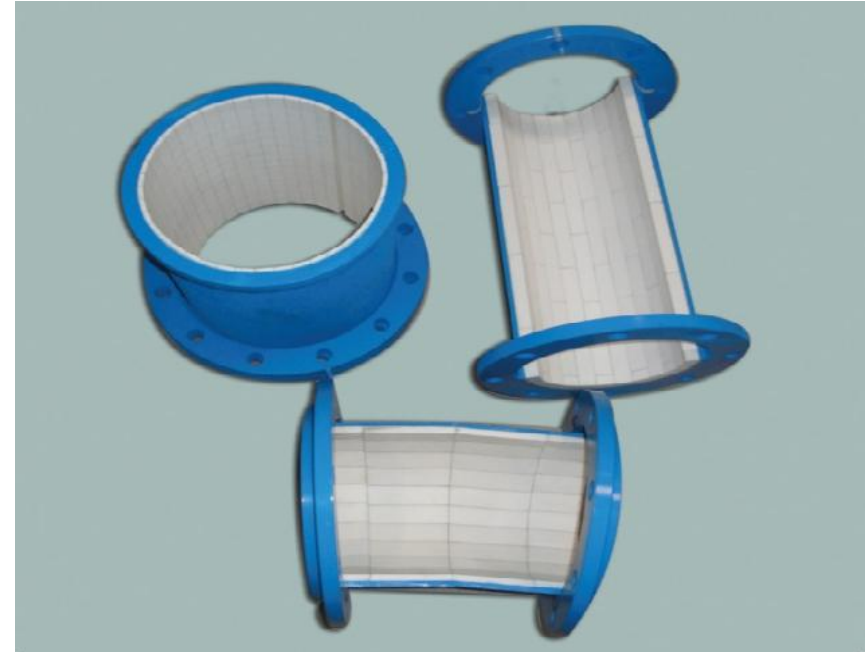
- Wear protection material



- Wear protection material



Tubes and elbows with inner diameter of ceramic up to DN 200 mm are made from ceramic cylindrical segments, which have male and female parts (see photo up left). At assembly this assures high quality of joint and long life time.

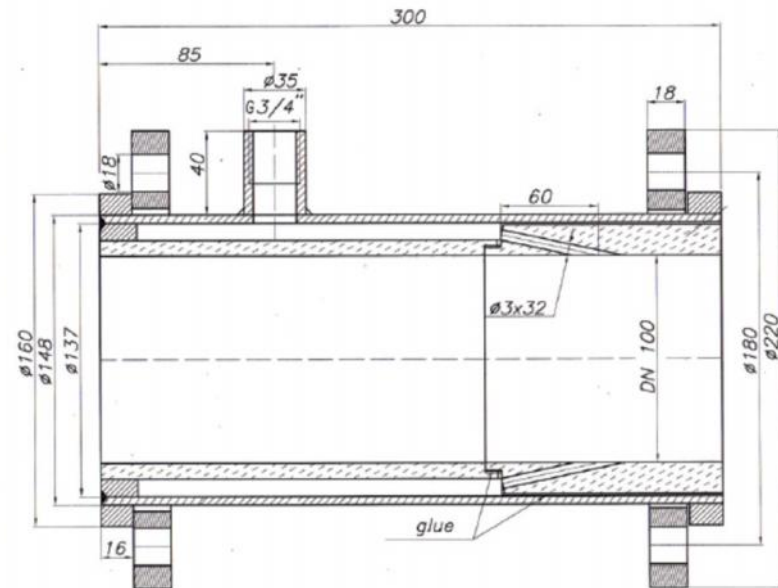


Tubes and elbows which have inner diameter bigger than DN 200 mm are lined with panels (mosaics) or with cone ceramic plates with requested thickness. Cone plates are adjusted to diameter of the tube or elbow, which are lined with ceramic.

