Automotive services – Specification for vehicle damage repair processes  BS10125 Draft

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on XX Month 2014. It was prepared by Technical Committee SVS/20, Automotive Services. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes PAS 125:2011, which, however, remains current and will be withdrawn on XX Month 201X.

Information about this document

BS 10125 revises and replaces PAS 125:2011 and has been prepared to bring the specification for vehicle damage repair processes up to date and in line with technological developments and currently recognized good practice.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.
Automotive services – Specification for vehicle damage repair processes  BS10125 Draft

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

1 Scope

This British Standard specifies requirements for automotive vehicle (vehicle) damage repair processes undertaken at fixed facilities or through provision of a mobile service and includes requirements for:

a) repair processes;

b) competence of personnel;

c) tools and equipment;

d) parts and controlled consumables;

e) repair process management;

f) quality control;

g) complaints procedure.

This British Standard also specifies the information to be included in any claim of conformity.

It covers the removal and refitting or replacement of windscreens, other vehicle glazing and mechanical parts undertaken as part of the vehicle damage repair process. However, it excludes windscreen repair undertaken as a separate activity, for which there is a British Standard, BS AU 242a.

This British Standard is not applicable to motorcycles (with or without sidecars), three-wheeled vehicles or vehicles over 5 tonnes GVW.

2 Terms and definitions

For the purposes of this British Standard the following terms and definitions apply.

2.1 vehicle

automotive vehicle that is:
a) designed and constructed for the carriage of passengers and comprising not more than eight seats in addition to the driver’s seat (Category M1) or;

b) designed and constructed for the carriage of passengers and comprising more than eight seats in addition to the driver’s seat and having a maximum mass not exceeding 5 tonnes (Category M2) or;

c) designed and constructed for the carriage of goods and having a maximum mass not exceeding 5 tonnes (Category N1 and part N2)

NOTE Categories as given in European Directive 2007/46/EC (amended in 2009)

2.2 awarding organization

entity that awards accredited qualifications and is recognized by the relevant regulatory authorities

2.3 controlled consumables

products used in vehicle damage repair processes that are intended to be stocked, used up and replaced as required but which require particular care in storing, handling or application (e.g. brake fluids, air conditioning refrigerants)

2.4 customer

owner of a vehicle or owner’s agent authorized to instruct repairs

2.5 industry recognized qualification

competency qualification founded on relevant National Occupational Standards (NOS)¹, accessible to interested parties and capable of supporting individual recognition by means of
The Institute of the Motor Industry (IMI) is responsible for setting the National Occupational Standards (NOS) for all sectors of the automotive industry. NOS are presented in the form of units and they describe the different functions carried out by people working in the different sectors of the industry.

2.6 procedure

set of instructions for achieving a particular goal or objective

2.7 repair

reinstatement of specified areas of damage on a vehicle to their pre-damaged performance in accordance with a relevant repair method

2.8 relevant repair method

specification for vehicle damage repair, developed and made available for others to use by the vehicle manufacturer or a recognized research facility in accordance with the vehicle manufacturer’s design and performance intent or, in the absence of such a method, developed by a currently competent person in respect of the vehicle type under repair

2.9 repairer

individual or organization that undertakes vehicle damage repair

2.11 repair method

specific manner and/or technique, together with the sequence in which repair tasks are carried out

2.12 repair process

entirety of repair methods and constituent repair tasks necessary for undertaking a particular instance of vehicle damage repair

2.13 supervision

activity undertaken by a currently competent person to ensure that other persons undertaking repair tasks understand and can apply the relevant repair method(s)
3 Repair process

The repair process, relevant repair methods and constituent repair tasks to be undertaken, including authorities and responsibilities, shall be specified and documented by the repairer, and shall include the following:

a) category of repair to be undertaken in accordance with Annex A;

b) people authorized to participate in the process (see 3.2);

c) repair method(s) to be applied (see 3.3);

d) equipment and tools to be used (see 3.4);

e) parts and controlled consumables required (see 3.5);

f) quality control (see 3.6);

g) repair process management (see Clause 4).

3.2 People — Recruitment, competence and responsibilities

3.2.1 Job description and recruitment

The vehicle repairer shall establish, implement and document:

a) job descriptions including reporting lines;

b) recruitment procedures including verification of qualifications or competence,

for each repair role required to complete the repair process within the repair categories specified in 3.1 and identified in Annex A, including those for:

1) bonding, welding, riveting and other joining techniques;

2) air conditioning systems;

3) alternative fuel systems;

NOTE Alternative fuel systems include those in electric or hybrid vehicles.

