

# Tornado Rating Document

**Weseke (Nordrhein-Westfalen)**

**Germany**

**25 MAY 2021**

**Date: 25 MAY 2021**

**Time: 1505 CEST / 1305 UTC**

**Country: Germany**

**State: Nordrhein-Westfalen**

**Place: Weseke**

**Path Length: 2.5 km (known)**

**Path Width: 60 m avg. / 90 m max.**

**Starting Point: 51.912N 6.841E**

**Altitude: 55 m osl**

**Ending Point: 51.911N 6.879E (known)**

**Altitude: 56 m osl**

**Movement: W-E**

**Surface: Land**

**Surface Details: Farmland, Houses, Gardens, Trees**

**Intensity Rating: F1 / F1T3**

Intensity Rating based on Tornado and Wind Damage Assessment Guide for IF-Scale, ESSL and based on Wooden Plants: A New Damage Indicator / Degree of Damage Matrix (Hubrig, 2015). Damage mapping: Hendrik Sass. Photo material: Hanne Bushuven, Feuerwehr Borken, Westdeutscher Rundfunk (WDR), Annette Trzeciok and Storm\_hunter\_nrw.

Rating operator: Thilo Kühne (ESSL)

## **BUILDINGS / MAN-MADE STRUCTURES:**

### **01 Building (51.9119N 6.8531E)**



Some ceramic slates blown away on the west side of the building. Ratio <20%.  
DI Roofs: DoD1 (isolated tiles <20%) results in IF0+ / F0T1.

**Result: F0T1**

### **02 Residential Building (51.9121N 6.8547E)**



A single row of ceramic slates was lifted, but wind failed to blow it away.  
DI Roofs: not defined. If DoD1 with ratio of <20% results in IF0+, than damage at building 02 results in IF0 / F0. (Proposal for DoD0 needed)

**Result: F0**

**03 Masonry Wall** (51.9120N 6.8576E)



Wall collapsed. Single row brick structure. Failure point unknown.  
DI MW: DoD1: Collapse: Not defined.  
Result: None

**04 Shed** (51.9119N 6.8575E)



Roof cover partly lifted, but not ripped-off and thrown. According to photo material, loss ratio may reached >20% at a rough estimate.

DI Roofs: DoD2: IF1

**Result: F1**

**05 Residential Building** (51.9119N 6.8579E)



Some single ceramik slates blown away and some others lifted, but not thrown. Loss ratio <20%. DI Roofs: DoD1: IF0+ / F0T1.

**Result: F0T1**

**06 Residential Building** (51.9119N 6.8628E)



Large parts of slates blown off on the west side of the building. Loss ratio 40-50%. DI Roofs: DoD2 (20-50%) results in IF1 / F1. It is not clear whether one can expect a high-end F1 rating here or not. Damage cannot be estimated with additional T-Scale.

**Result: F1**

### 07 Residential Building (51.9118N 6.8631E)



Some parts of slates blown off on the west side of the building. Damage is limited to the upper section of the roof. Loss ratio about 20-25%.

DI Roofs: DoD2 (20-50%): IF1 / F1.

**Result: F1**

### 08 Barn (51.9118N 6.8775E)



Large parts of roof cover (ceramik slates) lifted. Loss ratio: 40%.

DI Roofs: DoD2 (20-50%): IF1

**Result: F1**

### 09 Garden building / weak outbuilding (51.9119N 6.8655E)

TV reported a garden building (wood frames, weak structure) which was lifted and thrown into southern direction onto walls of a building. The weak garden house was fully destroyed.

Failure Point: Sturdiness Class A (weak outbuilding), wall quality: wood, single row, rather thin. DoD4 (blown down) results in IF1 / F1.

**Result: F1**

**VEGETATION:**

**Note: Only rating strongest damage which has been reported.**



Trunk snapped, parts of large branched and tree crown snapped and thrown. The trunk itself was not thrown. Stability parameters unknown; using average parameters: DI 3 (Other Hardwood): DI Sub c : Upper F1.

**Result: F1T3**