

MKT
Metall-Kunststoff-Technik GmbH & Co. KG
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Letter**8539/2014**

Our Ref.: (3152/193/14)-NB
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Your Ref.:
Your message of:

Date: 07.01.2014

Validity of Test Report No. (3062/066/12)-NB of 29/06/2012

Dear Sir or Madam,

In reply to your enquiry we wish to inform you that the statements made in the above Test Report No. (3062/066/12)-NB of 29/06/2012 regarding the reaction to fire of centrally tensioned "MKT Injection system VME for concrete" bonded anchors, consisting of

"MKT Injection system VME for concrete" anchors in connection with anchor rods
(M8 to M30 made from electrogalvanised steel; strength class ≥ 5.8),

"MKT Injection system VME for concrete" anchors in connection with anchor rods
(M8 to M30 made from stainless steel; material No. 1.4401 (A4) or 1.4571 (A5); strength class ≥ 70),

"MKT Injection system VME for concrete" anchors in connection with HCR anchor rods
(M8 to M30 made from highly corrosion-resistant HCR steel (1.4529 or 1.4565; strength class ≥ 70),

which are set in uncracked reinforced concrete (strength class at least C20/25 and not higher than C50/60) and exposed to a fire in accordance with the DIN EN 1363-1 standard temperature-time curve (ETK), continue to apply until 7 January 2019.

This letter consists of 3 pages and contains an abstract of the above Test Report.



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1 General information

In view of the results that were achieved in the fire test, the fire resistance times that are listed in the table in section 2 below can be assigned to the "MKT Injection system VME for concrete" anchors for the given maximum tensile loads, due consideration being given to the notes in section 3 below. The edge and centre distances have to be selected, so the steel failure / the mortar failure (failure as a result of ETK temperature exposure) becomes decisive.

2 Evaluation of test results

Table 2-1: Fire resistance times for the "MKT Injection system VME for concrete" anchors (dimensions M8 – M30) made from electrogalvanised steel, stainless steel and highly corrosion-resistant HCR steel, set in substrates made from uncracked reinforced concrete (strength class at least C20/25 and not higher than C50/60), as a function of stress σ_s under centric tensile load and the minimum placement depth

Designation	"MKT Injection system VME for concrete" anchor							
Fire resistance time t_u [min]	Maximum tensile load ¹⁾							
	F [kN]							
	M8	M10	M12	M16	M20	M24	M27	M30
Min. placement depth [mm]	80	90	110	125	170	210	250	280
30	≤ 0.90	≤ 3.20	≤ 4.20	≤ 8.25	≤ 17.25	≤ 24.85	≤ 32.30	≤ 39.50
60	≤ 0.50	≤ 1.80	≤ 2.30	≤ 5.30	≤ 10.20	≤ 14.75	≤ 19.15	≤ 23.40
90	≤ 0.30	≤ 1.10	≤ 1.40	≤ 3.80	≤ 6.70	≤ 9.70	≤ 12.60	≤ 15.40
120	≤ 0.20	≤ 0.75	≤ 0.90	≤ 3.00	≤ 5.00	≤ 7.20	≤ 9.30	≤ 11.35

1) For the normal intended use, loads resulting from the ETA-09/0350 European Technical Approval may be decisive

If the edge distance c is so large that steel failure becomes the failure mode, the load values in table 2-1 can also be applied to anchors that are subjected to shear loads.

3 Additional information

The above-mentioned Test Report does together with this letter not replace an approval (Building Code Test Certificate - abP, National Technical Approval - abZ, European Technical Approval - ETA)

that is required under the German building code procedure. It should, in particular, be noted that fire load values for "MKT Injection system VME for concrete" anchors may be regulated by a National Technical Approval (abZ) or a European Technical Approval (ETA).

The above assessment only applies to the tested "MKT Injection system VME for concrete" anchors on the basis of the conditions that are set out in the Technical Data Sheets of Metall-Kunststoff-Technik GmbH & Co. KG. In accordance with the specifications provided by Metall-Kunststoff-Technik GmbH & Co. KG, the anchors must be installed in compliance with European Technical Approval No. ETA-09/0350 of 14/06/2013.

The assessment for the above "MKT Injection system VME for concrete" anchors only applies in connection with substrates made from uncracked reinforced concrete (strength class at least C20/25 and not higher than C50/60) that can at least be classified under a fire resistance class that corresponds to that of the anchors. It must also be considered that the anchors have for the time being only been approved of for normal intended use in uncracked reinforced concrete.

The validity of Test Report No. (3062/066/12)-NB of 29/06/2012 will, together with this letter, expire on 7 January 2019.

Kind regards,



i. A.

ORR Dr.-Ing. Rohling
Head of Department



i. A.



Dipl.-Ing. Bollmohr

Official/engineer in charge