

## DECLARATION OF PERFORMANCE

### DDP ARCE I2

**1. UNIQUE IDENTIFICATION CODE OF PRODUCT TYPE:**

SAND, GRAVEL, ARMOURSTONE

**2. EXPECTED USE:**

EN 13139:2002 y EN 13139:2002/AC:2004. Aggregates for mortar.

EN 12620:2003 + A1:2008. Aggregates for concrete.

EN 13043:2002 y EN 13043:2002/AC:2004. Aggregates for bituminous mixtures.

EN 13242:2003 +A1:2008, Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction

EN 13383-2:2002. Armourstone

**3. MANUFACTURER:**
**NAME:** CANTERAS Y HORMIGONES SANTANDER S.L.

**SOCIAL ADDRESS:** Bº LA VENTA S/N. 39608 IGOLLO DE CAMARGO. CANTABRIA.

**PRODUCTION ADDRESS:** Arce – Piélagos (Cantabria)

**4. ASSESMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (AVCP)**

2+

**5. HARMONIZED STANDARD:** EN 13139:2002, EN 13139:2002/AC:2004, EN 12620:2003 + A1:2008, EN 13043:2002, EN 13043:2002/AC:2004, EN 13242:2003 +A1:2008, EN 13383-2:2002

**NOTIFIED BODY** BUREAU VERITAS QUALITY INTERNATIONAL Nº 1035 /CPR-ES037756-1

**6. PERFORMANCE FEATURES:**

PRODUCT	PRODUCT CODE	PRODUCT DESCRIPTION	INTENDED USES OF PRODUCTS	PERFORMANCES
SAND 0/2	A02-2 MOR	AF-T-0/2-C	AGGREGATES FOR MORTAR - EN 13139	SEE DECLARED PERFORMANCE TABLE <a href="#">TDDP ARCE I2-A</a> AND TYPICAL GRADING TABLE <a href="#">TDDP ARCE I2-B</a>
SAND 0/4	A04-2 MOR	AF-T-0/4-C		
SAND 0/2	A02-2 HOR	AF-T-0/2-C	AGGREGATES FOR CONCRETE - EN 12620	
SAND 0/4	A04-2 HOR	AF-T-0/4-C		
SAND 0/5	A05-2 HOR	AC-T-0/5-C		
GRAVEL 4/8	G48-2 HOR	AG-T-4/8-C		
GRAVEL 4/12	G612-2 HOR	AG-T-4/12-C		
GRAVEL10/20	G1220-2 HOR	AG-T-10/20-C		
GRAVEL 20/32	G2032-2 HOR	AG-T-20/32-C		
SAND 0/5	A05-2 MBC	AC-T-0/5-C	AGGREGATES FOR BITUMINOUS MIXURES - EN 13043	
GRAVEL 4/12	G612-2 MBC	AG-T-4/12-C		
GRAVEL10/20	G1220-2 MBC	AG-T-10/20-C		
GRAVEL 20/32	G2032-2 MBC	AG-T-20/32-C		
GRAVEL 20/40	G2040-2 MBC	AG-T-20/40-C	AGGREGATES FOR UNBOUND AND HIDRAULICALLY BOUND MATERIALS - EN 13242	
ALL IN 0/32	Z032-2 ACG	AC-T-0/32-C		
ALL IN 0/32	S032-2 ACG	AC-T-0/32-C	ARMOURSTONES - EN 13383	
ARMOURSTONE	E1000-3000-2	1000/3000		

BENEFITS OF THE PRODUCT IDENTIFIED ABOVE ARE CONSISTENT WITH THE SET OF PERFORMANCE FEATURES. THIS BENEFITS STATEMENT IS ISSUED, IN ACCORDANCE WITH THE RULES OF PROCEDURE (UE) Nº 305/2011, UNDER THE SINGLE RESPONSIBILITY OF THE MANUFACTURER UP MARKING.

SIGNED FOR AND ON BEHALF OF THE MANUFACTURER

Carlos Díaz Díaz. General manager commercial and corporate development

SIGN:



