

Tornado Rating Document

Heemsen (Niedersachsen)

Germany

29 APR 2021

Date: 29 APR 2021

Time: 1457 CEST / 1257 UTC

Country: Germany

State: Niedersachsen

Place: Heemsen

Path Length: 0.5 km

Path Width: 60 m

Starting Point: 52.6956N 9.2611E

Altitude: 25 m osl

Ending Point: 53.6968N 9.2679E

Altitude: 24 m osl

Movement: WSW-ENE

Surface: Land

Surface Details: Farmland, Houses, Gardens, Trees

Intensity Rating: IF1- / F1 / F1T2

Intensity Rating - based on „Tornado and Wind Damage Assessment Guide“ by ESSL and tornado damage mapping by Hendrik Sass.

Buildings:

01 Barn/Garage (52.6961N 9.2646E):

Roof slates blown away (at least 50%). DI: Roofs: DoD2 (20-50% loss ratio) results in IF1 (F1). Due to the old and weaker structure, sturdiness arguments may seem reasonable for downgrading to IF1- (low-end F1 – more likely) or even IF0+ (high-end F0 – less likely since a lot of material was lifted and blown away).

02 Residential House (52.6959N 9.2645E):

Some single slates blown away (less than 20%). Material: ceramik. DI: Roofs: DoD1 (<20% loss ration) results in IF0+ (high-end F0).

03 Barn/Solid refuge building (52.6966N 9.2664E)

Some ceramik roof slates blown away. Loss ratio seems little larger than at point 02, but not larger than 30%. DI: Roofs: DoD2 (20-50% loss ratio) results in IF1 (low-end F1) or F1T2.

Vehicle (52.6958N 9.2635E)

A trailer was toppled rear side up. DI: Not defined (only trucks and heavy truck trailers). No rating possible. Remark: Since the object was not untouched by the tornado, nor moved sideways, intensity rating of high-end F0 or low-end F1 could be

guessed here. Assessment guide doesn't show any option for rating.

Vegetation:

At least one tree was downed in the area of Gewerbeweg street. Several branches were ripped off and thrown. Assuming wood class 2: Firmness Class 2: DoD1 (exceeded). DoD2: IF0+ (high-end F0). Unable to rate uprooting.

Result:

Comparing all damage points, the tornado intensity results in IF1- (low-end F1) or F1T2.

Intensity rating operated by Thilo Kühne (ESSL), 03 MAY 2021