

Maag Gala's Intellectual Property Assets (Patents)

Active Maag Gala Patents as of July 2023			
Title	Country	Patent Number	Issue Date
STARTER VALVE	Austria (EP)	EP1851023	1/14/2009
SIEVE (EM SCREEN)	Austria (EP)	EP2135023	9/28/2011
VOLATILE INGREDIENTS	Austria (EP)	EP2008784	2/27/2013
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Austria (EP)	EP2212077	10/16/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Austria (EP)	EP2296856	11/13/2013
SELF-CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Austria (EP)	EP1650516	4/2/2014
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Austria (EP)	EP2326474	3/18/2015
STEEP ANGLE CUTTER HUB WITH BLUNT EDGE BLADES	Austria (EP)	EP1984157	4/22/2015
STEEP ANGLE CUTTER HUB AND BLADE ASSEMBLY	Austria (EP)	EP1582327	5/13/2015
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	Austria (EP)	EP2700489	5/27/2015
MELT CUTTER	Austria (EP)	2747969 AT E765321	12/17/2015
FILTRATION SYSTEM	Austria (EP)	2629871	2/10/2016
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS (CPT)	Austria (EP)	1883517	2/17/2016
SOLID FACE DIE PLATE	Austria (EP)	2018257	2/24/2016
ML DRYER SCREEN	Austria (EP)	1830963	4/27/2016
Inwardly Embossed Deflectors	Austria (EP)	2147272	8/17/2016
HOLLOW PELLETS	Austria (EP)	2291276	8/24/2016
PIN DRIVE QUICK DISCONNECT HUB	Austria (EP)	2969442	2/1/2017
EAC Cutterhub	Austria (EP)	2442954	5/31/2017
FILTRATION DEVICE – DIV.	Austria (EP)	2712664	5/31/2017
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Austria (EP)	2401205	8/9/2017
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Austria (EP)	3 014 206 AT 917299	8/9/2017
MELT CUTTER II	Austria (EP)	2958722/E933575	10/4/2017
Melt Component Connection Adapter	Austria (EP)	3237172	5/2/2018

METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Austria (EP)	1919679	7/18/2018
PIN DRIVE QUICK DISCONNECT HUB	Austria (EP)	3072656	8/1/2018
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Austria (EP)	2899006	10/10/2018
ADJUSTABLE DEWATERING INLET	Austria (EP)	3325907	6/19/2019
CONTINUOUS PROCESS FOR FRACTIONING, COMBINATION, AND RECOMBINATION OF ASPHALT COMPONENTS FOR PELLETIZATION AND PACKAGING OF ASPHALT AND ASPHALT-CONTAINING PRODUCTS	Austria (EP)	2563878	6/26/2019
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Austria (EP)	3221106	10/30/2019
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Austria (EP)	3247639	03/04/2020
TUMBLER SYSTEM AND METHODS	Austria (EP)	3265217	04/29/2020
CENTRIFUGAL DRYER WITH CURVED PELLET OUTLET	Austria (EP)	3504497	06/17/2020
HOLLOW PELLET EXTRUSION	Austria (EP)	3194141	06/24/2020
CENTRIFUGAL DRYER WITH INTERNAL BLOWER DUCTING	Austria (EP)	3507557	06/24/2020
SCREEN/HOUSING VIBRATION DAMPER	Austria (EP)	3325905	04/20/2022
SCREEN/HOUSING VIBRATION DAMPER	Austria (EP)	3385651	12/28/2022
Title	Country	Patent Number	Issue Date
SIEVE (EM SCREEN)	Belgium (EP)	EP2135023	9/28/2011
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Belgium (EP)	EP2212077	10/16/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Belgium (EP)	EP2296856	11/13/2013
SOLID FACE DIE PLATE	Belgium (EP)	2018257	2/24/2016
Inwardly Embossed Deflectors	Belgium (EP)	2147272	8/17/2016
HOLLOW PELLETS	Belgium (EP)	2291276	8/24/2016
PIN DRIVE QUICK DISCONNECT HUB	Belgium (EP)	2969442	2/1/2017