- Wear protection material

CONVEYOR NOZZLE

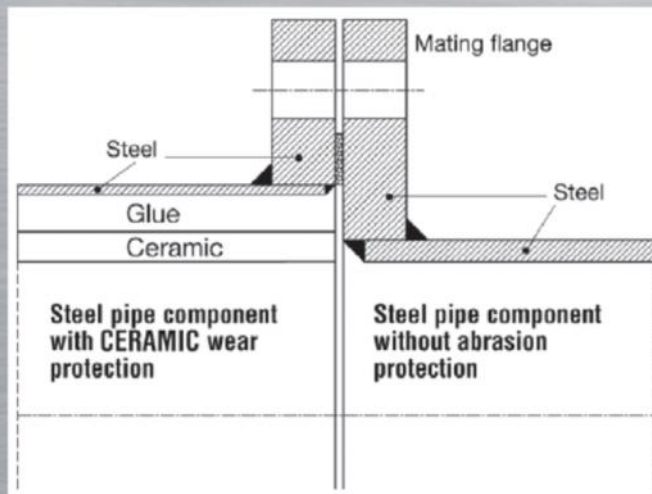
Conveyor nozzles are used to accelerate transport with injecting the air in very long transport pipelines. These nozzles are made from ceramic segments which have more than 30 inlets around the scope of nozzle. These inlets are directed in the centre of the tube and that provides consistent air pressure of transport media. At the moment, this is the best solution in technology of pneumatic transport.



