


**This MotoCAP safety rating applies to:**

**Brand:** Macna  
**Model:** Darko  
**Type:** Glove - Leather  
**Date purchased:** 4 February 2019  
**Sizes tested:** XL and 2XL  
**Gender:** M & F  
**Style:** All Purpose  
**Test code:** G19L04

**Test Results Summary:**


|                           | Rating | Result |
|---------------------------|--------|--------|
| MotoCAP Protection Rating | ↘      | 0.7    |
| Abrasion                  | 1/10   | 0.47   |
| Seam strength             | 1/10   | 2.8    |
| Impact                    | 1/10   | 3.2    |
| Water resistance          | N/A    | N/A    |

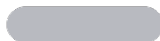
This glove is fitted with impact protectors for the knuckles and palm areas but there is no impact protection in the wrist area. There is mesh fabric on the tops of the fingers, thumb and wrist to aid cooling in hot weather.


**Gloves - Crash Impact Risk Zones**


This diagram is a pictorial representation of the crash impact risk Zones.



**Zone 1**  
  
 High risk of impact

**Zone 2**  
  
 High risk of abrasion

**Zone 3**  
  
 Medium risk of abrasion

**Zone 4**  
  
 Low risk of abrasion

## Abrasion Resistance

The glove was tested for abrasion resistance in accordance with MotoCAP test protocols. The table below shows the test results for time to abrade to material failure for each sample by Zone, type and area coverage of each material as a proportion of that Zone.

### Details of materials used in garment:

Material A: Suede leather shell  
Material B: Stretch fabric shell

| Zone                                      | Coverage (%) | Abrasion time for each test (s) |      |      |      |      |      | Average (s) |   |
|---|--------------|---------------------------------|------|------|------|------|------|-------------|---|
|   |              | 1                               | 2    | 3    | 4    | 5    | 6    |             |   |
| <b>Zone 2 area (High abrasion risk)</b>   |              |                                 |      |      |      |      |      |             |   |
| Material A                                | 100%         | 0.87                            | 0.02 | 0.44 | 0.44 | 0.64 | 0.60 | 0.50        | P |
| <b>Zone 3 area (Medium abrasion risk)</b> |              |                                 |      |      |      |      |      |             |   |
| Material A                                | 100%         | 0.87                            | 0.02 | 0.44 | 0.44 | 0.64 | 0.60 | 0.50        | P |
| <b>Zone 4 area (Low abrasion risk)</b>    |              |                                 |      |      |      |      |      |             |   |
| Material A                                | 50%          | 0.87                            | 0.02 | 0.44 | 0.44 | 0.64 | 0.60 | 0.50        | P |
| Material B                                | 50%          | 0.06                            | 0.01 |      |      |      |      | 0.04        | P |

Abrasion times are capped at a maximum of 10.00s.

The diagram below is a visual indication of the likely abrasion performance of the materials in each Zone calculated from the data in the table above. The colour coding is based on the worst performing material in each zone.



| Determining Criteria |         | Good  | Acceptable | Marginal  | Poor  |
|----------------------|---------|-------|------------|-----------|-------|
| High abrasion risk   | Zone 2: | > 4.0 | 2.7 - 4.0  | 1.2 - 2.6 | < 1.2 |
| Medium abrasion risk | Zone 3: | 3.5   | 2.5 - 3.5  | 1.0 - 2.4 | < 1.0 |
| Low abrasion risk    | Zone 4: | >2.5  | 1.8 - 2.5  | 0.8 - 1.7 | < 0.8 |

### Seam Tensile Strength

The tensile strength of the gloves seams and restraint system (the force required to drag off a correctly fastened glove) were tested in accordance with MotoCAP test protocols. The table below shows the seam tensile strength in newtons per millimeter (N/mm) for each seam tested by Zone and the average result for each Zone.

Seam tensile strength (N/mm)

| Area        | 1    | 2    | 3    | 4    | 5    | Average |   |
|-------------|------|------|------|------|------|---------|---|
| Zones 2 & 3 | 3.97 | 4.04 | 2.91 | 4.09 | 2.51 | 3.51    | P |
| Zone 4      | 5.83 | 5.74 | 5.35 | 6.13 | 6.08 | 5.83    | P |

The table below shows the force required to remove the restrained glove in newtons (N) for each of the five gloves tested and the average result.

Glove restraint (N)

| Glove           | 1     | 2     | 3     | 4     | 5     | Average |   |
|-----------------|-------|-------|-------|-------|-------|---------|---|
| Wrist restraint | 365.5 | 117.2 | 344.0 | 218.1 | 227.0 | 254.4   | M |

The diagram below illustrates the tensile strength and wrist restraint results in terms of the likely performance of the glove in a crash and is a pictorial representation of the data from the tables above.



#### Determining Criteria

Seam tensile strength

(N/mm)

Good



> 15

Acceptable



10 - 15

Marginal



6.5 - 9.9

Poor



< 6.5

Glove restraint

(N)

> 400

300 - 400

200 - 299

< 200

### Impact Protection

The glove was tested for impact protection and coverage in accordance with MotoCAP test protocols. The tables below shows the mean and individual test results for each impact protector in kilonewtons (kN) and their area of coverage in percentage (%) within the Zone.

| Impact protector type   |  | Knuckles |   | Palm |   | Wrist |
|-------------------------|--|----------|---|------|---|-------|
| Average force (kN)      |  | 4.92     | A | 2.9  | G | P     |
| Maximum force (kN)      |  | 7.20     | M | 2.90 | G | P     |
| Coverage of zone 1 area |  | 70%      |   | 70%  |   | 0%    |

Impact forces are capped at a maximum of 10.0kN.

### Individual test results

| Impact force (kN)  | Knuckles |      |      | Palm |      |
|--------------------|----------|------|------|------|------|
|                    | 1        | 2    | 3    | 1    | 2    |
| Impact Protector 1 | 4.10     | 4.00 | 5.10 | 2.90 | 2.90 |
| Impact Protector 2 | 5.50     | 3.60 | 7.20 | 2.80 |      |
| Impact Protector 3 |          |      |      |      |      |

| Impact force (kN)  | Wrist | No impact protector present |  |
|--------------------|-------|-----------------------------|--|
|                    | 1     | 2                           |  |
| Impact Protector 1 |       |                             |  |
| Impact Protector 2 |       |                             |  |
| Impact Protector 3 |       |                             |  |

The diagram below is a visual indication of the likely performance of each impact protector calculated from the data in the table above. The colour coding is based on the worst performing score for average or maximum force for each impact zone.



| Determining Criteria                | Good | Acceptable | Marginal | Poor* |
|-------------------------------------|------|------------|----------|-------|
| Knuckle and wrist Impact force (kN) | < 2  | 2 - 4.9    | 5 - 8    | > 8   |
| Palm impact force (kN)              | < 4  | 4 - 5.9    | 6 - 8    | > 8   |

\* Poor may also indicate that no impact protector is present in the glove

Areas shaded black are not considered in the impact protection ratings.

**Water spray and rain resistance**

This glove has not been advertised as water resistant so has not been tested for water spray and rain resistance.