FILTRATION DEVICE – DIV.	Belgium (EP)	2712664	5/31/2017
OUTWARDLY PROJECTING EMBOSSSED DEFLECTOR STRIPS	Belgium (EP)	3,014,206	8/9/2017
Melt Component Connection Adapter	Belgium (EP)	3237172	5/2/2018
PIN DRIVE QUICK DISCONNECT HUB	Belgium (EP)	3072656	8/1/2018
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Belgium (EP)	2899006	10/10/2018
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Belgium (EP)	3221106	10/30/2019
Title	Country	Patent Number	Issue Date
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	Brazil	PI 0607272-0	12/13/2016
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS (CPT)	Brazil	PI 0611406-7	8/29/2017
EASY MOUNT DRYER SCREEN	Brazil	PI 0809268-0	7/2/2019

CONTINUOUS BAGGING PROCESSES AND SYSTEM	Brazil	PI 1008611-0	7/16/2019
SYSTEM FOR CONTROLLING CUTTER HUB POSITION IN UNDERFLUID PELLETIZER	Brazil	BR112012000188-4	10/22/2019
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Brazil	PI0917660-8	10/29/2019
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Brazil	PI0918243-8	01/14/2020
FILTRATION DEVICE	Brazil	BR112013009391-9	5/12/2020
PIN DRIVE QUICK DISCONNECT CUTTER HUB	Brazil	BR112015022931-0	7/14/2020
INWARDLY EMBOSSED DEFLECTOR SCREEN	Brazil	PI0812156-7	9/8/2020
SYSTEMS AND METHODS FOR SELF-ALIGNING CUTTING HUB ASSEMBLY	Brazil	112016003492-9	10/5/2021
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL OUTWARDLY PROJECTING DEFLECTOR STRIPS	Brazil	BR112015031530-5	11/23/2021
CONTINUOUS BAGGING PROCESS AND SYSTEM	Brazil	BR112017015555-9	4/19/2022
ROTARY VALVE SYSTEM	Brazil	BR112013030840-0	7/11/2023
Title	Country	Patent Number	Issue Date
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIPS	Canada	2,684,414	7/15/2014
I-HEAT	Canada	2619945	1/19/2016
ASPHALT PELLETIZING AND COATING PROCESS	Canada	2797085	7/25/2017
HEAT FLUX DIE	Canada	2733714	9/5/2017
EAC Cutterhub	Canada	2766052	9/12/2017
Title	Country	Patent Number	Issue Date
LAYERED ROTOMOLDING	Chile	54890	9/28/2017
HEAT FLUX DIE	Chile	51655	1/11/2016
Title	Country	Patent Number	Issue Date
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	China	101107108	1/26/2011
SELF-CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	China	1782646	3/9/2011
CENTRIFUGAL PELLET DRYER MULTI-LAYER SCREEN	China	101124048	6/29/2011
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	China	101184593	2/8/2012
SIEVE (EM SCREEN)	China	101675312	7/4/2012
STEEP ANGLE CUTTER HUB WITH BLUNT EDGE BLADES	China	101405114	11/7/2012
POLYIMIDE BEADS AND METHOD FOR PRODUCTION THEREOF	China	101600549B	11/28/2012
MELT COOLER AND VALVING SYSTEM FOR AN UNDERWATER PELLETIZING PROCESS	China	101472720	4/3/2013
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	China	101484304	4/24/2013

CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIPS	China	102016473	5/1/2013
POSITIONABLE GAS INJECTION NOZZLE ASSEMBLY FOR AN UNDERWATER PELLETIZING SYSTEM	China	102112278	6/26/2013
METHOD AND APPARATUS TO ACHIEVE CRYSTALLIZATION OF POLYMERS UTILIZING MULTIPLE PROCESSING SYSTEMS	China	101998897	12/18/2013
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	China	102333701	1/15/2014
PELLETIZING ASPHALT	China	103038316	2/25/2015
DRYER SYSTEM WITH IMPROVED THROUGHPUT	China	102149525	8/26/2015
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	China	102239035	9/2/2015
FILTRATION DEVICE	China	ZL2010800697608	9/30/2015
