

Heraeus: interview with contemporary witness Peter Hitzschke (*1938).

Material can be used for journalistic purposes.

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

Translated Interview Transcript

Heraeus | Peter Hitzschke (*1938)

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

Note: the most interesting parts are highlighted

00:00min – 00:16min

Question: What was special for you about the moon landing?

PH: Well, I really felt part of it. It was great to experience something like that when I had personally worked on it.

00:16min – 00:37min

Question: Had you known that Heraeus was involved in the moon landing?

PH: No. We knew that we had supplied quartz glass for the space flight, for this launch on July 20, 1969. None of us knew what it was actually for, though.

00:37min – 01:05min

Question: When did it become clear that this particular job had a historical dimension?

PH: The moon landing itself, with the prisms – we weren't aware of that for the first launch, but we could see it afterwards in the pictures. It was clear in the photographs. We did know that we had done something that would be put on the moon at some point. But we didn't know anything specific.

01:05min – 01:28min

Question: What makes Heraeus quartz glass so special?

PH: We have supplied quartz glass to customers all over the world: not just for the moon landing or space flights, but for industry, for the economy. Especially because quartz glass has tremendous advantages over ordinary glass.

01:28min – 01:47min

Question: So, was Heraeus particularly suited to this job?

PH: Well, we already made prisms, though they were for other applications. Actually, Heraeus was already leading the world in this field.

Heraeus: interview with contemporary witness Peter Hitzschke (*1938).

Material can be used for journalistic purposes.

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

01:47min – 04:08min

Question: How did a company in Hanau end up partnering with NASA?

PH: [01:47-02:04] Well, we did have a subsidiary in the United States, and we also had customer orders from there. Heraeus was well known for delivering top-quality products. And the Americans simply recognized that conditions in outer space are different than here on Earth. **[02:04-02:18]** They needed fused silica because of the extreme heat, the load, the precision, the measurement potential. **[02:18-02:49]** And then in late 1967 a Mr. Frittker, who was head of Sales, came to us in Production and asked whether we could imagine producing window materials and these heat shields for the space capsules, as well as certain prisms and other items. **[02:49-03:02]** Then we in Production said that if we knew the dimensions and all the other requirements, we could certainly do that. We had the necessary equipment, along with outstanding personnel. **[03:02-03:18]** Then they came with the details, laid out the specifications on the table in Production, and we said "Yes, we can do this." And you could say that that was the cornerstone of our cooperation with NASA going forward. I really don't know whether fused silica windows were actually installed in the capsule. Also, the heat shields that we sent as samples and demonstration materials were never installed. They used different material and other technologies. But they did order the prisms, after we had said "yes" from a technical perspective. But we didn't know that they would be used, that 100 prisms would be installed in a retroreflector, which I think they just called a case back then. They didn't tell us that.

04:08min – 04:43min

Question: What role did you play in this project?

PH: At the time, Production was called Optics and Lamps. I was responsible for the Optics and Lamps product area. At first, I was an assistant, but later I was put in charge. The task of manufacturing prisms was simply assigned to our manufacturing area, and it was my job to work with the employees and get it done.

04:43min – 04:57min

Question: Did you know how the prisms were going to be used?

PH: No, we didn't know that these prisms were going to be installed on the moon. At least, I personally wasn't aware of it.

Heraeus: interview with contemporary witness Peter Hitzschke (*1938).

Material can be used for journalistic purposes.

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

04:57min – 05:39min

Question: What did Heraeus employees say about the project?

PH: [04:57-05:14] We were proud and excited. I would say that it really piqued the employees' interest and they were then even more committed to working at Heraeus. **[05:14-05:24]** Committed to providing the quality and precision our customers wanted. We were significant, producing something significant. **[05:24-05:39]** After the moon landing, people went home and told their families, and everyone was really proud of them.

05:39min – 06:00min

Question: How did the teams react to being involved in the moon landing?

PH: The level of enthusiasm and commitment at Heraeus had always been good. They were proud, and I think they told themselves, "We have to do even better, simply to show the world that we are a topnotch company."

