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# TYPE-CERTIFICATE DATA SHEET

No. EASA.A.151

**AIRBUS A350**

**Type Certificate Holder:**

AIRBUS S.A.S.

2 Rond-point Emile Dewoitine  
31700 BLAGNAC  
FRANCE

Airworthiness Category: Large Aeroplanes

**For Model(s):** A350-941  
A350-1041

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**SECTION 1: A350-900 SERIES**

**I. GENERAL**

1. Type/Model/Variant

A350-900

2. Performance Class

A

3. Certifying Authority

EASA

4. Manufacturer

AIRBUS  
2 Rond-point Emile Dewoitine  
31700 Blagnac  
FRANCE

5. EASA Certification Application Date

A350-941: 15 November 2009

6. EASA Type Certification Date

A350-941: 30 September 2014

## II. CERTIFICATION BASIS

### 1. EASA Certification Basis

The following EASA airworthiness standards are:

- EASA Certification Specifications 25, Amendment 8 – Large Aeroplanes except paragraph 25.795, at Amendment 9, except CS 25.795(b)(3)(iii).  
EASA Certification Specifications 25, paragraph 25.851 (a) and (c), Amendment 12 as per post-TC CRI D-GEN-AIRBUS-01 for installation of Halon free hand-held fire extinguisher.
- EASA Certification Specifications AWO, Initial Issue – All Weather Operations.
- EASA Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance CS ACNS Initial Issue dated 17 December 2013, Subpart D Sections 2/3/4

### 2. Special Conditions

#### 2.1 Special Conditions issued because the product has novel or unusual design features relative to the design practices on which the applicable airworthiness code is based (21.A.16B(a)1)

SC B-01	Stalling and Scheduled Operating Speeds
SC B-02	Motion and effect of cockpit controls
SC B-04	Static Directional, Lateral and Longitudinal Stability and Low Energy Awareness
SC B-05	Flight envelope protection
SC B-06	Normal Load Factor limiting System
SC B-09	Flight in Icing Condition
SC B-11	Soft Go Around Mode (post-TC)
SC C-01	Crash Survivability for CFRP Fuselage
SC C-02	Design dive speed
SC C-05	Tyre Debris vs. Fuel Leakage for CFRP Fuel Tank
SC C-06	Dynamic braking
SC C-07	Limit pilot forces
SC C-10	Design Manoeuvre Requirements
SC C-14	Pivoting Loads
SC D-04	Crew Rest Compartments (post-TC)
SC D-05	Towbarless Towing
SC D-07	Control Surface Position Awareness / Electronic Flight Control Systems
SC D-14	Application of Heat Release and Smoke Density Requirements to Seat Materials
SC D-16	In Flight Fire - Composite Fuselage Construction
SC D-20	Lateral Trim Function through Differential Flap Setting
SC D-21	Type C Passenger Exits

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SC D-32	Use of Magnesium Alloys for Passenger Seat Components (post-TC)
SC D-35	Installation of inflatable seat belts (post-TC)
SC D-36	Installation of structure mounted airbag (post-TC)
SC D-37	Installation of mini-suite type seating (post-TC)
SC E-08	Fire withstanding Capability of CFRP Wing Fuel Tanks
SC F-13	Lithium Battery Installations
SC F-26	Flight Recorders including Data Link Recording
SC F-38	Security Assurance Process to isolate or protect the Aircraft Systems and Networks from internal and external Security Threats
SC G-01	ETOPS Approval
SC G-06	Cancellation of AFM Engine Management Tables

2.2 Special Conditions issued because the intended use of the product is unconventional (21.A.16B(a)2)

SC D-06	High Altitude Operation / High Cabin Heat Load
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2.3 Special Conditions issued because experience from other products has shown that unsafe conditions may develop (21.A.16B(a)3)

SC E-12	Water / Ice in Fuel System
SC F-12	HIRF Protection
SC F-53	Fuel System low Level Indication / Fuel Exhaustion

3. Exemptions / Deviations

None

4. Equivalent safety findings (21A.21(c)(2))

ESF C-11	Ground Loads Conditions
ESF C-12	Undercarriage Lateral Turning Loads
ESF D-11	Packs off operations
ESF D-15	Post Crash Fire - Composite Fuselage Construction
ESF D-19	Overpressure Relief Valves and Outflow Valves
ESF D-23	Indication of the Passenger Door from outside Position if the Door is not fully Closed, Latched and Locked
ESF D-28	Green Arrow and "Open" Placard for Emergency Exit Marking
ESF D-30	Installation of Angled Seats (post-TC)
ESF D-31	Application of reduced Intrusion Loads in certain Areas of the Flight Deck Boundaries
ESF D-34	APU Doors Compliance to CS 25.783(a)