Rotary Valve System	China	103596860	4/20/2016
METHOD AND DEVICE FOR EXTRUSION OF HOLLOW PELLETS	China	ZL2009801163944	9/14/2016
MELT CUTTER	China	ZL2012800414398	11/23/2016
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	China	ZL201480034980.5 105324619	8/15/2017
MELT CUTTER II	China	201480009460.9	11/10/2017
PIN DRIVE QUICK DISCONNECT HUB	China	201480015905.4	2/6/2018
FILM FOR BAGGING TACKY MATERIAL	China	201580061227X	4/9/2019
CONTINUOUS BAGGING PROCESSES AND SYSTEM	China	107428421	6/28/2019
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	China	ZL201580063139.3	08/23/2019
METHOD AND DEVICE FOR EXTRUSION OF HOLLOW PELLETS	China	106687276 B	11/1/2019
PIN DRIVE QUICK DISCONNECT HUB	China	108247887 (B)	11/08/2019
CURVED PELLET OUTLET	China	ZL201780063059.7	4/20/2021
MELT COMPONENT CONNECTION ADAPTER	China	ZL201680083820.9	02/09/2021
INTERIOR BLOWER DUCTING	China	ZL 201780063066.7	7/27/2021
Title	Country	Patent Number	Issue Date
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Czech Republic (EP)	EP2296856	11/13/2013
FILTRATION SYSTEM	Czech Republic (EP)	2629871	2/10/2016
Inwardly Embossed Deflectors	Czech Republic (EP)	2147272	8/17/2016
FILTRATION DEVICE – DIV.	Czech Republic (EP)	2712664	5/31/2017
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Czech Republic (EP)	3,014,206	8/9/2017
PIN DRIVE QUICK DISCONNECT HUB	Czech Republic (EP)	3072656	8/1/2018
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Czech Republic (EP)	3221106	10/30/2019

Title	Country	Patent Number	Issue Date
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	France (EP)	EP2296856	11/13/2013
Title	Country	Patent Number	Issue Date
STARTER VALVE	Germany (EP)	EP1851023	1/14/2009
SIEVE (EM SCREEN)	Germany (EP)	EP2135023	9/28/2011
MELT COOLER AND VALVING SYSTEM FOR UNDERWATER PELLETIZING PROCESS	Germany (EP)	EP2007561	1/7/2013
VOLATILE INGREDIENTS	Germany (EP)	EP2008784	2/27/2013
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVIC	Germany (EP)	EP2212077	10/16/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Germany (EP)	EP2296856	11/13/2013
SELF-CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Germany (EP)	EP1650516	4/2/2014
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	Germany (EP)	EP1954470	4/30/2014
MELT CUTTER II	DE-UM	202013001692 U1	7/3/2014
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Germany (EP)	EP2326474	3/18/2015
STEEP ANGLE CUTTER HUB WITH BLUNT EDGE BLADES	Germany (EP)	EP1984157	4/22/2015
STEEP ANGLE CUTTER HUB AND BLADE ASSEMBLY	Germany (EP)	EP1582327	5/13/2015
MELT CUTTER	Germany (EP)	2747969	12/19/2015
FILTRATION SYSTEM	Germany (EP)	2629871	2/10/2016
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS (CPT)	Germany (EP)	1883517	2/17/2016
SOLID FACE DIE PLATE	Germany (EP)	2018257	2/24/2016
ML DRYER SCREEN	Germany (EP)	1830963	4/27/2016
Inwardly Embossed Deflectors	Germany (EP)	2147272	8/17/2016
HOLLOW PELLETS	Germany (EP)	2291276	8/24/2016
Adjustable Dewatering Inlet	DE-UM	20-2016-006451U1	1/23/2017
Screen Housing Vibration Damper	DE-UM	20-2016-006452U1	1/23/2017
PIN DRIVE QUICK DISCONNECT HUB	Germany (EP)	2969442	2/1/2017
Curved Pellet Outlet	DE-UM	20-2017-000499U1	2/14/2017
Interior Blower Ducting	DE-UM	20-2017-000498U1	2/14/2017
EAC Cutterhub	Germany (EP)	2442954	5/31/2017