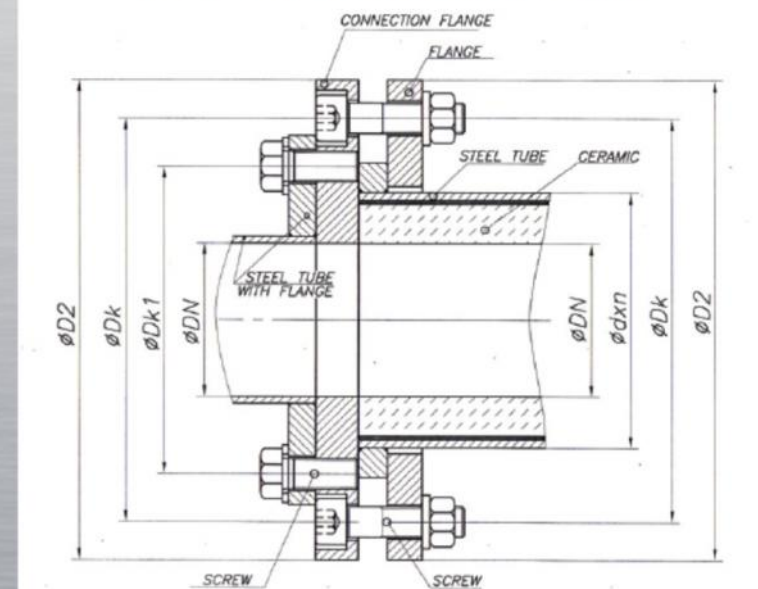
- Wear protection material

CONNECTION OF METAL TUBE AND METAL-CERAMIC TUBE

STANDARD JOINT



JOINT WITH CONNECTION FLANGE



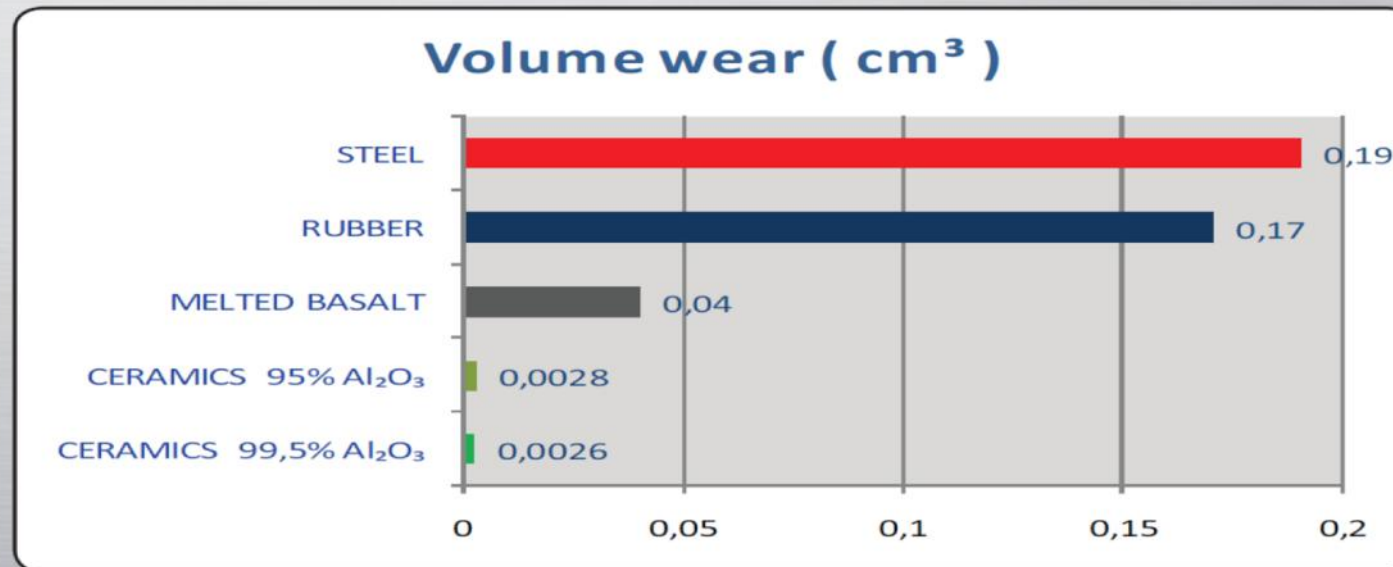
- Wear protection material

WEAR TESTS ON DIFFERENT MATERIALS:

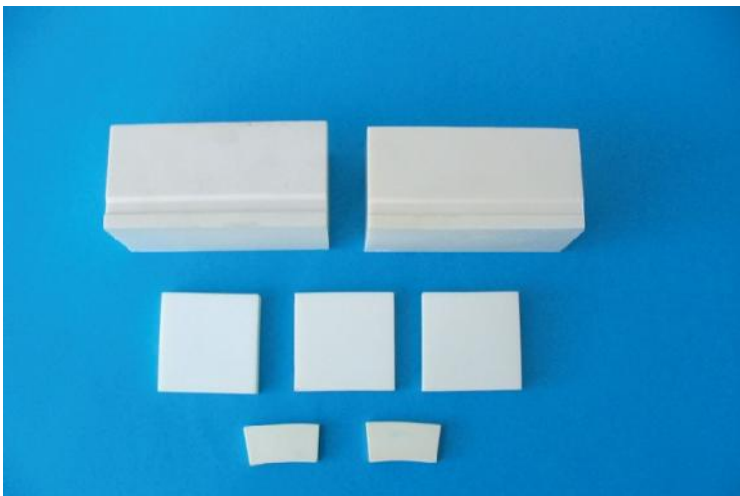
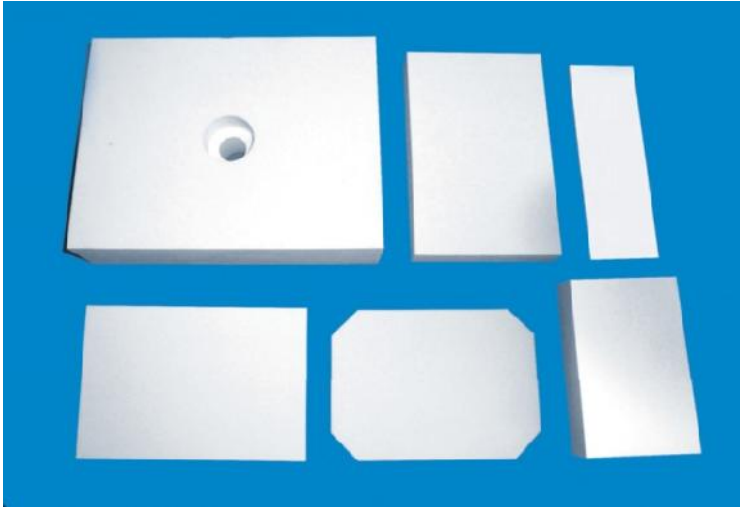
Sample	CERAMICS 99,5% Al_2O_3	CERAMICS 95% Al_2O_3	MELTED BASALT	RUBBER	STEEL
Density (gr/cm ³)	3,85	3,7	2,95	1,18	7,85
Mass wear (gr)	0,007	0,009	0,12	0,2	1,51
Volume wear (cm ³)	0,0026	0,0028	0,04	0,17	0,19

Test is made under following conditions:

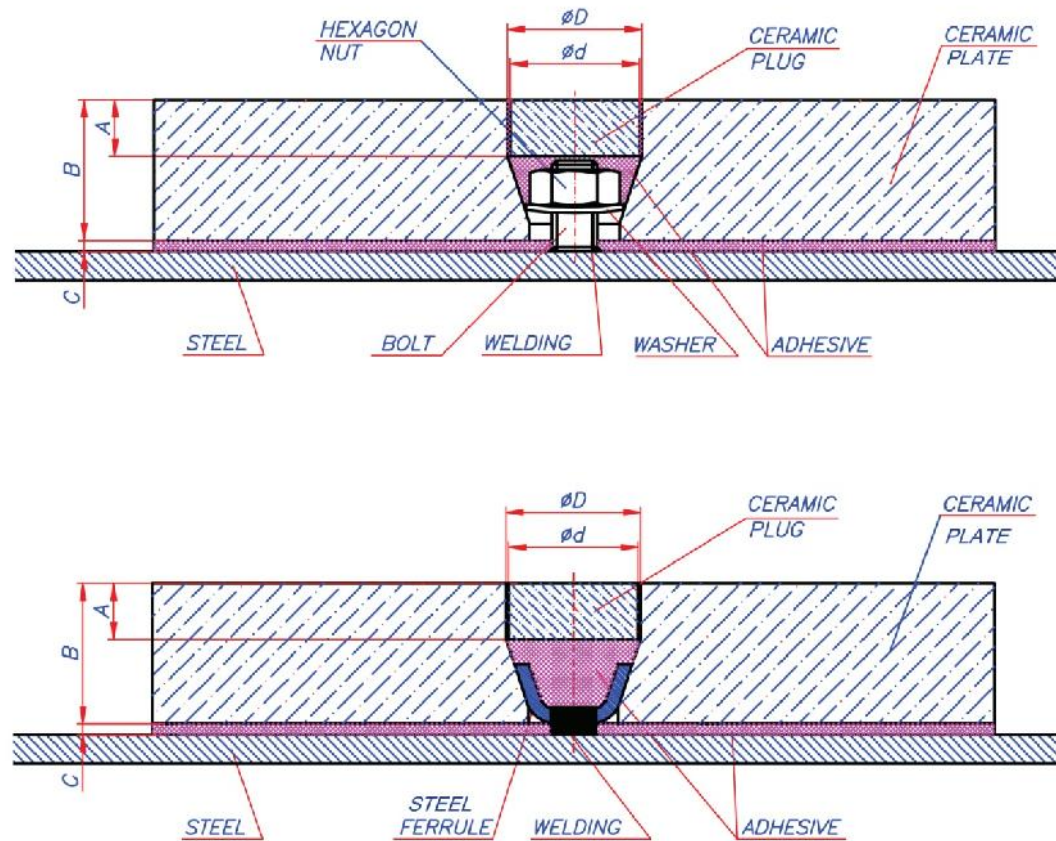
- Radiation angle : **30°**
- Pressure : **5 bar**
- Time : **5 minutes**
- Abrasive material : **SiO₂**



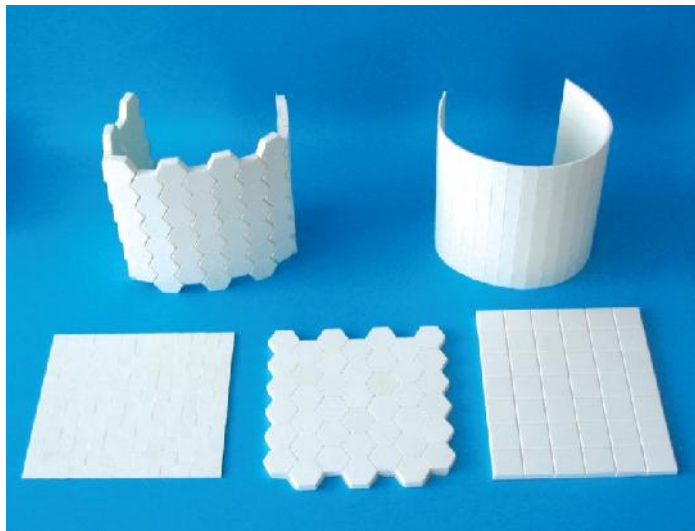
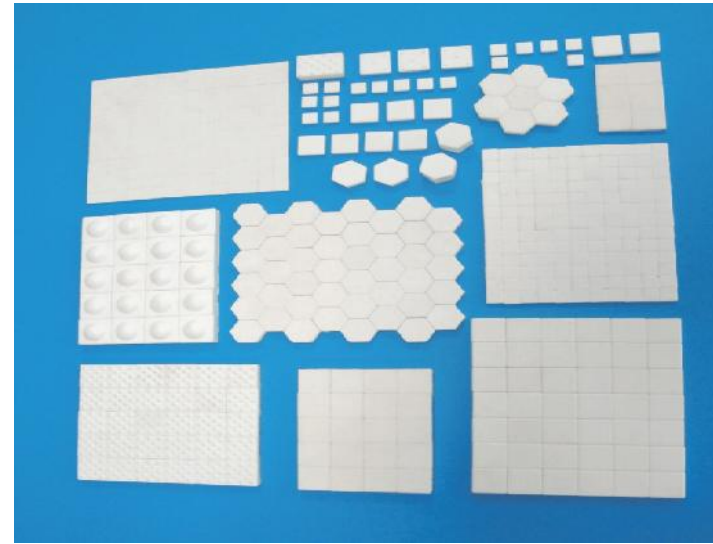
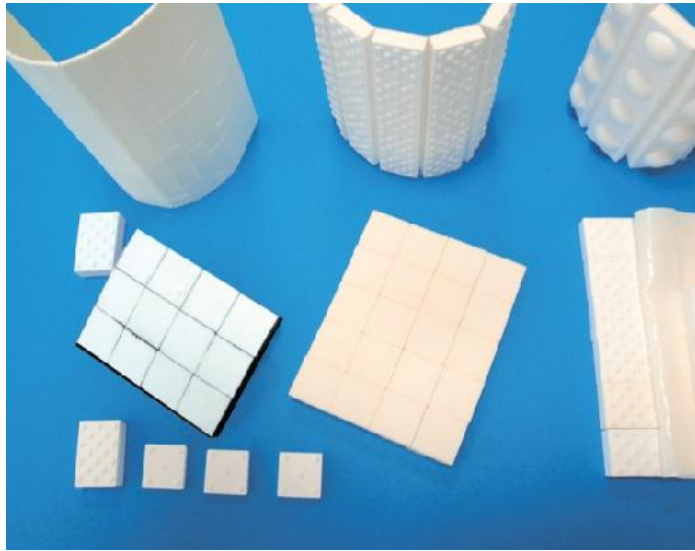
- Wear protection material-lining for large surfaces