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ESF E-04	Thrust Reverser Testing
ESF E-07	Warning Means for Rolls Royce Engine Fuel Filters
ESF E-09	Rolls Royce Engine Turbine Overheat Detection
ESF E-13	Fire Extinguishing Agent Concentration
ESF E-14	Pressure fuelling system shut-off operation check
ESF F-22	Minimum Mass Flow of Supplemental Oxygen
ESF F-23	Landing Light Switch
ESF F-33	Pneumatic Systems – harmonised 25.1438
ESF F-52	Crew Determination of Quantity of Oxygen in Passenger Oxygen System
ESF F-63	Improved Passenger Oxygen Mask Deployment System
ESF F-69	Pitot Heat Indication Systems
ESF G-05	Engine Oil Temperature Indication
ESF K-03	Localizer Excessive Deviation Alerts (post-TC)
ESF K-04	Limit Risk (post-TC)
ESF K-08	CAT 3 Operations - Super Fail Passive Anomalies (post-TC)

5. Environmental requirements

Fuel venting and emissions:  
EASA Certification Specification 34, Initial Issue.

Noise:  
EASA Certification Specification 36, Amendment 3.

6. Operational Suitability Data

The EASA Type Certification with respect to Operational Suitability Data (OSD) is defined as follows:

- CCD: Certification Specifications and Guidance Material for Cabin Crew Data CS-CCD Initial Issue dated 31 January 2014
- MMEL: Certification Specifications for Master Minimum Equipment List CS-MMEL Initial Issue dated 31 January 2014 (Book 1 only)
- FCD: Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD Initial Issue dated 31 January 2014.

### **III. TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS**

#### 1. A350-900 powered by RR engines

##### 1.1 Type Design Definition

A350-941 Type Design Definition: 00 V 000 A0941 / C90 Issue 2 or later approved issues

##### 1.2 Engines

A350-941: Two (2) Rolls Royce Trent XWB-84 turbofan engines

<b>ENGINE LIMITS DATA SHEET EASA E-111</b>	<b>A350-941 RR Trent XWB-84</b>
Net Take-off (5 minutes)	374.5 kN (84,200 lbf)
Net Maximum Continuous	317.6 kN (71,400 lbf)

The take-off thrust, with the associated limits, shall not be used continuously more than 5 minutes. The duration may be extended to 10 minutes in case of engine failure in multi-engine aircraft. If the duration exceeds 5 minutes, this shall be recorded in the engine log book.

Other engine limitations: See the relevant Engine Type Certificate Data Sheet.

##### 1.3 Fuel and fuel additives

The fuel system has been certified with: JET A, JET A1, JP5, JP8, N° 3 Jet Fuel, RT and TS-1.

Refer to applicable engine "Operating Instructions" document for additives.

##### 1.4 Oil

Refer to applicable engine "Operating Instructions" document.

##### 1.5 Limit Speeds

Refer to approved Airplane Flight Manual.

##### 1.6 Centre of Gravity Range

Refer to approved Airplane Flight Manual.



## SECTION 1: A350-900 SERIES

## 1.7 Maximum Certified Weights

<b>VARIANT (Mod number)</b>	<b>000 (Basic)</b>	<b>001 (104052)</b>	<b>002 (107986)</b>	<b>003 (107987)</b>	<b>004 (108086)</b>
MTOW (t)	268	275	272	268	260
MLW (t)	205	207	207	207	207
MZFW (t)	192	195.7	194	195.7	195.7

<b>VARIANT (Mod number)</b>	<b>005 (108396)</b>	<b>007 (110117)</b>	<b>008 (108594)</b>	<b>009 (109397)</b>	<b>011 (109585)</b>
MTOW (t)	250	268	240	275	255
MLW (t)	205	207	207	207	207
MZFW (t)	192	194	195.7	197.2	195.7

<b>VARIANT (Mod number)</b>	<b>012 (110115)</b>	<b>014 (109837)</b>	<b>015 (110796)</b>
MTOW (t)	250	235	277
MLW (t)	207	207	205
MZFW (t)	194	195.7	192

