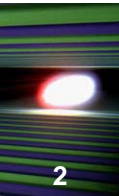


Co-ordination and Safety in the Mock Up Tunnel

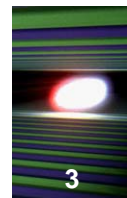
Franz Czempik, Norbert Meyners,
MEA1/WP33



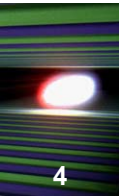
Safety First

(I assume that we all agree on this.)

- In this instruction we concentrate on special items for the mock up tunnel and set rules that are typically under discussion like hard hats, working alone, safety shoes, working in height, visits, work place risk assessment, ...



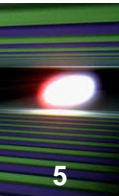
- For a single work you and your adviser/group leader will stay responsible including equipment and things that you use or provide!
- For visitors the guide is responsible!
- The mock up tunnel co-ordinator is responsible for the co-ordination of the work to avoid that one work endanger the neighbour worker.
- ..., BUT if you notice that things get **wired and dangerous:** **STOP WORK** and contact co-ordinator and advisor.



... has ...

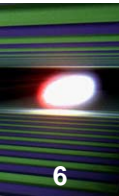
- Two escape routes
 - Automated escape route signs
 - Battery buffered emergency light
 - Smoke detection
 - Fire extinguisher
 - First aid box
 - Two IP-phones
(Do not work during total power cut!)
-
- Ethernet
 - Wireless network

Work Place Risk Assessment



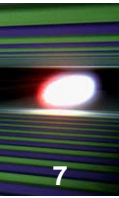
- We performed a general work place risk assessment.
 - This will be an evolving list of all the work that will be performed in the mock-up-tunnel.
 - For each work going on in the tunnel a **risk assessment** has to exist.
 - This will be attached to the main document.

- A copy can be found in the south entrance.

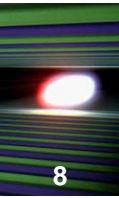


- Franz Czempik, MEA1, 9-3809 has been assigned as co-ordinator and responsible person for the mock up tunnel.
- All work has to be declared to the co-ordinator and the **risk assessment** has to be shown.
(Sent a mail to xfel-mockup-coor@desy.de.
Describe the work and its special hazards and attach the work risk assessment.)
- All **dangerous** work has to be **agreed** with the co-ordinator.

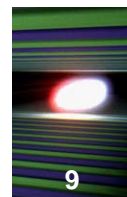
Safety Instructions



- All worker and visitor guides have to be aware of the special safety instruction for the mock-up-tunnel.
- A copy of the instruction has been placed at the south entrance so that even there a instruction can be performed before the tunnel will be entered.
 - A list to confirm the instruction is there too.
 - Please be aware that the instruction has to be repeated once a year.



- Visitors are not allowed to ...
 - ... perform mechanical and other work!
 - ... bring tools or hazard materials!
- Visitors have to ...
 - ... follow the advices of their guide (and of the workers)!
 - ... keep a safe distance to ongoing mechanical work!
i.e. it will be impossible for a visitor to pass by a scaffold,
on which work is on going!
 - ... do not need to wear hard hats.



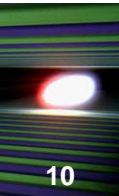
Workers are ...

- ... responsible for their work, their tools and their personal protective equipment!
- ... under the responsibility of their group leader!

Workers have to ...

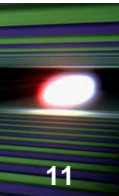
- ... wear safety shoes ...
- ... and hard hats if work is going on above them (on ladders, platforms or scaffolds)!
- ... think of workers in the neighbourhood and of visitors! (Secure hazard area, etc.)
- Other protective equipment according to the performed work!

Escape Routes



- The escape routes have to be keep clear at any time.
- All working setups have to leave an emergency passage of at least 0.5m.
- Please remove your rubbish immediately and your equipment when the work is finished.

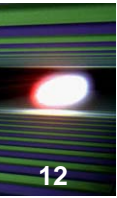
Working alone



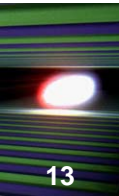
- Working alone is only allowed ...
 - ... for passages or ...
 - ... visual inspection.