FILTRATION DEVICE – DIV.	Germany (EP)	2712664	5/31/2017
Melt Component Connection Adapter	DE-UM	202016001455U1	6/8/2017
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Germany (EP)	2401205	8/9/2017
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Germany (EP)	3,014,206	8/9/2017
MELT CUTTER II	Germany (EP)	2958722	10/4/2017
Melt Component Connection Adapter	Germany (EP)	3237172	5/2/2018
POLYIMIDE BEADS AND METHOD FOR PRODUCTION THEREOF	Germany (EP)	EP2121261 DE602007055011.4	5/30/2018
METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Germany (EP)	1919679	7/18/2018

PIN DRIVE QUICK DISCONNECT HUB	Germany (EP)	3072656	8/1/2018
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Germany (EP)	2899006	10/10/2018
ADJUSTABLE DEWATERING INLET	Germany (EP)	3325907	6/19/2019
CONTINUOUS PROCESS FOR FRACTIONING, COMBINATION, AND RECOMBINATION OF ASPHALT COMPONENTS FOR PELLETIZATION AND PACKAGING OF ASPHALT AND ASPHALT-CONTAINING PRODUCTS	Germany (EP)	2563878	6/26/2019
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Germany (EP)	3221106	10/30/2019
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Germany (EP)	3247639	03/04/2020
TUMBLER SYSTEM AND METHODS	Germany (EP)	3265217	04/29/2020
CENTRIFUGAL DRYER WITH CURVED PELLET OUTLET	Germany (EP)	3504497	06/17/2020
HOLLOW PELLET EXTRUSION	Germany (EP)	3194141	06/24/2020
CENTRIFUGAL DRYER WITH INTERNAL BLOWER DUCTING	Germany (EP)	3507557	06/24/2020
SCREEN/HOUSING VIBRATION DAMPER	Germany (EP)	3325905	04/20/2022
SCREEN/HOUSING VIBRATION DAMPER	Germany (EP)	3385651	12/28/2022
Title	Country	Patent Number	Issue Date
FILTRATION DEVICE	Great Britain	2712664	5/31/2017
Title	Country	Patent Number	Issue Date
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR	Gulf Cooperation Council	GC00002993	5/24/2008
EAC Cutterhub	Gulf Cooperation Council	GC0004222	6/29/2016
HEAT FLUX DIE	Gulf Cooperation Council	GC0005887	7/10/2017
FILTRATION DEVICE	Gulf Cooperation Council	GC0005542	9/1/2017
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Gulf Cooperation Council	GC0010849	02/27/2020
FILTRATION DEVICE	Gulf Cooperation Council	GC0011113	05/31/2020
Title	Country	Patent Number	Issue Date
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	India	264452	12/30/2014
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	India	272806	4/27/2016
ML DRYER SCREEN	India	276960	11/7/2016
POSITIONABLE GAS INJECTION NOZZLE	India	284824	6/30/2017
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	India	292102	1/14/2018
Easy Mount Screen	India	293861	3/6/2018

CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL OUTWARDLY PROJECTING DEFLECTOR STRIPS	India	313604	5/31/2019
DRYER SYSTEM WITH IMPROVED THROUGHPUT	India	327934	12/20/2019
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	India	327988	12/23/2019
CONTINUOUS BAGGING SYSTEM	India	348502	10/1/2020
FILTRATION DEVICE	India	363447	03/29/2021
DEVICE FOR SELF-ALIGNING OF CUTTING HUB ASSEMBLY	India	430039	04/26/2023
SCREEN/HOUSING VIBRATION DAMPER	India	436787	06/30/2023
Title	Country	Patent Number	Issue Date
FILTRATION DEVICE	Indonesia	IDP000063667	10/21/2019
Title	Country	Patent Number	Issue Date
STARTER VALVE	Italy (EP)	EP1851023	1/14/2009
SIEVE (EM SCREEN)	Italy (EP)	EP2135023	9/28/2011
MELT COOLER AND VALVING SYSTEM FOR UNDERWATER PELLETIZING PROCESS	Italy (EP)	EP2007561	1/7/2013
