

### Units

- Reaction to Fire
- Fire Resistance
- R&D-Structural Hazard Engineering



Testing of the fire resistance of roofs against radiant heat and flying brands acc. to DIN 4102-7 and DIN CEN/TS 1187

### Special facilities

Fire safety equipment available at MPA fire safety department are amongst others:

- EN 16733 propensity to undergo continuous smouldering
- Apparatuses for development of smoke under flaming and smouldering conditions
- Roof testing facility acc. to CEN/TS 1187 and DIN 4102-7
- Radiant panel testing for floorings acc. to DIN 4102-14 and EN ISO 9239-1
- Non-combustibility furnace acc. to EN ISO 1182 and DIN 4102-1,
- Laboratories for Kleinbrenner-/small flame ignitability tests acc. to EN ISO 11925-2, DIN 4102-1, DIN 53438, motor vehicle test DIN 75200 and FMVSS 302
- Brandschacht acc. to DIN 4102-1, -15 und -16
- SBI-Laboratory for testing acc. to EN 13823
- Set up for testing upholsteries acc. to DIN 66084, EN 1021 und DIN 54341
- Kleinprüfstand acc. to DIN 4102-8
- Wall furnace for vertical constructions, 3 m x 3 m (load bearing capacity up to 500 kN)
- Ceiling furnace for horizontal constructions, 2,4 m x 8 m (load bearing capacity up to 500 kN)
- Combined furnace for vertical and horizontal constructions, each 4 m x 5 m
- Column testing furnace (load bearing capacity up to 3000 kN)
- Set up for testing smoke leakage rate acc. to DIN 18095 and EN 1634-3
- Testing equipments for resistance to repeated opening and closing acc. to DIN 4102-18, DIN 18263, EN 1154, EN 1155, EN 1158
- Test station for outdoor weathering to DIN 4102-16

### Contact

Dr. rer. nat. S. Lehner

Phone: +49 711 685 62713

Fax: +49 711 685 66724

e-mail: [stefan.lehner@mpa.uni-stuttgart.de](mailto:stefan.lehner@mpa.uni-stuttgart.de)

Internet: <http://www.mpa.uni-stuttgart.de>



## Testing / Assessment / Expertises

- Assessments, analysis and expert evidence in the fire testing area e.g. for approval from building authorities in case of special buildings or inovel building products, kits and building constructions, or proof of evidence within judicial hearings
- Fire testing and assessment of building products, kits and building constructions, e.g. external wall claddings (ETICS), facades, floorings, wood and timber materials, plastics, textiles, curtains, blinds, decoration materials, filter means, upholsteries, interior materials for motor vehicles, roofs and roofing constructions, ceilings, walls, columns, doors, fire shutters, cables, cable- and pipe shutters, glazings, safety cabinets etc.
- Assessments, analysis and expert evidence in charge of ministries, building authorities, industry and fire engineers
- Planning of fire protection improvement means for existing buildings



Brandschacht acc to DIN 4102-15: four specimens, arranged in a mounting frame so as to form a flue, are exposed to flame from a square gas burner

## Approvals / Inspection / Certification / Test lab

MPA Fire Safety-Department is assessing reation to fire of building products as well as the fire resistance of building constructions acting as

- Accredited test laboratory acc. To EN ISO/IEC 17025 and Product Certification body acc. to DIN EN ISO/IEC 17065
- Notified Body No 0672 listed at Commission of European Communities under article 39 of Construction Products Regulation (EG) No 305/2011 as certification, inspection and testing (CIT) body
- test laboratory for essential characteristics in the fire area (CPR Annex V.3)
- notified national PÜZ-Stelle BWU03 to §25 LBO of building regulation
- Fire testing of building products and building constructions for issuing approvals by building authorities

## Consulting services

- Consultance for producers, industry, civil engineers, authorities and DIBt in terms of fire protection and use of building materials and constructions
- Consultance for ministries in cases of issuing approvals for special building constructions
- Consultance in drafting fire protection conceptions for building construction and building rehabilitation works

## Committees

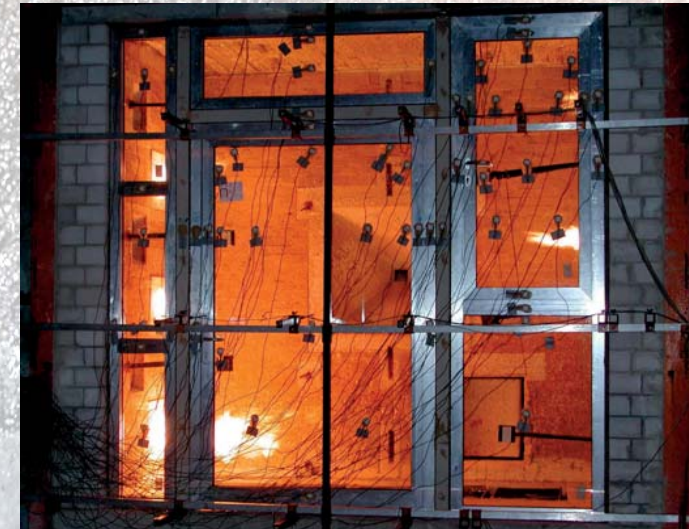
Member of

- ABM "Arbeitsgemeinschaft der Brandschutzlaboratorien Deutscher Materialprüfanstalten"
- SH02 (FSG) "Fire-Sector-Group" at European Commission
- EGOLF "European Group of Organisations for Fire Testing, Inspection and Certification"

Contribution to German and European standardisation boards, expert-groups and technical committees for fire testing, e.g. at Deutsches Institut für Bautechnik DIBt, DIN, CEN, ÜGPU etc.

## Research & Development

- Research and development programmes for verification of new european fire testing methodes, and for proofing possible comparabilities of safety levels of existing national and new european fire testing methods
- Research programmes for fire assessment from various product areas such as e.g. insulating materials, floor coverings, roofs and roof constructions, coatings etc.
- Member of European Commission research programme "CBUF" (Combustion Behaviour of Upholstered Furniture)
- HORIZON 2020 / HOMESKIN - Materials for building envelope
- HORIZON 2020 / WALL ACE - Wall insulation, novel nanomaterials efficient systems
- Research projects IWB for combustion behaviour of dowels and high-resistance concrete:
- DFG - Verbundwirkung zwischen Stahl und Beton unter Brandeinwirkung
- DFG - Das mechanische und temperaturabhängige Verhalten von Faserbeton
- EU - Brandverhalten von Bauteilen (columns, beams, nodes, frames)



Fire resistance wall furnace: testing of a fire resistant door acc. to DIN 4102-5, built in a glazed wall, shortly after start of flaming