## 1.8 Notes

None

2. Data pertinent to all A350-900 series

## 2.1 Description

Two turbo-fan, long range, twin-aisle, large category airplane

## 2.2 Fuel quantity

<b>Tanks</b>	<b>Usable Fuel (l)</b>	<b>Usable Fuel (kg)</b>
<b>Wing</b>	29,924	23,490
<b>Center</b>	80,947	63,543
<b>Total</b>	140,795	110,523

Fuel density is 0.785 kg/l

## 2.3 Minimum Flight Crew

Two (2): Pilot and Co-pilot

2.4 Minimum Cabin Crew

For the A350-900, the minimum required cabin crew number established during the aircraft certification process is 8, irrespective of the Maximum Operational Passenger Seating Capacity (MOPSC).

The above minimum cabin crew numbers are those demonstrated by the type certificate holder. A lower number is acceptable in the case of specific cabin layouts if documented in an EASA approved major design change or Supplemental Type Certificate (STC).

In accordance with the operational requirement ORO.CC.100-Number and composition of cabin crew, if the MOPSC for the specific aircraft exceeds 400, the minimum required cabin crew number becomes 9.

2.5 Maximum Operational Passenger Seating Capacity

The maximum number of passengers approved for emergency evacuation is:

- 385 for the basic passenger emergency exit configuration C-A-A-A and A-A-C-A,
- 330 for the optional passenger emergency exit configuration C-A-C-A,
- 440 for the optional passenger emergency exit configuration A-A-A-A.

In accordance with the recommendations given in AC 25.807-1, the individual and sequential zone passenger capacities of the presented exit configurations are as follows:

**Allowable Pax Loadings**

<b>Individual Zone Passenger Capacities</b>	A-A-A-A	C-A-C-A	C-A-A-A	A-A-C-A
Zone A	220	165	165	220
Zone B	220	165	220	165
Zone C	220	165	220	165
<b>Sequential Zone Passenger Capacities - nose to tail</b>				
Zone A + B	330	220	275	275
<b>Sequential Zone Passenger Capacities - tail to nose</b>				
Zone C + B	330	275	330	275
<b>Maximum Passenger Seating Configuration</b>				
Zones A + B + C	440	330	385	385

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The zonal capacities certified on A350-900 are:

<b>A350-900</b>	D1-D4	D1-D2	D2-D3	D3-D4	D1-D3	D4-D2
AAAA	440	110	189	141	299	330
AAAA	428	98	184	146	282	330
AAAA	439	121	159	159	280	318
AAAA	432	102	181	149	283	330
AAAA	440	121	168	151	289	319
CAAA	385	55	189	141	244	330
CAAA	385	95	180	110	275	290
CAAA	385	55	179	151	234	330
CACA	330	56	129	145	185	274
CACA	283	24	133	126	157	259
CACA	295	30	138	127	168	265
CACA	303	28	138	137	166	275
AACA	385	111	129	145	240	274

## 2.6 Cargo compartment loading

<b>Cargo compartment</b>	<b>Maximum load (kg)</b>
<b>Forward</b>	22,000
<b>Aft</b>	19,000
<b>Rear (bulk)</b>	3,468

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weights), see Weight and Balance Manual Chapter 1.10 ref. 00 V 080 A0001 / C9S.

## 2.7 Environmental Flight Envelope

Maximum operating altitude is 43,100 ft.  
Refer to approved Airplane Flight Manual.

## 2.8 Other Limitations

Refer to approved Airplane Flight Manual.

## 2.9 Auxiliary Power Unit (APU)

One APU, Honeywell HGT1700.

Fuel and Oil: Refer to applicable approved Manuals.

## 2.10 Equipment

The equipment required by the applicable requirements shall be installed.

Cabin seats shall conform to the "Passenger Seat Frame Specification" document ref. 00V252K0005/C91 Issue 4.

## 2.11 All Weather Capabilities

The aircraft is qualified to Cat 3 precision approach and autoland.

## 2.12 Wheels and Tyres

<b>Gear</b>	<b>Quantity</b>	<b>Wheel size</b>	<b>Tyre size</b>
<b>NLG</b>	2	16"	1050 x 395R16 28PR
<b>MLG</b>	8	23"	1400 x 530R23 42PR

## 2.13 Hydraulics

Fluid specifications: TYPE IV LD and TYPE V LD, as per NSA 307-110, or any mixture of both.