VOLATILE INGREDIENTS	Italy (EP)	EP2008784	2/27/2013
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Italy (EP)	EP2212077	10/16/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Italy (EP)	EP2296856	11/13/2013
SELF-CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Italy (EP)	EP1650516	4/2/2014
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Italy (EP)	EP2326474	3/18/2015
STEEP ANGLE CUTTER HUB AND BLADE ASSEMBLY	Italy (EP)	EP1582327	5/13/2015
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	Italy (EP)	EP2700489	5/27/2015
MELT CUTTER	Italy (EP)	2747969	12/20/2015
FILTRATION SYSTEM	Italy (EP)	2629871	2/10/2016
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS (CPT)	Italy (EP)	1883517	2/17/2016
SOLID FACE DIE PLATE	Italy (EP)	2018257	2/24/2016
ML DRYER SCREEN	Italy (EP)	1830963	4/27/2016
Inwardly Embossed Deflectors	Italy (EP)	2147272	8/17/2016
HOLLOW PELLETS	Italy (EP)	2291276	8/24/2016
PIN DRIVE QUICK DISCONNECT HUB	Italy (EP)	2969442	2/1/2017
EAC Cutterhub	Italy (EP)	2442954	5/31/2017
FILTRATION DEVICE – DIV.	Italy (EP)	2712664	5/31/2017
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Italy (EP)	2401205	8/9/2017
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Italy (EP)	3,014,206	8/9/2017
MELT CUTTER II	Italy (EP)	2958722	10/4/2017
Melt Component Connection Adapter	Italy (EP)	3237172	5/2/2018
POLYIMIDE BEADS AND METHOD FOR PRODUCTION THEREOF	Italy (EP)	EP2121261 IT 02018000025600	5/30/2018

METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Italy (EP)	1919679	7/18/2018
PIN DRIVE QUICK DISCONNECT HUB	Italy (EP)	3072656	8/1/2018
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Italy (EP)	2899006	10/10/2018
ADJUSTABLE DEWATERING INLET	Italy (EP)	3325907	6/19/2019
CONTINUOUS PROCESS FOR FRACTIONING, COMBINATION, AND RECOMBINATION OF ASPHALT COMPONENTS FOR PELLETIZATION AND PACKAGING OF ASPHALT AND ASPHALT-CONTAINING PRODUCTS	Italy (EP)	2563878	6/26/2019
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Italy (EP)	3221106	10/30/2019
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Italy (EP)	3247639	03/04/2020
TUMBLER SYSTEM AND METHODS	Italy (EP)	3265217	04/29/2020
CENTRIFUGAL DRYER WITH CURVED PELLET OUTLET	Italy (EP)	3504497	06/17/2020
HOLLOW PELLET EXTRUSION	Italy (EP)	3194141	06/24/2020
CENTRIFUGAL DRYER WITH INTERNAL BLOWER DUCTING	Italy (EP)	3507557	06/24/2020
SCREEN/HOUSING VIBRATION DAMPER	Italy (EP)	3325905	04/20/2022
SCREEN/HOUSING VIBRATION DAMPER	Italy (EP)	3385651	12/28/2022
Title	Country	Patent Number	Issue Date
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	Japan	4789956	7/29/2011
METHOD AND APPARATUS FOR MAKING CRYSTALLINE PET PELLETS	Japan	4828430	9/22/2011
SELF CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Japan	5068943	8/24/2012
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	Japan	5265354	5/10/2013
METHOD AND APPARATUS FOR UNDERWATER PELLETIZING BIOMATERIAL COMPOSITES	Japan	5301274	6/28/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Japan	5364789	9/13/2013
METHOD AND APPARATUS TO ACHIEVE CRYSTALLIZATION OF POLYMERS UTILIZING MULTIPLE PROCESSING SYSTEMS	Japan	5503555	3/20/2014
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Japan	5571082	7/4/2014
CENTRIFUGAL PELLET DRYER ML SCREEN	Japan	5583326	7/25/2014