- All other work requires at least two persons.
 - Exception have to be explained in the work place risk assessment.

Bumping

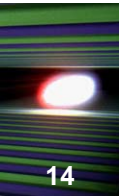


- All critical points (sharp edges or corners) especially at the hanging tanks have to be covered with protectors to avoid injuries by accidental (head) bumping.



- Welding permit
- Smoke exhaust necessary,
according to list from D5 (Attached at the end)
- Sufficient clearance
- Secure hazard area
- Remove or cover flammable material
- Remove welding gas cylinders at the end of the day!
(At least into the south anteroom with
warning signs outside at the doors.)

Special Work: Working in height



■ Ladders ...

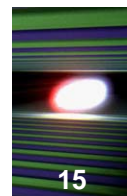
- are quite dangerous
- should be avoided
- use properly (see general safety instruction)
 - less than 2 hours per day

■ Scaffolds ...

- have to be build **and changed** by skilled people
- according to the rules (DIN EN1004, (DIN EN12810, DIN EN12811))
 - If the guard rails can not be properly made at all sides a fall protection has to be used.
- have to leave an emergency passage of at least 0.5m.
- can be provided by MEA5 (Transport)

After the first experience we know that setting up proper scaffolds is difficult task. We are working on this. Please allocate sufficient time!

Special Work: Others



- Hazard Materials (Gas, Solvents, ...)
 - Announcement
 - Proper labelling
 - Sufficient ventilation
 - **Removed at the end of the day or when not needed anymore!**

- Heavy loads
 - Safe stands of the lifting units (Fork lift etc.)
 - Safe temporary supports
 - Clearance/Secure hazard area

- Tunnel Vehicle/Fork Lift ...
 - used only by skilled and trained people (MEA5 Transport)
 - have to leave an emergency passage of at least 0.5m.
 - Sufficient clearance/Secure hazard area
 - **Do not expect that the driver has noticed you, his view may be limited!**

Verfahren		Grundwerkstoff					
		Unlegierter und niedriglegierter Stahl, Aluminium-Werkstoffe		Hochlegierter Stahl, NE-Werkstoffe (außer Aluminium-Werkstoffe)		Beschichteter Stahl	
		k	l	k	l	k	l
Flammwärmen, Flammrichten		F	T	F	T	F	T
Flammhärten		F	T	–	–	–	–
Flammstrahlen		F	T	–	–	T	A
Brennschneiden							
	ortsgebunden	F	T	A	A	T	T
	nicht ortsgebunden	F	T	T	A	T	T
	Kurz (K); Lang (L); Natürliche bzw. freie Lüftung (F); Technische Lüftung (auch z.B. Einblasen von Luft) (T); Absaugung (A)						

Heißarbeiten

Lüftung in Räumen bei Verfahren mit Zusatzwerkstoff

aus Schulungsveranstaltung für Koordinatoren 26. Juni 2007

Verfahren		Zusatzwerkstoff				Schweißen an beschichtetem Stahl	
		Unlegierter und niedriglegierter Stahl, Aluminium-Werkstoffe		Hochlegierter Stahl, NE-Werkstoffe (außer Aluminium-Werkstoffe)			
		k	l	k	l	k	l
Gasschweißen							
	Ortsgeb	F	T	T	A	T	A
	nicht ortsgeb	F	T	F	A	F	A
Lichtbogenhandschweißen							
	Ortsgeb	T	A	A	A	A	A
	nicht ortsgeb	F	T	T	A	T	A
MIG-, MAG-Schweißen							
	Ortsgeb	T	A	A	A	A	A
	nicht ortsgeb	F	T	T	A	T	A
WIG-Schweißen							
mit thoriumoxidfreien Wolframelektroden							
	Ortsgeb	F	T	F	T	F	T
	nicht ortsgeb	F	F	F	T	F	T
mit thoriumoxidhaltigen Wolframelektroden							
	Ortsgeb	A	A	A	A	A	A
	nicht ortsgeb	T	A	F	T	F	T

Kurz (K); Lang (L); Natürliche bzw. freie Lüftung (F); Technische Lüftung (auch z.B. Einblasen von Luft) (T); Absaugung (A)