06:00min – 06:33min

Question: Were you sure from the start that the reflector would work?

PH: Well, I can say for sure that the 125 prisms – the ones we made and sent to America – had been a real challenge for us technically. And our older employees' experience was incredibly valuable. So, I'd say it was a difficult task, but we knew it was doable.

06:33min – 08:34min

Question: How did the prisms get to the project site?

PH: [06:33-06:44] Our American contact suggested a way to shorten the delivery time by three or four days. **[06:44-06:59]** A Heraeus Fused Silica Smelting Facility employee was to pack these 125 prisms in his suitcase and fly to New York **[06:59-07:19]**. In New York at the time, there and also in Frankfurt, airport busses parked on the airfield itself. So, you got out of the plane, walked a few meters, got on a bus, and were driven to the buildings. **[07:19-07:38]** And then this man from Hanau, wearing a dark suit, got off the plane, and an American was waiting by the nearby bus, also wearing a dark suit, each with a colorful handkerchief on his lapel. **[07:38-07:56]** And when they had recognized each other because of the handkerchiefs, they were each to raise one hand. **[07:56-08:11]** And that's what happened, and the man from Germany went to the other man, handed over the bag, and the transfer was complete. The German then went to Amersil, the Heraeus subsidiary, and two days later he flew back home. **[08:11-08:28]** And that was how they bypassed Customs, not for any security reasons or to save money, but simply to save time, four or five days. Because the other man, the American, flew straight to Florida in another plane that was waiting on the airfield.

Heraeus: interview with contemporary witness Peter Hitzschke (*1938).

Material can be used for journalistic purposes.

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

08:34min – 08:58min

Question: How does it feel to have been part of one of mankind's greatest achievements?

PH: I'll never forget how I felt at the time. The feeling comes back whenever the moon is even mentioned. You know you are part of it, and you're always proud.

08:58min – 09:35min

Question: Were you sure from the start that the reflector would work?

PH: Well, I must say that we were doing similar work along these lines – not moon-to-Earth, of course – but we were working with prisms designed to do the same thing. But not in this order of magnitude. So, all of us were actually certain that nothing could go wrong. Mainly because the material is right, because we had demonstrated that we could produce material with the required purity.

09:35min – 09:48min

Question: Did you think at the time that the reflector would still be functioning and in use today?

PH: Well, we never thought that it would stop working after three or four years, because we knew that fused silica is so durable.

09:48min – 10:10min

Question: Is fused silica also suitable for other applications?

PH: In technology, science and industry, if there is a need for something that can be made of quartz glass, we at Heraeus Quarzglas in Hanau can supply it. No problem.

10:10min – 10:37min

Question: How did the involvement of Heraeus in the moon landing affect the team?

PH: For weeks, or indeed months, the moon landing was our number one concern. And I will not say that this increased the intensity of our work, but it somehow made it more understandable. We are here to create value. We are here to show what we can do.

10:37min – 10:55min

Question: Would you like to have flown to the moon yourself?

PH: Yes, to the moon for sure, but not to Mars. And not at my age anymore, but at that time, I did sometimes think: It would be neat to be an astronaut.

Heraeus: interview with contemporary witness Peter Hitzschke (*1938).

Material can be used for journalistic purposes.

Peter Hitzschke worked from 1965-2001 in the Heraeus Fused Silica Smelting Facility in Hanau, Germany, and was working as an engineer in the production (grinding and polishing) of the triple prisms for the Apollo 11 project.

Question: Doesn't it also take courage to accept an order when you're not 100 percent sure it is feasible?

PH: I can say with 100 percent certainty that the possibility of failure never occurred to us. That never occurred to us because we were using Suprasil, a specialty fused silica with extraordinary properties. Then it was just a matter of the processing. Of course, we thought there might be difficulties. But nobody ever thought that it wouldn't work, or it might not work, or there might be major gaps where our efforts would stall. Not even the people, you might say, down in the trenches, who had no idea what was coming. Everyone just thought, "We can carry this off; we're the best!" was more or less our attitude. I never had the feeling, even as the supervisor, that this team could ever worry about production. I never experienced that. I can't even imagine it.