METHOD AND DEVICE FOR EXTRUSION OF HOLLOW PELLETS	Japan	5636361	10/24/2014
CONTINUOUS PELLETIZING, DRYING AND BAGGING SYSTEMS WITH IMPROVED THROUGHPUT	Japan	5680635	1/16/2015
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Japan	5685684	1/30/2015
METHOD AND APPARATUS FOR ENHANCED MINIMAL SHEAR MOLDING	Japan	5692637	2/13/2015

DRYER SYSTEM WITH IMPROVED THROUGHPUT	Japan	5697597	2/20/2015
FILTRATION DEVICE	Japan	5714114	3/20/2015
SYSTEM FOR CONTROLLING CUTTER HUB POSITION IN UNDERFLUID PELLETIZER	Japan	5785540	9/30/2015
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIP	Japan	5795161	10/14/2015
ASPHALT PELLETIZING AND COATING PROCESS	Japan	5872546	1/22/2016
ROTARY VALVE SYSTEM	Japan	5,933,699	5/13/2016
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Japan	6063125	12/22/2016
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Japan	6093094	2/17/2017
PIN DRIVE QUICK DISCONNECT HUB	Japan	6105149	3/10/2017
ROTARY VALVE SYSTEM	Japan	6232011	10/27/2017
MELT CUTTER II	Japan	6328148	4/27/2018
MELT COMPONENT CONNECTION ADAPTER	Japan	6636169	12/27/2019
INTERIOR BLOWER DUCTING	Japan	7012713	1/20/2022
CURVED PELLET OUTLET	Japan	7132215	8/29/2022
Title	Country	Patent Number	Issue Date
STARTER VALVE	Korea	101239497	2/26/2013
STARTER VALVE	Korea	101264946	5/9/2013
CENTRIFUGAL PELLET DRYER SCREEN	Korea	101266839	5/16/2013
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	Korea	101266840	5/16/2013
SELF CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Korea	101276553	6/13/2013
METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Korea	101308562	9/13/2013
METHOD AND APPARATUS TO ACHIEVE FORMULATION AND REACTIVE POLYMERIZATION UTILIZING A THERMALLY AND ATMOSPHERICALLY CONTROLLED FEEDING SYSTEM FOR THERMOPLASTIC MATERIALS	Korea	101343201	12/12/2013
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	Korea	101357647	1/24/2014
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	Korea	101379345	3/24/2014
MELT COOLER AND VALVING SYSTEM FOR UNDERWATER PELLETIZING PROCESS	Korea	101408161	6/10/2014
SOLID FACE DIE PLATE	Korea	101408165	6/10/2014
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Korea	101455437	10/21/2014
METHOD AND APPARATUS FOR ENHANCED MINIMAL SHEAR MOLDING UTILIZING EXTRUSIONAL, PELLETIZATION, AND MELT RHEOLOGICAL CONTROL OF PELLETS AND MICROPELLETS AND MOLDED OBJECTS MADE THEREFROM	Korea	101479003	12/29/2014
FILTRATION DEVICE	Korea	101506555	3/23/2015
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Korea	101517455	4/28/2015
SIEVE (EM SCREEN)	Korea	101534875	7/1/2015
HOLLOW PELLETS	Korea	101591121	1/27/2016
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Korea	10-1703939	2/1/2017

HEAT FLUX DIE	Korea	1717791	3/17/2017
EAC Cutterhub	Korea	10-1762209	7/21/2017
PIN DRIVE QUICK DISCONNECT HUB	Korea	1768353	8/8/2017
OUTWARDLY PROJECTING EMBOSSED DEFLECTOR STRIPS	Korea	10-1901034	9/14/2018
MELT CUTTER DEVICE	Korea	10-1991024	6/13/2019
DIE PLATE HAVING AN APERTURED FACE COVERED BY A SOLID FACE PLATE	Korea	10-2005647	7/24/2019
DEVICE FOR SELF-ALIGNING OF CUTTING HUB ASSEMBLY	Korea	10-2082189	02/21/2020
MELT CUTTER DEVICE	Korea	10-2132782	07/06/2020
ADJUSTABLE DEWATERING INLET	Korea	10-2264870	6/8/2021
HOLLOW PELLET DIE INSERT	Korea	10-2290338	8/10/2021
SCREEN/HOUSING VIBRATION DAMPER	Korea	10-2320211	10/26/2021