## 2.14 Electrical Power Center Configuration Data File Tool

An Airline Configuration Tool (EPDS\* Tool Suite) is being developed and qualified to allow airlines to manage the Configuration Data Files of Secondary Power Distribution Boxes (SPDB). This tool will be available post A350 Entry Into Service.

#### **IV. OPERATING AND SERVICE INSTRUCTIONS**

##### 1. Aircraft Flight Manual

A350 Aircraft Flight Manual: STL 35000 (certification reference for TC: 00 V 101 A0941 / C9S Issue 4) or later approved revisions.

##### 2. Maintenance Instructions and Airworthiness Limitations

- Safe Life Airworthiness Limitation Items are provided in the A350 Airworthiness Limitations Section (ALS) Part 1, Revision 00 (Document 00 V 050 ALS01 / C01 Issue 1, [1]);
- Damage-Tolerant Airworthiness Limitation Items are provided in the A350 Airworthiness Limitations Section (ALS) Part 2, Revision 00 (Document 00 V 050 ALS02 / C01 Issue 1, [1]);
- Certification Maintenance Requirements are provided in the A350 Airworthiness Limitations Section (ALS) Part 3, Revision 00 (Document 00 V 050 ALS03 / C01 Issue 2, [1]);
- A350 System Equipment Maintenance Requirements are provided in the A350 Airworthiness Limitations Section (ALS) Part 4, Revision 00 (Document 00 V 050 ALS04 / C01 Issue 1, [1]);
- A350 Fuel System Airworthiness Limitations are provided in the A350 Airworthiness Limitations Section (ALS) Part 5, Revision 00 (Document 00 V 050 ALS05 / C01 Issue 2, [1]);
- Maintenance Review Board Report 00 V 050 AMRBR / C01.

Except if documented in Aircraft documentation (Maintenance Procedures, Structural Repair Instructions, Electrical Standard Practices, Service Bulletins), all elements that are part of the Electrical Structure Network (ESN) shall not be modified, removed or repaired without agreement of Airbus.

Note [1]: Initial Revision and subsequent Variations (that may be compiled in a Revision) are EASA approved.

##### 3. ETOPS

The Type Design, system reliability and performance of the following A350 model(s) were found capable for Extended Range Operations (ETOPS) when configured, maintained and operated in accordance with the current revision of the ETOPS Configuration, Maintenance and Procedures (CMP) document, XWB/EASA: CS 25.1535/CMP.

This finding does not constitute an approval to conduct Extended Range Operations (operational approval must be obtained from the responsible Authority).

The following table provides details on the ETOPS approvals.

<b>Model</b>	<b>Engine Type</b>	<b>180 min. Approval date</b>	<b>Beyond 180 min. Approval date</b>
A350-941	Trent XWB-84	14 October 2014	14 October 2014

## **V. OPERATIONAL SUITABILITY DATA (OSD)**

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

### **1. Master Minimum Equipment List**

- a. The Master Minimum Equipment List has been approved as per the defined Operational Suitability Data Certification Basis and as documented in A350 MMEL (reference: STL 35100) first revision dated 06 November 2014, or later approved revisions.
- b. Required for entry into service by EU operator.

### **2. Flight Crew Data**

- a. The Flight Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "A350 Operational Suitability Data Flight Crew, (Ref: Airbus V01RP1505446 Issue 1, dated 05 May 2015)", or later approved revisions.
- b. Required for entry into service by EU operator.
- c. Pilot Type Rating: The licence endorsement for the A350-900 series aircraft is "A330/A350". The A350-900 and the A330 series aircraft are variants of the same type of aircraft.

### **3. Cabin Crew Data**

- a. The Cabin Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "A350 Operational Suitability Data Cabin Crew, Issue 1.0. (Ref: Airbus V01RP1519368 dated 03 July 2015)", or later approved revisions.
- b. Required for entry into service by EU operator.
- c. The A350-900 aircraft model is determined to be a variant to the A330-200/-300 aircraft model(s).

**SECTION 2: A350-1000 SERIES**

**I. GENERAL**

1. Type/Model/Variant

A350-1000

2. Performance Class

A

3. Certifying Authority

EASA

4. Manufacturer

AIRBUS S.A.S  
2 Rond-point Emile Dewoitine  
31700 Blagnac  
FRANCE

5. EASA Certification Application Date

A350-1041: 30 July 2013

6. EASA Type Certification Date

A350-1041: 21 November 2017

## II. CERTIFICATION BASIS

The Certification Basis included in the below §1 to §7 is valid for all areas of the A350-1041 (no distinction between affected or non-affected areas).

