



## Materials Declaration Form

<b>IPC Form Type *</b>	1752 Distribute	<b>Version</b>	2
<b>Sectionals *</b>	Material Info Manufacturing Info	<b>Subsectionals *</b>	A-D  <i>* : Required Field</i>

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2015-05-29
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	Refer to "Supplier Comment" section
<b>Contact Phone *</b>	Refer to "Supplier Comment" section	<b>Contact Email *</b>	Refer to "Supplier Comment" section
<b>Authorized Representative *</b>	Giovanni Giacobello	<b>Representative Title</b>	IPD Materials Declaration Champion
<b>Representative Phone *</b>	Refer to "Supplier Comment" section	<b>Representative Email *</b>	Refer to "Supplier Comment" section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	Standard
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**Legal Statement**

Supplier certifies that it gathered the provided information and such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	HWDP*Z38P12R	A	Z4XA	2015-05-29
Amount	UoM	Unit type	ST ECOPACK Grade	
320.00	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used c	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	6.54,6.10,2.29	2	gull wing	
Comment	Package: DP TO 252 DPAK; MDF valid for STPS10170CB-TR			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : REACH-17th December 2014				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	HWDP*238P12R					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	3.147	mg	supplier	die	Silicon (Si)	7440-21-3		2.996	mg	952018	9363
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.019	mg	6037	59
die (s)				supplier	metallization	Titanium (Ti)	7440-32-6		0.003	mg	953	9
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.004	mg	1271	13
die (s)				supplier	metallization	Nickel (Ni)	7440-02-0		0.013	mg	4131	41
die (s)				supplier	metallization	Gold (Au)	7440-57-5		0.013	mg	4131	41
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.018	mg	5720	56
die (s)				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.001	mg	318	3
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	1271	13
die (s)				supplier	back side metallization	Nickel (Ni)	12185-10-3		0.02	mg	6355	63
die (s)				supplier	polymer die coating	Durimide	proprietary		0.056	mg	17795	175
Leadframe	Copper & its alloys	155.751	mg	supplier	alloy	Copper(Cu)	7440-50-8		155.471	mg	988202	485847
Leadframe				supplier	alloy	Iron(Fe)	7439-89-6		0.233	mg	1496	728
Leadframe				supplier	alloy	Phosphorus(P)	7723-14-0		0.047	mg	302	147
Die attach	solder	0.91	mg	supplier	Soft solder	Silver(Ag)	7440-22-4		0.023	mg	25275	72
Die attach				supplier	Soft solder	Lead(Pb)	7439-92-1	7a-Lead in high me	0.869	mg	954945	2716
Die attach				supplier	Soft solder	Tin(Sn)	7440-31-5		0.018	mg	19780	56
Bonding wire	Other inorganic materials	0.663	mg	supplier	bonding wire	Aluminium (Al)	7429-90-5		0.663	mg	1000000	2072
Encapsulation	Other Organic Materials	158.277	mg	supplier	mold compound	Fused Silica	60676-86-0		142.449	mg	899998	445153
Encapsulation				supplier	mold compound	Epoxy Resin	proprietary		11.08	mg	70004	34625
Encapsulation				supplier	mold compound	Phenolic resin	proprietary		3.64	mg	22998	11375
Encapsulation				supplier	mold compound	mixed siloxanes	proprietary		0.792	mg	5004	2475
Encapsulation				supplier	mold compound	Carbon black	1333-86-4		0.316	mg	1996	988
Finishing	solder	1.252	mg	supplier	Connection coating	Tin(Sn)	7440-31-5		1.252	mg	1000000	3913