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Korea	10-2330520	11/19/2021
TUMBLER SYSTEMS AND METHODS	Korea	10-2336564	12/2/2021
FILM FOR BAGGING TACKY MATERIALS	Korea	10-2362478	2/9/2022
HARD SHELL FOAM PELLETS	Korea	10-2418240	7/4/2022
CURVED PELLET OUTLET	Korea	10-2432433	8/10/2022
INTERIOR BLOWER DUCTING	Korea	10-2442880	9/7/2022
Title	Country	Patent Number	Issue Date
Inwardly Embossed Deflectors	Malaysia	MY-162101-A	5/31/2017
HEAT FLUX DIE	Malaysia	MY-163277-A	8/30/2017
Filtration Device	Malaysia	MY-170960-A	9/20/2019
Title	Country	Patent Number	Issue Date
CENTRIFUGAL PELLET DRYER SCREEN	Mexico	291544	11/1/2011
MELT COOLER AND VALVING SYSTEM FOR UNDERWATER PELLETIZING PROCESS	Mexico	294381	1/6/2012
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	Mexico	295872	2/9/2012
METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Mexico	296356	2/21/2012
METHOD AND APPARATUS FOR ENHANCED MINIMAL SHEAR MOLDING	Mexico	305052	11/7/2012
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIPS	Mexico	308731	4/15/2013
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	Mexico	309693	5/17/2013
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Mexico	314322	10/17/2013
SOLID FACE DIE PLATE	Mexico	316630	12/18/2013
CONTINUOUS PELLETIZING, DRYING AND BAGGING SYSTEMS WITH IMPROVED THROUGHPUT	Mexico	317772	2/5/2014
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Mexico	318922	4/1/2014

THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Mexico	320241	5/16/2014
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Mexico	330078	5/14/2015
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Mexico	10-1703939	2/1/2017
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Mexico	MX 374911 B	9/15/2020
CONTINUOUS BAGGING SYSTEMS AND METHOD	Mexico	382728	5/19/2021
Title	Country	Patent Number	Issue Date
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Netherlands (EP)	EP2212077	10/16/2013
Inwardly Embossed Deflectors	Netherlands (EP)	EP2147272	8/17/2016
HOLLOW PELLETS	Netherlands (EP)	EP2291276	8/24/2016
FILTRATION DEVICE (CBF)	Netherlands (EP)	EP2712664	5/31/2017
OUTWARDLY PROJECTING EMBOSSSED DEFLECTOR STRIPS	Netherlands (EP)	EP3014206	8/9/2017
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Netherlands (EP)	EP3221106	10/30/2019
Title	Country	Patent Number	Issue Date
FILTRATION SYSTEM	Poland	2629871	2/10/2016
FILTRATION DEVICE	Poland	2712664	5/31/2017
Title	Country	Patent Number	Issue Date
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Russia (EA)	19076	12/30/2013
Title	Country	Patent Number	Issue Date
SELF-CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	Taiwan	I355972	1/11/2012
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	Taiwan	I392572	4/11/2013
CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	Taiwan	I396616	5/21/2013
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSSED DEFLECTOR STRIPS	Taiwan	I437198	5/11/2014
METHOD AND APPARATUS FOR UNDERWATER PELLETIZING POLYMER BIOMATERIAL COMPOSITES WITH REDUCED MOISTURE CONTENT	Taiwan	I440658	6/11/2014
POSITIONABLE GAS INJECTION NOZZLE FOR AN UNDERWATER PELLETIZING SYSTEM	Taiwan	I466768	1/1/2015
SIEVE (EM SCREEN)	Taiwan	I468227	1/11/2015
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Taiwan	I481490	4/21/2015
INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Taiwan	I494202	8/1/2015