4) vehicle damage assessment (VDA);
5) mechanical, electrical and trim (MET);

6) autoglazing;

7) panel processes;

8) refinishing.

### 3.3 Relevant repair methods

#### 3.3.1 Access to the documented repair process

##### 3.3.1.1

The documented repair process, including the relevant repair method(s) for all types of vehicle damage repair likely to be undertaken, shall be readily accessible within the repair facility.

##### 3.3.1.2

Evidence that the repair process documentation has been accessed and the repair process applied at every stage of the particular repair process shall be available on request.

#### 3.3.2 Repair documentation

The repairer shall have in place and implement documented procedures to ensure the provision of the information required to support the requirement for repair process records specified in 4.5 a) to d) and the preparation, maintenance and availability upon request of documentary evidence in respect of the:

a) accessibility;

b) use;

c) review and;

d) change

of the repair process including the date when any change to repair related activities is authorized and implemented.
3.3.3 Avoidance of cross contamination

Where cross contamination between vehicles and material types in the repair facility is possible, the repairer shall put in place documented procedures to identify the risks and to avoid the occurrence of cross contamination of the vehicle and within the repair facility.

3.4 Equipment and tools

3.4.1 Availability

Equipment as identified in Annex A shall be available for all types of repair undertaken, either on-site or via suitable subcontracted facilities.

3.4.2 Suitability and capability

The selection and use of equipment and tools shall be based upon evidence of suitability, relevance to the repair process being undertaken and proven capability.

3.4.3 Calibration

3.4.3.1

Repair and measuring equipment other than bracketed jigs, including employee-owned equipment, shall be calibrated or verified at intervals specified by the repairer or prior to use. The interval between such calibration shall not exceed that recommended by the equipment manufacturer.

3.4.3.2

Calibration and verification records for equipment, gauges, measuring and test equipment, including employee-owned and subcontracted equipment, shall include:

a) equipment identification, including the measurement reference standard against which the equipment is calibrated;

b) changes to calibrated equipment following vehicle repair specification changes;

c) any out-of-specification readings when equipment is submitted for calibration;
3.4.3.3

In the event that an item is found to be out of calibration, the repairer shall undertake an assessment of the likely impact of that finding on the quality of repairs undertaken during the period since the last correct calibration. The repairer shall ensure that customers are notified if safety critical repair work involving that equipment has been released during the period that the equipment was out of calibration. The outcome of safety critical impact assessments shall be documented and retained for three years.

3.4.4 Maintenance

3.4.4.1

Equipment required to carry out the repair process shall be identified and resources provided for equipment maintenance.

3.4.4.2

A planned total preventive maintenance system shall be developed, documented and implemented to include:

a) scheduled maintenance activities;

b) technology and source data updates.

3.5 Replacement parts and controlled consumables

3.5.1 Replacement parts

Replacement parts shall meet the following requirements:

a) Original parts for the vehicle to be repaired shall bear the vehicle manufacturer’s mark;

or

b) Original parts for the vehicle to be repaired shall bear the part manufacturer’s mark; or
c) Parts for the vehicle to be repaired, shall be supported by certification (either self assessed by the parts supplier or independent third party validated) that the parts have been manufactured to the vehicle manufacturer’s specification and production standards for original parts; or

d) Parts for the vehicle to be repaired shall be supported by certification (either self assessed by the parts supplier or independent third party validated) that the parts are of quality and performance equivalent to the original parts; and

e) The certification process in c) and d) shall be auditable and verifiable to confirm that the parts are compliant with 3.5.1.

**NOTE 1** ‘Original parts’ means parts or equipment which are manufactured according to the specifications and production standards provided by the vehicle manufacturer for the production of parts or equipment for the assembly of the vehicle in question. This includes parts or equipment which are manufactured on the same production line as these parts or equipment. It is presumed, unless the contrary is proven, that parts constitute original parts if the part manufacturer certifies that the parts match the quality of the components used for the assembly of the vehicle in question and have been manufactured according to the specifications and production standards of the vehicle manufacturer.²

**NOTE 2** Reclaimed parts where provenance can be proved can be supplied under 3.5.1 a), b), c) or d).


### 3.5.2 Receiving, handling and storage

#### 3.5.2.1

Replacement parts, displaced parts and controlled consumables for which the manufacturer specifies particular storage, handling or application techniques shall be treated in accordance with the manufacturer’s instructions. For example, bonding materials shall be stored with their ‘use by’ date prominently displayed and arrangements shall be in place to ensure that they are withdrawn from use no later than that date.
3.5.2.2

To restore the operation of the vehicle after repair, where required the repairer shall ensure that fluids such as brake fluids or air conditioning refrigerants used in that restoration are of a specification and performance not less than that of the vehicle manufacturer’s specification for the vehicle type being repaired.