Igollo de Camargo, July 1, 2016

**AGGREGATES FOR MORTAR - EN 13139**

MORTAR	PRODUCT	PRODUCT CODE	PARTICLE SHAPE					CLEANLINESS			
			Particle Size	Granulometry			Particle Shape Flakiness index	Particle Density	Sand Equivalent	Methylene Blue	Shell Content
	SAND 0/2	A02-2 MOR	0/2	4 mm- 100%	3 mm- 95-100%	2 mm- 85-99%	NPD	2,68 Mg/m <sup>3</sup>	S.E. >75	<0,40	NPD
SAND 0/4	A04-2 MOR	0/4	8 mm- 100%	5,6 mm- 95-100%	4 mm- 85-99%	NPD	2,68 Mg/m <sup>3</sup>	S.E. >80	NPD	NPD	Category 4
MORTAR	PRODUCT	PRODUCT CODE	COMPOSITION / CONTENT				OTHER PROPERTIES				
			Chlorides	Acid Soluble Sulphates	Total Sulphur	Constituents which Alter the Rate of Setting and Hardening of Mortar	Volume Stability	Water Absorption	Dangerous Substances	Durability Against Freeze / Thaw	Durability Against Alkali / Silica Reactivity
	SAND 0/2	A02-2 MOR	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	pass	NPD	0,49%	NPD	SM <sub>18</sub>	NPD
SAND 0/4	A04-2 MOR	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	pass	NPD	0,49%	NPD	SM <sub>18</sub>	NPD	

**AGGREGATES FOR CONCRETE - EN 12620**

CONCRETE	PRODUCT	PRODUCT CODE	PARTICLE SHAPE				CLEANLINESS			OTHER PROPERTIES					
			Particle Size	Granulometry	Particle Shape Flakiness index	Particle Density	Sand Equivalent	Methylene Blue	Fines Content	Resistance to Fragmentation / Crushing	Resistance to polishing / Abrasion / Wear	Volume Stability	Water Absorption	Dangerous Substances	Durability Against Freeze / Thaw
	SAND 0/2	A02-2 HOR	0/2	G <sub>85</sub>	NPD	2,68 Mg/m <sup>3</sup>	S.E. >75	<0,40	f <sub>28</sub>	NPD	NPD	NPD	0,49%	NPD	SM <sub>18</sub>
SAND 0/4	A04-2 HOR	0/4	G <sub>85</sub>	NPD	2,68 Mg/m <sup>3</sup>	S.E. >80	NPD	f <sub>16</sub>	NPD	NPD	NPD	0,49%	NPD	SM <sub>18</sub>	NPD
SAND 0/5	A05-2 HOR	0/5	G <sub>85</sub>	NPD	2,68 Mg/m <sup>3</sup>	S.E. >70	<0,60	f <sub>16</sub>	NPD	NPD	NPD	0,49%	NPD	SM <sub>18</sub>	NPD
GRAVEL 4/8	G48-2 HOR	4/8	G <sub>c</sub> 85/20	F <sub>135</sub>	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>	LA <sub>25</sub>	NPD	NPD	0,55%	NPD	SM <sub>18</sub>	NPD
GRAVELO 4/12	G612-2 HOR	4/12	G <sub>c</sub> 90/15	F <sub>120</sub>	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>	LA <sub>25</sub>	NPD	NPD	0,55%	NPD	SM <sub>18</sub>	NPD
GRAVEL 10/20	G1220-2 HOR	10/20	G <sub>c</sub> 85/20	F <sub>115</sub>	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>	LA <sub>25</sub>	NPD	NPD	0,55%	NPD	SM <sub>18</sub>	NPD
GRAVEL 20/32	G2032-2 HOR	20/32	G <sub>c</sub> 85/20	F <sub>115</sub>	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>	LA <sub>25</sub>	NPD	NPD	0,55%	NPD	SM <sub>18</sub>	NPD
CONCRETE	PRODUCT	PRODUCT CODE	COMPOSITION / CONTENT						OTHER PROPERTIES						
			Composition of Coarse Recycled Aggregate	Chlorides	Acid Soluble Sulphates	Total Sulphur	Water Soluble Sulphate Content or Recycled Aggregate	Constituents which Alter the Rate of Setting and Hardening of Concrete	Influence or recycled aggregates on initial setting time of cement	Carbonate Content					
	SAND 0/2	A02-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD					
SAND 0/4	A04-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						
SAND 0/5	A05-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						
GRAVEL 4/8	G48-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						
GRAVELO 4/12	G612-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						
GRAVEL 10/20	G1220-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						
GRAVEL 20/32	G2032-2 HOR	NPD	< 0,01% Cl <sup>-</sup>	AS <sub>0,2</sub>	<1% S	NPD	pass	NPD	NPD						