### 1. EASA Certification Basis

The following EASA airworthiness standards are applicable:

- EASA Certification Specification 25, Amendment 13 – Large Aeroplanes
- EASA Certification Specification AWO, Initial Issue – All Weather Operations
- EASA Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance CS ACNS Initial Issue, Subpart D Sections 2/3/4 and Subpart E Section 2.

### 2. Special Conditions

2.1 Special Conditions issued because the product has novel or unusual design features relative to the design practices on which the applicable airworthiness code is based (21.A.16B(a)1)

SC B-01	Stalling and Scheduled Operating Speeds
SC B-1002	Motion and effect of cockpit controls
SC B-04	Static Directional, Lateral and Longitudinal Stability and Low Energy Awareness
SC B-05	Flight envelope protection
SC B-09	Flight in Icing Condition
SC B-11	Soft Go Around mode
SC C-01	Crash Survivability for CFRP Fuselage
SC C-05	Tyre Debris vs. Fuel Leakage for CFRP Fuel Tank
SC C-06	Dynamic braking
SC C-14	Pivoting Loads
SC D-04	Crew Rest Compartments
SC D-07	Control Surface Position Awareness / Electronic Flight Control Systems
SC D-14	Application of Heat Release and Smoke Density Requirements to Seat Materials
SC D-16	In Flight Fire - Composite Fuselage Construction
SC D-20	Lateral Trim Function through Differential Flap Setting
SC D-32	Use of magnesium alloys for passenger seats components
SC D-35	Installation of inflatable seat belts
SC D-36	Installation of structure-mounted airbag
SC D-37	Installation of mini-suite type seating
SC E-08	Fire withstanding Capability of CFRP Wing Fuel Tanks
SC F-13	Lithium Battery Installations
SC F-26	Flight Recorders including Data Link Recording



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SC F-38 Security Assurance Process to isolate or protect the Aircraft Systems and Networks from internal and external Security Threats

SC G-06 Cancellation of AFM Engine Management Tables

2.2 Special Conditions issued because the intended use of the product is unconventional (21.A.16B(a)2)

SC D-06 High Altitude Operation / High Cabin Heat Load

2.3 Special Conditions issued because experience from other products has shown that unsafe conditions may develop (21.A.16B(a)3)

SC E-12 Water / Ice in Fuel System

SC F-12 HIRF Protection

3. Exemptions / Deviations

None

4. Equivalent safety findings (21A.21(c)(2))

ESF C-11 Ground Loads Conditions

ESF C-12 Undercarriage Lateral Turning Loads

ESF D-11 Packs off operations

ESF D-15 Post Crash Fire - Composite Fuselage Construction

ESF D-19 Overpressure Relief Valves and Outflow Valves

ESF D-23 Indication of the Passenger Door from outside Position if the Door is not fully Closed, Latched and Locked

ESF D-28 Green Arrow and "Open" Placard for Emergency Exit Marking

ESF D-30 Installation of Angled Seats

ESF D-31 Application of reduced Intrusion Loads in certain Areas of the Flight Deck Boundaries

ESF D-34 APU Doors Compliance to CS 25.783(a)

ESF E-1004 Trent XWB 97k Thrust Reverser Testing

ESF E-07 Warning Means for Rolls Royce Engine Fuel Filters

ESF E-09 Rolls Royce Engine Turbine Overheat Detection

ESF E-13 Fire Extinguishing Agent Concentration

ESF E-14 Pressure fuelling system shut-off operation check

ESF E-1022 Trent XWB -97 zone 2 and 3 (seals and caps) fire withstanding capability

ESF F-22 Minimum Mass Flow of Supplemental Oxygen

ESF F-23 Landing Light Switch

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ESF F-33	Pneumatic Systems – harmonised 25.1438
ESF F-52	Crew Determination of Quantity of Oxygen in Passenger Oxygen System
ESF F-63	Improved Passenger Oxygen Mask Deployment System
ESF F-69	Pitot Heat Indication Systems
ESF G-05	Engine Oil Temperature Indication
ESF K-03	Localizer Excessive Deviation Alerts
ESF K-04	Limit Risk
ESF K-08	CAT 3 Operations - Super Fail Passive Anomalies

5. Environmental requirements

Fuel venting and emissions:

EASA Certification Specification 34, Amendment 1.