3.5.2.3

Replacement parts and controlled consumables shall be checked for conformity to purchase specification upon receipt.

3.5.2.4

Replacement parts received shall be identified and remain traceable to the vehicle(s) to be repaired for which they were ordered or to which they have been allocated.

3.6 Repair quality control

The repairer shall have in place and operate a quality control procedure appropriate for validating the quality of each repair including, where relevant, final jig and wheel alignment measurements. The repairer shall have in place procedures to ensure that the quality of repairs undertaken is at least to the level specified in the relevant repair methods. A record of the repair quality control outcomes for each stage in the repair process (as defined in 2.12) undertaken shall be signed off by the relevant currently competent person. This procedure shall be documented and retained for three years.

3.7 Use of subcontractors

3.7.1 Specification of subcontracted work

Vehicle repair subcontracted by the repairer shall be specified for completion in accordance with this British Standard and be subject to a specific agreement between the repairer and the subcontractor as specified in 3.7.2.

3.7.2 Subcontracting agreements
Agreements between the repairer and the subcontractor shall ensure that:

a) the current competency of person(s) undertaking the subcontracted repair tasks is as specified in this British Standard;

b) the repair methods, technical data, tools and equipment, parts and controlled consumables used to complete the subcontracted repair meet the requirements of this British Standard;

c) quality control procedures are in place and operated to ensure that work is completed to the agreed repair method;

d) the results of work carried out are documented and made available to the repairer by the subcontractor at completion of the subcontracted repair;

e) vehicles are transferred between the repairer’s premises and where the subcontracted work is to be undertaken in a manner that protects the quality and integrity of the repair and protects the vehicle against any potentially detrimental effects of relocation.

This process shall be audited, and documented evidence that the subcontractor is meeting the above requirements shall be available.

4 Repair process management

4.1 Repair process change

4.1.1 Introduction of new or modified processes

New or modified processes shall be evaluated to verify repair process capability and the changes documented.

4.1.2 Compatibility of repair process change

Any change in the repair process shall be accompanied by a review to ensure compatibility.

4.2 Repair process continuity plan

Procedures shall be established, documented and implemented to ensure that, in the event of an emergency, all repair processes currently in progress or otherwise outstanding can be
Automotive services – Specification for vehicle damage repair processes  BS10125 Draft
completed in accordance with this British Standard whilst remaining under the original repairer’s direction and responsibility.

4.3 Repair process control

The repairer shall have in place a documented repair process control procedure capable of demonstrating that the requirements of this British Standard have been met for each repair undertaken including the completion of the repair quality control procedure specified in 3.6. A record of the application of the repair process control procedure shall be maintained for each repair, including a final quality check, and signed off by a competent person authorized to do so on behalf of the repairer.

4.4 Internal audit and corrective action

4.4.1 Procedure

A procedure for internal auditing of repair processes by the repairer shall be established, implemented and documented to ensure that over the course of a 12 month period each type of repair process undertaken is audited at least once to check conformity to the requirements of this British Standard

4.4.2 Investigation

The cause and consequences of issues raised during internal audit specified in 4.4.1 shall be identified, systematically examined and the findings documented

4.4.3 Corrective action

Corrective action shall include rectification of the particular occurrence identified in accordance with 4.4.2 and initiation of measures to prevent recurrence. If there are previous occurrences that also require corrective action, the relevant vehicle owners shall be contacted and corrective action taken in a timely manner.

4.4.4 Verification of corrective action
Automotive services – Specification for vehicle damage repair processes  BS10125 Draft

The effectiveness of corrective actions undertaken in accordance with 4.4.3 shall be assessed by the repairer and outcomes documented
4.5 Repair process records

In relation to each repair process, as a minimum requirement, the following information shall be documented prior to return of the vehicle to the customer and retained for not less than three years:

a) name and address of the repairer;

b) date of repair commencement;

c) date of repair completion, and drive away time where safety is a consideration, e.g. windscreen sealant cure;

d) the Vehicle Identification Number (VIN), registration number, make, model and mileage of the vehicle;

e) details of repair work carried out;

f) name of operative(s) involved in the repair process;

g) outcome of the repair quality control procedure (see 3.6);

h) confirmation that the repair process has been undertaken in accordance with this British Standard (see 4.3).