AGGREGATES FOR BITUMINOUS MIXTURES - EN 13043														
PRODUCT	PRODUCT CODE	PARTICLE SHAPE						CLEANLINESS						
		Particle Size	Granulometry	Grading Coarse	Particle Shape Flakiness index	Shape index	Particle Density	Sand Equivalent	Methylene Blue	Fines Content				
SAND 0/5	A05-2 MBC	0/5	G <sub>85</sub>	G <sub>75</sub> NR	NPD	NPD	2,68 Mg/m <sup>3</sup>	S.E. > 70	MB <sub>10</sub>	f <sub>16</sub>				
GRAVEL 4/12	G612-2 MBC	4/12	G <sub>c</sub> 90/15	G <sub>20/15</sub>	Fl <sub>20</sub>	NPD	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>				
GRAVEL 10/20	G1220-2 MBC	10/20	G <sub>c</sub> 85/20	G <sub>20/15</sub>	Fl <sub>15</sub>	NPD	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>				
GRAVEL 20/32	G2032-2 MBC	20/32	G <sub>c</sub> 85/20	G <sub>20/15</sub>	Fl <sub>15</sub>	NPD	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>				
GRAVEL 20/40	G2040-2 MBC	20/40	G <sub>c</sub> 85/20	G <sub>20/15</sub>	Fl <sub>15</sub>	NPD	2,70 Mg/m <sup>3</sup>	NPD	NPD	f <sub>1,5</sub>				
OTHER PROPERTIES														
PRODUCT	PRODUCT CODE	Percentage of Crushed Particles / Broken Surfaces	Affinity to Bituminous Binders	Angularity of fines aggregate	Resistance to Fragmentation / Crushing	Resistance to polishing / Abrasion / Wear	Resistance to Thermal Shock	Volume Stability	Chemical composition	Dangerous Substances	Durability Against Freeze / Thaw	Durability Against Weathering	Abrasion of Studded Tyres	SONNENBRAND OF BASALT
SAND 0/5	A05-2 MBC	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	SM <sub>18</sub>	NPD	NPD	NPD
GRAVEL 4/12	G612-2 MBC	C <sub>100/0</sub>	NPD	NPD	LA <sub>25</sub>	NPD	NPD	NPD	NPD	NPD	SM <sub>18</sub>	NPD	NPD	NPD
GRAVEL 10/20	G1220-2 MBC	C <sub>100/0</sub>	NPD	NPD	LA <sub>25</sub>	NPD	NPD	NPD	NPD	NPD	SM <sub>18</sub>	NPD	NPD	NPD
GRAVEL 20/32	G2032-2 MBC	C <sub>100/0</sub>	NPD	NPD	LA <sub>25</sub>	NPD	NPD	NPD	NPD	NPD	SM <sub>18</sub>	NPD	NPD	NPD
GRAVEL 20/40	G2040-2 MBC	C <sub>100/0</sub>	NPD	NPD	LA <sub>25</sub>	NPD	NPD	NPD	NPD	NPD	SM <sub>18</sub>	NPD	NPD	NPD

AGGREGATES FOR UNBOUND AND HIDRAULICALLY BOUND MATERIALS - EN 13242													
PRODUCT	PRODUCT CODE	PARTICLE SHAPE				CLEANLINESS			Percentage of Crushed Particles / Broken Surfaces	Resistance to Fragmentation / Crushing	Volume Stability		
		Particle Size	Granulometry	Particle Shape Flakiness index	Particle Density	Sand Equivalent	Methylene Blue	Fines Content					
ALL IN 0/32	Z032-2 ACG	0/32	G <sub>A80</sub>	Fl <sub>20</sub>	2,70 Mg/m <sup>3</sup>	S.E. >75	MB < 10	f <sub>9</sub>	C <sub>90/3</sub>	LA <sub>25</sub>	NPD		
ALL IN 0/32	S032-2 ACG	0/32	G <sub>A80</sub>	Fl <sub>20</sub>	2,70 Mg/m <sup>3</sup>	S.E. >35	MB < 10	f <sub>9</sub>	C <sub>90/3</sub>	LA <sub>25</sub>	NPD		
COMPOSITION / CONTENT													
PRODUCT	PRODUCT CODE	Classification of Coarse Recycled Aggregate	Water Soluble Sulphate Content or Recycled Aggregate	Acid Soluble Sulphates	Total Sulphur	Constituents Which alter the rate of setting and hardening of hydraulically bound mixture	Water Absorption	Resistance to Breakage	RELEASE OF HEAVY METALS LEACHING	RELEASE OF OTHER HAZARDOUS SUBSTANCES	Durability Against Freeze / Thaw		
ALL IN 0/32	Z032-2 ACG	NPD	NPD	AS <sub>0,2</sub>	<1%	NPD	WA < 5%	NPD	NPD	NPD	SM <sub>18</sub>		
ALL IN 0/32	S032-2 ACG	NPD	NPD	AS <sub>0,2</sub>	<1%	NPD	WA < 5%	NPD	NPD	NPD	SM <sub>18</sub>		



