

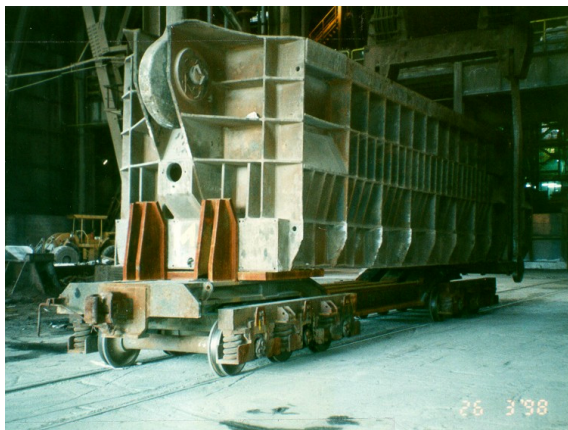


## Proven Schenck Process Weighing Technology at the Scrap yard: **never as precious as today ....**

Steel scrap today is so expensive, that an exact, durable and reliable weighing technology on the scrap yard can save money for a steel plant by

- an economical use of the valuable raw material scrap and
- an accurate charging of electrical furnace or converter for the desired steel quality.

**Scrap car before modification of the weighing system**



The weighing technology on the scrap yard counts among the superiors weighing tasks in the steel plant because of the following reasons:

- extreme impact load by the today's usual direct loading of the moulds/scrap baskets on the weighing system
- very rough handling without maintenance staff
- risk of shunt forces by scrap pieces.

In this news, we want to present to You the current Schenck Process solutions for those weighing tasks, which we substantially realize as scrap car, bridge- or track scales:

### 1) Weighing Mechanics

The photo on the left side shows a railway car for scrap transport with a total weight of 200 t. The task consisted in an integration of a weighing system, which can compose the individual sorts according to the respective requirement of the converter on the spacious scrap yard.

**Scrap car after modification of the weighing system**



The photo on the right side shows the same car after the weighing modification.

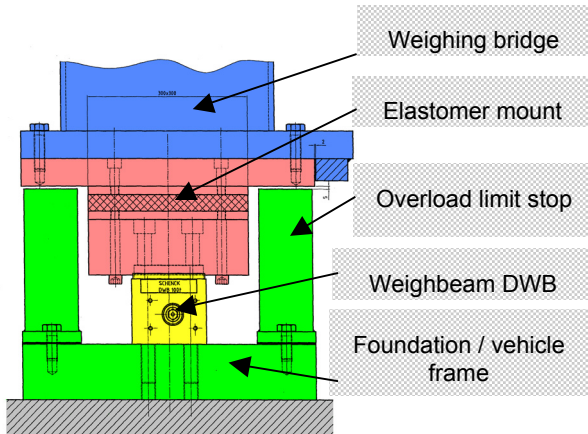
Well to recognize is now integrated weighing system and the fact, that the reconstruction means no changes for the crane operator concerning loading and handling sequence.

In this case the mechanical detail solution consisted of the installation of

- Schenck Process weighbeams DWB 40 t with one
- bolted special elastomer mount and
- an integrated overload limit stop

between the weighing bridge and the vehicle frame.

The following illustration shows the mechanical structure of this bearing point:



After an elastic suspension under load of approx. 5 mm the integrated limit stop relieves the weighbeams and the elastomer mounts. Because of the solutions principle, even largest impact loads e.g. a drop of 5 t compact scrap iron from 5 m height can be transferred without damage. Accordingly, an additional absorption frame to protect the weighing system today is no more necessary.

**Further advantages of this solution are:**

- integrated shock dampening with an energy absorbing displacement of 5 mm
- very durable structure and simple installation.

This mechanical solution is to be used particularly in weighbridges or in scrap iron ferries, which have no own energy absorption system or drive on very uneven tracks.

Alternatively, we also apply the approved double-frame solution by using Schenck Process load cells RTN if required.

## 2) Weighing accuracy

The usual accuracy definitions relating to the full scale often are not sufficient for the tasks of a scrap yard shop.

On the basis of a scrap basket weight of 100 t and net contents of 80 t, the weighing range amounts to 180 t. Even a high total accuracy of  $\pm 0.1\%$  of the weighing range permits an error of  $\pm 180$  kg.

On the other hand, for the practical operation on the scrap yard, it is important to measure also small masses of a certain scrap sort during the loading. After taring before loading, Schenck Process secures accu-

racies up to  $\pm 1\%$  of the actual value on the basis of a minimum loading of for example 5 t.

An individual loading of approx. 10 t takes place accordingly with a high accuracy of maximum  $\pm 100$  kg weight value deviation.

## 3) Power supply

As the photos on page 1 clarify, mobile weighing systems e.g. scrap trailers or scrap ferries often have no own power supply. The new Schenck Process weighing electronics Disobox allows modern solutions on the electrical part because of its low energy consumption. For example, an accumulator capacity of 40 Ah is sufficient for a continuous operating time of the weighing system of 5 days. Depending on the requirements, we offer modern and low-maintenance lead- or NiCd-accumulators, both for reloading on board or also for the change full against empty.

## 4) Data communication

In this power supply of such mobile weighing systems with accumulators a wireless data communication with our radio-modems is already included.

Those permit to send the weighing data along the track way to a fix point, so that trailing cable are not to be needed. At the stationary radio modem a weighing terminal Disomat Bplus is installed, to take over all further tasks of data processing and communication with the users control system.

Further tasks of data processing e.g. the batch control, data communication to the loading cranes or the balancing round off our offer for an optimal weighing technology at the scrap yard.

## 5) Could we make you curious?

Then you could check once more, whether your scrap yard weighing technology meets the today's requirements and possibilities for the increase of economy and material input. We shall be glad to assist you in this matter.

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