5 Claims of conformity

For repair processes for which conformity to this British Standard is claimed the following information shall be included in associated documentation including any documentation specific to the repair, to be issued to the customer:

a) the number and date of this British Standard accompanied by a description of the damage repair undertaken, categorized in accordance with 3.1 and Annex A, e.g. BS 10125:2014, Repair Category 3;

b) the name or trademark of the vehicle body repairer;

c) the postal address of the repair facility.
Automotive services – Specification for vehicle damage repair processes  BS10125 Draft

Marking BS 10125:2014 on or in relation to a repair represents a repairer’s declaration of conformity, i.e. a claim by or on behalf of the repairer that the repair meets the requirements of the standard. The accuracy of the claim is solely the claimant’s responsibility. Such a declaration is not to be confused with third-party certification of conformity.

6 Complaints procedure

Vehicle repairers shall establish, implement and document a complaints procedure.

The complaints procedure shall be made available on request.

Corrective action shall be in accordance with 4.4.3 and 4.4.4.

Annex A (normative) Repair categories — Definitions, required skills, tools and equipment

The repairer shall comply to the categories relevant to the repairs that they undertake as specified in Table A.1.
### Table A.1 – Repair categories — Definitions, required skills, tools and equipment

<table>
<thead>
<tr>
<th>Repair category</th>
<th>Definition</th>
<th>Required skills</th>
<th>Tools and equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>The repair of dents, paint scratches and gouges or trim such that the damaged area can be returned to its pre-damaged condition without the need for replacement of parts. Excludes repair or replacement of road wheels.</td>
<td>Technician skills required to undertake the specified damage repair tasks at the competency level required to complete the specified damage repair process (see 3.2.1), including for: • paintless dent removal (PDR); • vehicle damage (appraisal)^a; • mechanical, electrical and trim (MET); • panel; • paint; • trim repair; • alternative fuel vehicle including HEV awareness, with each repair being undertaken using relevant repair method(s)</td>
<td>Tools appropriate to the repair tasks undertaken, which can include: • tools designed to ease out dents; • general tools, paint matching, application and drying, refinish equipment; • headlamp alignment equipment; • system diagnostic equipment.</td>
</tr>
</tbody>
</table>
### Category 2

As defined in Category 1.

The removal, refitting or replacement of ‘autoglazing units and bolt-on’ parts, example of which includes but is not restricted to:
- bonnets;
- doors;
- roadwheels;
- wings;
- tailgates/boot lids;
- bumpers;
- bumper reinforcement (part of the bumper assembly)

Excludes replacement of bolt on crossmember, chassis, steering and suspension parts and repairs that require the vehicle to be secured for pulling and re-alignment (sill clamp and dozer).

### As defined in Category 1 plus technician skills required to undertake the specified additional damage repair methods and constituent tasks (see 3.2.1) at the competency level required, including for:
- vehicle damage assessment (VDA);
- autoglazing;
- alternative fuel vehicle including HEV competence.

### As defined in Category 1 plus tools appropriate to the additional repair task to be carried out, which can include:
- wheel alignment equipment;
- body alignment equipment;
- autoglazing tools and equipment.
## Automotive services – Specification for vehicle damage repair processes  BS10125 Draft

<table>
<thead>
<tr>
<th>Category 3</th>
<th>As defined in Category 2 and additionally, but not restricted to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• replacement and repair of panel(s);</td>
</tr>
<tr>
<td></td>
<td>• repair and replacement of structural parts including chassis</td>
</tr>
<tr>
<td></td>
<td>members and 'bolt on' chassis related parts;</td>
</tr>
<tr>
<td></td>
<td>• bodyshell and chassis replacements;</td>
</tr>
<tr>
<td></td>
<td>• vehicle safety systems;</td>
</tr>
<tr>
<td></td>
<td>• pedestrian safety systems;</td>
</tr>
<tr>
<td></td>
<td>• SRS devices and sensors;</td>
</tr>
<tr>
<td></td>
<td>• adaptive driver aids;</td>
</tr>
<tr>
<td></td>
<td>• alternative fuel vehicle HEV</td>
</tr>
</tbody>
</table>

As defined in Category 2 plus technician skills required to carry out the additional Category 3 damage repair tasks at the competency level required, which include:
- bonding;
- welding;
- other joining techniques;
- riveting competencies and other structural joining techniques.

As defined in Category 2 plus tools appropriate to the additional repair tasks carried out, which include:
- joining equipment appropriate to the materials;
- vehicle body jigs for measuring and realignment.

A) Appraisal identifies that the repairs required fit within the category.