ARMOURSTONES	ARMOURSTONE - EN 13383							
	PRODUCT	PRODUCT CODE	Particle Size	Granulometry	Resistance to Breakage	Resistance to Attrition	Release of Dangerous substances	Durability Against Freeze / Thaw
	ARMOURSTONE	E1000-3000-2	LTA	HMA <sub>1000-3000</sub>	CS <sub>60</sub>	M <sub>DE</sub> 30	NPD	NPD
	DURABILITY AGAINST WEATHERING							
PRODUCT	PRODUCT CODE	Dicalcium silicate disintegration of air cooled blast furnace slag	Iron disintegration of air cooled blast furnace slag	Disintegration of steel slag	Durability against salt crystallisation	Durability against Weathering		
ARMOURSTONE	E1000-3000-2	NPD	NPD	NPD	MS <sub>25</sub>	NPD		



MORTAR	TYPICAL GRADING - AGGREGATES FOR MORTAR - EN 13139																
	PRODUCT	PRODUCT CODE	PRODUCT DESCRIPTION	SIEVE (% PASSING)													
				0,063	1	2	4	5	6,3	8	10	12,5	14	16	20	31,5	40
	SAND 0/2	A02-2 MOR	AF-T-0/2-C	16,9	39	100	--	--	--	--	--	--	--	--	--	--	--
	SAND 0/4	A04-2 MOR	AF-T-0/4-C	11,8	44	75	100	--	--	--	--	--	--	--	--	--	--

CONCRETE	TYPICAL GRADING - AGGREGATES FOR CONCRETE - EN 12620																
	PRODUCT	PRODUCT CODE	PRODUCT DESCRIPTION	SIEVE (% PASSING)													
				0,063	1	2	4	5	6,3	8	10	12,5	14	16	20	31,5	40
	SAND 0/2	A02-2 HOR	AF-T-0/2-C	16,9	39	100	--	--	--	--	--	--	--	--	--	--	--
	SAND 0/4	A04-2 HOR	AF-T-0/4-C	11,8	44	75	100	--	--	--	--	--	--	--	--	--	--
	SAND 0/5	A05-2 HOR	AC-T-0/5-C	11,8	39	60	94	100	--	--	--	--	--	--	--	--	--
	GRAVEL 4/8	G48-2 HOR	AG-T-4/8-C	--	--	6	10	--	87	100	--	--	--	--	--	--	--
	GRAVELO 4/12	G612-2 HOR	AG-T-4/12-C	--	--	2	3	--	7	36	79	100	--	--	--	--	--
	GRAVEL 10/20	G1220-2 HOR	AG-T-10/20-C	--	--	--	1	--	--	--	2	16	35	61	97	--	--
	GRAVEL 20/32	G2032-2 HOR	AG-T-20/32-C	--	--	--	--	--	--	--	--	1	--	--	6	100	--
	GRAVEL 20/40	G2040-2 HOR	AG-T-20/40-C	--	--	--	--	--	--	--	0	--	--	--	9	75	100

ASPHALT	TYPICAL GRADING - AGGREGATES FOR BITUMINOUS MIXTURES - EN 13043																
	PRODUCT	PRODUCT CODE	PRODUCT DESCRIPTION	SIEVE (% PASSING)													
				0,063	1	2	4	5	6,3	8	10	12,5	14	16	20	31,5	40
	SAND 0/5	A05-2 MBC	AC-T-0/5-C	11,8	39	60	94	100	--	--	--	--	--	--	--	--	--
	GRAVEL 4/12	G612-2 MBC	AG-T-4/12-C	--	--	2	3	--	7	36	79	100	--	--	--	--	--
	GRAVEL 10/20	G1220-2 MBC	AG-T-10/20-C	--	--	--	1	--	--	--	2	16	35	61	97	--	--
	GRAVEL 20/32	G2032-2 MBC	AG-T-20/32-C	--	--	--	--	--	--	--	--	1	--	--	6	100	--
	GRAVEL 20/40	G2040-2 MBC	AG-T-20/40-C	--	--	--	--	--	--	--	0	--	--	--	9	75	100

ROADS	TYPICAL GRADING - AGGREGATES FOR UNBOUND AND HIDRAULICALLY BOUND MATERIALS - EN 13242																
	PRODUCT	PRODUCT CODE	PRODUCT DESCRIPTION	SIEVE (% PASSING)													
				0,063	1	2	4	5	6,3	8	10	12,5	14	16	20	31,5	40
	ALL IN 0/32	Z032-2 ACG	AC-T-0/32-C	4,1	15	24	39	--	52	61	69	77	82	86	92	100	--
	ALL IN 0/32	S032-2 ACG	AC-T-0/32-C	8,7	17	24	34	--	44	52	62	73	79	85	97	100	--