Noise:

EASA Certification Specification 36, Amendment 4.

6. Reversions

Reversion to Amendment 8 is applied for paragraph CS 25.1322 “Flight Crew Alerting”.

7. Operational Suitability Data

The EASA Type Certification with respect to Operational Suitability Data (OSD) is defined as follows:

- CCD: Certification Specifications and Guidance Material for Cabin Crew Data CS-CCD Initial Issue
- MMEL: Certification Specifications for Master Minimum Equipment List CS-MMEL Initial Issue (Book 1 only)
- FCD: Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD Initial Issue

### III. TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS

#### 1. A350-1000 powered by RR engines

##### 1.1 Type Design Definition

A350-1041 Type Design Definition: 00 V 000 A1041 / C10 Issue 2 or later approved issues

##### 1.2 Engines

A350-1041: Two (2) Rolls Royce Trent XWB-97 turbofan engines

<b>ENGINE LIMITS DATA SHEET EASA E-111</b>	<b>A350-1041 RR Trent XWB-97</b>
Net Take-off (5 minutes)	431.5 kN (97,000 lbf)
Net Maximum Continuous	369.6 kN (83,100 lbf)

The take-off thrust, with the associated limits, shall not be used continuously more than 5 minutes. The duration may be extended to 10 minutes in case of engine failure in multi-engine aircraft. If the duration exceeds 5 minutes, this shall be recorded in the engine log book.

Other engine limitations: See the relevant Engine Type Certificate Data Sheet.

##### 1.3 Fuel and fuel additives

The fuel system has been certified with: JET A, JET A1, JP5, JP8, N° 3 Jet Fuel, RT and TS-1.

Refer to applicable engine "Operating Instructions" document for additives.

##### 1.4 Oil

Refer to applicable engine "Operating Instructions" document.

##### 1.5 Limit Speeds

Refer to approved Airplane Flight Manual.

##### 1.6 Centre of Gravity Range

Refer to approved Airplane Flight Manual.

### 1.7 Maximum Certified Weights

<b>VARIANT (Mod number)</b>	<b>000 (Basic)</b>	<b>001 (110476)</b>
MTOW (t)	308	311
MLW (t)	233	236
MZFW (t)	220	223

## 2. Data pertinent to all A350-1000 series

### 2.1 Description

Two turbo-fan, long range, twin-aisle, large category airplane

### 2.2 Fuel quantity

<b>Tanks</b>	<b>Usable Fuel (l)</b>	<b>Usable Fuel (kg)</b>
<b>Wing</b>	29,437	23,108
<b>Center</b>	99,917	78,435
<b>Total</b>	158,791	124,651

Fuel density is 0.785 kg/l

### 2.3 Minimum Flight Crew

Two (2): Pilot and Co-pilot

### 2.4 Minimum Cabin Crew

For the A350-1000, the minimum required cabin crew number established during the aircraft certification process is 8, irrespective of the Maximum Operational Passenger Seating Capacity (MOPSC).

The above minimum cabin crew numbers are those demonstrated by the type certificate holder. A lower number is acceptable in the case of specific cabin layouts if documented in an EASA approved major design change or Supplemental Type Certificate (STC).

In accordance with the operational requirement ORO.CC.100-Number and composition of cabin crew, if the MOPSC for the specific aircraft exceeds 400, the minimum required cabin crew number becomes 9.

2.5 Maximum Operational Passenger Seating Capacity

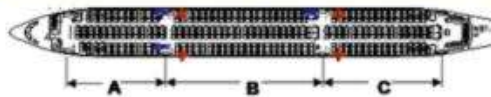
The maximum number of passengers approved for emergency evacuation is:

- 385 for the basic passenger emergency exit configuration C-A-A-A and A-A-C-A,
- 330 for the optional passenger emergency exit configuration C-A-C-A,
- 440 for the optional passenger emergency exit configuration A-A-A-A.