- Wear protection material-adjusting of ceramic plate on surface with welding of steel ferrule



- Wear protection material-MOSAICS



Where to use wear protection material?

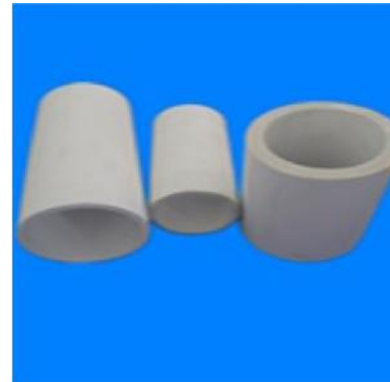
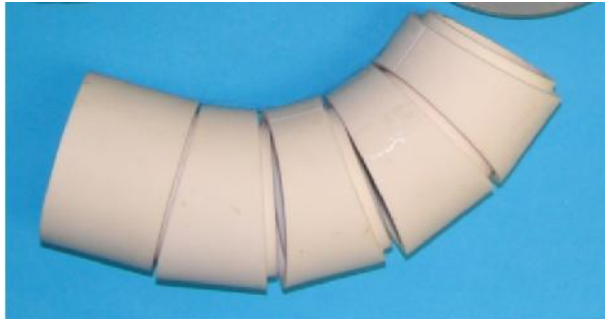
- Hydraulic and pneumatic transportation system
- Steel industry/foundries
- Sugar plants
- Cement plants
- Producers of isolation (glass wool)
- Chemical industry
- Coal mines

Advantages

- We are producing our lining for tubes and elbows from high quality 95% Al₂O₃, 99,5% Al₂O₃, Al₂O₃+ZrO₂, ZrO₂ etc.
- We are producing our lining with male-female segments
- Our elbows are continuously bended

We vs. competitors

- We are producing our lining for tubes and elbows from high quality 95% Al_2O_3 , 99,5% Al_2O_3 , $\text{Al}_2\text{O}_3+\text{ZrO}_2$, ZrO_2 etc.
- We are producing our lining with male-female segments which makes appearance of homogen part.
- They are using 88%, 90% or maximum 92% Al_2O_3
- They have flat ceramic segments which allows to material to come behind.



We vs. competitors

- Our metal bends are from one piece. We are bending straight tube to get the bend.



- Competitors are cutting the metal in segments and then welding it again to get the bends. It is not good because the welded parts can



We vs. competitors

- We have our own material preparation so we can produce special materials for special applications. We can also develop new materials.
- We can produce everything from the beginning to the end product inhouse.
- Our competitors buys already prepared material so they do not have possibility to customize their products for the customers.
- Our copetitors do not have overall production inhouse and they are forced to buy components elsewhere.

WHY TO WORK WITH US?

- We have high quality products
- Wide range of products
- We are flexible supplier
- Short delivery terms
- 95% of our products are custom made

Thank you!