

**TRANSLATION OF THE
MPA (BRAUNSCHWEIG) – CERTIFICATE 22746/2007 OF
2008-01-09 REGARDING
ANALYSIS REPORT No. 3681/0206 -CM- OF 2006-03-06**

Note: This translation was made by MKT GmbH & Co. KG to the best of our knowledge.

March 2008, MKT GmbH & Co. KG

**VALIDITY OF ANALYSIS REPORT No. 3681/0206 -CM- OF 2006-03-06 IN CONJUNCTION
WITH THE ADDITIONAL CERTIFICATE NO. 3033/364/08-NB OF 2008-01-08**

In response to your request we certify to you, that the statements presented in the above mentioned analysis report, regarding the fire behaviour of

**MKT injection system VMU
together with anchor rods in sizes M8 to M30, made of galvanized steel
(strength class \geq 5.8),**

loaded in tension in uncracked reinforced concrete of strength classes \geq C20/25 and \leq C50/60 and exposed to one-sided fire conditions according to the standard temperature/time curve (ETK) in accordance with DIN EN 1363-1: 1999-10, are valid thru 2012-12-20.

This certificate includes 2 pages and an abstract of the above mentioned analysis report.

This certificate must only be published in full.

1 General

Based on test results, the fire resistance ratings of MKT injection systems VMU, when subjected to the maximum allowable tensile load, can be as shown in table 2-1 of section 2 with special consideration given to section 3.

2 Evaluation of the test results

Table 2-1: Fire resistance ratings of MKT injection system VMU with styrene free vinylester combined with anchor rods in the sizes M8 to M30, made of galvanized steel (strength class ≥ 5.8), dependent on the maximum allowable tensile load

Designation	Fire resistance time in minutes			
	30 max. F [kN]	60 max. F [kN]	90 max. F [kN]	120 max. F [kN]
MKT injection system VMU ¹⁾				
M8	$\leq 1,90$	$\leq 0,85$	$\leq 0,55$	$\leq 0,40$
M10	$\leq 4,50$	$\leq 2,10$	$\leq 1,35$	$\leq 1,00$
M12	$\leq 6,00$	$\leq 3,00$	$\leq 2,00$	$\leq 1,50$
M16	$\leq 11,00$	$\leq 6,60$	$\leq 4,90$	$\leq 4,00$
M20	$\leq 16,00$	$\leq 9,00$	$\leq 6,40$	$\leq 5,00$
M24	$\leq 19,83$	$\leq 11,49$	$\leq 7,31$	$\leq 5,23$
M30	$\leq 31,52$	$\leq 18,25$	$\leq 11,62$	$\leq 8,31$

¹⁾ The designer must check if the approvable loads of the verifications of applicability (e. g. ETA-05/0253 of January 05th, 2007) are decisive.

3 Specific indications

The above mentioned analysis report in conjunction with this renewal does not replace verification according to the procedures of the German building authorities (abZ, abP, ETA). The designer must consider that the fire exposure values might in the future be governed within European Technical Approvals.

The preceding evaluation only applies for the MKT injection system VMU with styrene free vinylester combined with anchor rods in the sizes M8 to M30, made of galvanized steel (strength class ≥ 5.8) with regard to the technical data sheets and the installation instructions of MKT GmbH & Co. KG.

The evaluation results for the above mentioned MKT injection system are only valid for installations in reinforced concrete (strength class $\geq C20/25$ and $\leq C50/60$) with the same or higher class of fire resistance as the fire resistance of the Chemical anchors.

The validity of the analysis report No. 3681/0206-CM of 2006-03-06 is in conjunction with this writing valid thru 2012-12-20.