In accordance with the recommendations given in AC 25.807-1, the individual and sequential zone passenger capacities of the presented exit configurations are as follows:

**Allowable Pax Loadings**

Individual Zone Passenger Capacities	A - A - A - A	C - A - C - A	C - A - A - A	A - A - C - A
Zone A	220	165	165	220
Zone B	220	165	220	165
Zone C	220	165	220	165
<b>Sequential Zone Passenger Capacities - nose to tail</b>				
Zone A + B	330	220	275	275
<b>Sequential Zone Passenger Capacities - tail to nose</b>				
Zone C + B	330	275	330	275
<b>Maximum Passenger Seating Configuration</b>				
Zones A + B + C	440	330	385	385



The zonal capacities certified on A350-1000 only **are not** acceptable for A350-900:

<b>A350-1000 only</b>	D1-D4	D1-D2	D2-D3	D3-D4	D1-D3	D4-D2
AAAA	440	110	177	153	287	330
AAAA	440	110	158	172	268	330
AAAA	440	110	165	165	275	330
CAAA	385	55	158	172	213	330
CAAA	370	40	162	168	202	330
CACA	330	55	110	165	165	275
AACA	385	110	110	165	220	275

The zonal capacities certified on A350-900 (ref. Section 1, III, §2.5) are also considered acceptable for A350-1000.

## 2.6 Cargo compartment loading

<b>Cargo compartment</b>	<b>Maximum load (kg)</b>
<b>Forward</b>	26,500
<b>Aft</b>	24,500
<b>Rear (bulk)</b>	1,500

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weights), see Weight and Balance Manual Chapter CTL-LIM ref. 00 V 080 A0001 / C1S.

## 2.7 Environmental Flight Envelope

Maximum operating altitude is 41,450 ft.

Refer to approved Airplane Flight Manual.

## 2.8 Other Limitations

Refer to approved Airplane Flight Manual.

ALS-ETWF (Items of equipment subject to on-going Extent of Test without Failure), reference 00V207AETWF/C11 issue 2:

This document identifies temporary limitations due to ongoing tests. Since no failure occurred at time of TC this specific document ALS –ETWF contains temporary limitations that will be updated depending on test progress or deleted when tests are successfully completed. In case of failure, the failed item will be assessed for introduction in the ALS Part 4 at its demonstrated life limit.

For each item, the recorded progress of the ongoing test is sufficiently ahead of the anticipated fleet leader, even assuming the maximum utilisation rates provided in the approved MRBR.

## 2.9 Auxiliary Power Unit (APU)

One APU, Honeywell HGT1700.

Fuel and Oil: Refer to applicable approved Manuals.

## 2.10 Equipment

The equipment required by the applicable requirements shall be installed.

Cabin seats shall conform to the “Passenger Seat Frame Specification” document ref. 00V252K0005/C01 Issue 1.

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## 2.11 All Weather Capabilities

The aircraft has no All Weather Capabilities at TC.

## 2.12 Wheels and Tyres

<b>Gear</b>	<b>Quantity</b>	<b>Wheel size</b>	<b>Tyre size</b>
<b>NLG</b>	2	16"	1050 x 395R16 28PR
<b>MLG</b>	12	22"	50 x 20.0R22 34PR

## 2.13 Hydraulics

Fluid specifications: TYPE IV LD and TYPE V LD, as per NSA 307-110, or any mixture of both.

## 2.14 Electrical Power Center Configuration Data File Tool

An Airline Configuration Tool (EPDS\* Tool Suite) is being developed and qualified to allow airlines to manage the Configuration Data Files of Secondary Power Distribution Boxes (SPDB). This tool will be available post A350 Entry Into Service.

#### **IV. OPERATING AND SERVICE INSTRUCTIONS**

##### 1. Aircraft Flight Manual

A350 Aircraft Flight Manual: STL 35000 (certification reference for TC: 00 V 101 A1041 / C1S Issue 3) or later approved revisions.

##### 2. Maintenance Instructions and Airworthiness Limitations

- Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A350 Airworthiness Limitations Section (ALS) Part 1 [1],
- Limitations applicable to Damage-Tolerant Airworthiness Limitation Items are provided in the A350 Airworthiness Limitations Section (ALS) Part 2 [1],
- Certification Maintenance Requirements are provided in the A350 Airworthiness Limitations Section (ALS) Part 3 [1],
- System Equipment Maintenance Requirements are provided in the A350 Airworthiness Limitations Section (ALS) Part 4 [1],
- Fuel System Airworthiness Limitations are provided in the A350 Airworthiness Limitations Section (ALS) Part 5 [1].
- Maintenance Review Board Report 00 V 050 AMRBR / C01 issue 2.

Except if documented in Aircraft documentation (Maintenance Procedures, Structural Repair Instructions, Electrical Standard Practices, Service Bulletins), all elements that are part of the Electrical Structure Network (ESN) shall not be modified, removed or repaired without agreement of Airbus.

Note [1]: Initial Revision and subsequent Variations (that may be compiled in a Revision) are approved. The applicable Airworthiness Limitation Section of the ICA is available on the AirbusWorld website.

##### 3. ETOPS

The Type Design, system reliability and performance of the following A350 model(s) were found capable for Extended Range Operations (ETOPS) when configured, maintained and operated in accordance with the current revision of the ETOPS Configuration, Maintenance and Procedures (CMP) document, XWB/EASA: CS 25.1535/CMP.

This finding does not constitute an approval to conduct Extended Range Operations (operational approval must be obtained from the responsible Authority).



The following table provides details on the ETOPS approvals.

<b>Model</b>	<b>Engine Type</b>	<b>180 min. Approval date</b>	<b>Beyond 180 min. Approval date</b>
A350-1041	Trent XWB-97	-	-

## **V. OPERATIONAL SUITABILITY DATA (OSD)**

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

### **1. Master Minimum Equipment List**

- a. The Master Minimum Equipment List has been approved as per the defined Operational Suitability Data Certification Basis and as documented in A350 MMEL (reference: STL 35100), first revision at Type Certification date, or later applicable revision.
- b. Required for entry into service by EU operator.

### **2. Flight Crew Data**

- a. The Flight Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "Operational Suitability Data - Flight Crew – A330/A350 (ref: A330 350 FCDR update for A350-1000\_V00RP1731843\_v1.0, dated 13 October 2017), or later approved revisions.
- b. Required for entry into service by EU operator.
- c. Pilot Type Rating: The licence endorsement for the A350-900 and A350-1000 series aircraft is "A330/A350". The A350-900, the A350-1000 and the A330 series aircraft are variants of the same type of aircraft.

### **3. Cabin Crew Data**

- a. The Cabin Crew data has been approved as per the defined Operational Suitability Data Certification Basis and as documented in "A350 Operational Suitability Data Cabin Crew, Issue 2 (Ref: Airbus V01RP1519368 dated 17 May 2017)", or later approved revisions.
- b. Required for entry into service by EU operator.
- c. The A350-1000 model is determined to be the same aircraft type as the A350-900 model. The A350-900/-1000 model(s) are determined to be variants to the A330-200/-300 aircraft model(s).

## ADMINISTRATIVE SECTION

### VI. ACRONYMS AND ABBREVIATIONS

AFM	Aircraft Flight Manual
ALS	Airworthiness Limitations Section
APU	Auxiliary Power Unit
AWO	All Weather Operations
CFRP	Carbon Fiber Reinforced Plastic
EASA	European Aviation Safety Agency
ESF	Equivalent Safety Finding
ETOPS	Extended Range Operation with Two-Engine Aeroplanes
HIRF	High Intensity Radiated Field
P/N	Part Number
RR	Rolls Royce
SC	Special Condition
TC	Type Certification
TCDS	Type Certificate Data Sheet
XWB	Extra Wide Body

### VII. CHANGE RECORD

Issue	Date	Changes
01	30 September 2014	Initial Issue for TC
02	14 October 2014	Approval of ETOPS 180 min and beyond 180 min
03	09 January 2015	- Part II – Paragraph 2.1; - Part III – Paragraph 1.1; Part III – Paragraph 2.10; - Part III – Paragraph 2.13 - Part IV – Paragraph 1; Part IV – Paragraph 2 - Part V – Paragraph 1
04	31 August 2015	- Part II – Paragraph 7 - Part III – Paragraph 1.7, Paragraph 2.2, Paragraph 2.4 (new) - Part V – Paragraph 1, Paragraph 2, Paragraph 3;
05	22 February 2016	- Part III – Paragraph 1.7
06	18 May 2016	- Part II – Paragraph 2.1
07	24 October 2016	- Part III – Paragraph 1.7
08	08 December 2016	- Part III – Paragraph 1.7
09	30 June 2017	- Part II – Paragraph 2.1, Paragraph 6; - Part III – Paragraph 1.7
10	21 November 2017	- Section 1, Part III – Paragraph 1.7 - Section 2: Inclusion of the A350-1000 TC
11	21 December 2017	- Section 2, Part III – Paragraph 1.7 - Section 2, Part IV – Paragraph 2

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AIRBUS A350

Date: 21 December 2017