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Taiwan	I503214	10/11/2015
FILTRATION SYSTEM	Taiwan	I517889	1/21/2016
PCS/Split Flow	Taiwan	I523745	3/1/2016
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Taiwan	I531509	5/1/2016
EAC Cutterhub	Taiwan	I549801	9/21/2016
PIN DRIVE QUICK DISCONNECT HUB	Taiwan	I599463	9/21/2017
OUTWARDLY PROJECTING EMBOSSSED DEFLECTOR STRIPS	Taiwan	I626413	6/11/2018
SELF-ALIGNING CUTTER HUB ASSEMBLY	Taiwan	I653132	3/11/2019

ADJUSTABLE DEWATERING INLET	Taiwan	I679391	12/11/2019
DRYER SCREEN/HOUSING VIBRATION DAMPER	Taiwan	I687262	03/11/2020
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Taiwan	1720957	3/11/2021
CURVED PELLET OUTLET	Taiwan	I738891	9/11/2021
INTERIOR BLOWER DUCTING	Taiwan	I784977	12/01/2022
Title	Country	Patent Number	Issue Date
SIEVE (EM SCREEN)	Thailand	44161	5/11/2015
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIPS	Thailand	45862	9/11/2015
HEAT FLUX DIE	Thailand	52702	12/2/2016
POSITIONABLE GAS INJECTION NOZZLE	Thailand	56428	8/4/2017
METHOD AND APPARATUS TO ACHIEVE CRYSTALLIZATION OF POLYMERS UTILIZING MULTIPLE PROCESSING SYSTEMS	Thailand	58302	10/16/2017
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Thailand	62726	5/28/2018
Filtration Device	Thailand	71982	10/10/2019
SYSTEM FOR CONTROLLING CUTTER HUB POSITION IN UNDERFLUID PELLETIZER	Thailand	74078	01/29/2020
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Thailand	78902	10/1/2020
MELT CUTTER DEVICE	Thailand	93117	04/21/2023
Title	Country	Patent Number	Issue Date
Asphalt Pelletizing & Coating Process	Trinidad & Tobago	TT/P/2019/00007	2/6/2019
Title	Country	Patent Number	Issue Date
VOLATILE INGREDIENTS	Turkey (EP)	EP2008784	2/27/2013
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	Turkey (EP)	EP2212077	10/16/2013
FILTRATION SYSTEM	Turkey (EP)	EP2629871	2/10/2016
HOLLOW PELLETS	Turkey (EP)	EP2291276	8/24/2016
FILTRATION DEVICE - DIV.	Turkey (EP)	EP2712664	5/31/2017
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Turkey (EP)	EP2401205	8/9/2017
Melt Component Connection Adapter	Turkey (EP)	EP3237172	5/2/2018
PIN DRIVE QUICK DISCONNECT HUB	Turkey (EP)	EP3072656	8/1/2018
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Turkey (EP)	EP2899006	10/10/2018
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	Turkey (EP)	EP3221106	10/30/2019
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	Turkey (EP)	3247639	03/04/2020
SCREEN/HOUSING VIBRATION DAMPER	Turkey (EP)	3325905	04/20/2022
SCREEN/HOUSING VIBRATION DAMPER	Turkey (EP)	3385651	12/28/2022
Title	Country	Patent Number	Issue Date
UNDERWATER PELLETIZER WITH POSITIVELY CONTROLLED CUTTER HUB	United States	7,033,152	4/25/2006
SELF CLEANING CENTRIFUGAL PELLET DRYER AND METHOD THEREOF	United States	7,171,762	2/6/2007
STEEP ANGLE CUTTER HUB AND BLADE ASSEMBLY	United States	7,318,719	1/15/2008

CENTER HEATED DIE PLATE FOR UNDERWATER PELLETIZER	United States	7,402,034	7/22/2008
SELF CLEANING CENTRIFUGAL DRYER SYSTEM AND METHOD THEREOF	United States	7,421,802	9/9/2008
CENTER HEATED DIE PLATE WITH TWO HEAT ZONES FOR UNDERWATER PELLETIZER	United States	7,524,179	4/28/2009
MELT COOLER AND VALVING SYSTEM FOR AN UNDERWATER PELLETIZING PROCESS	United States	RE 45,113	8/10/2010
POSITIONABLE GAS INJECTION NOZZLE ASSEMBLY FOR AN UNDERWATER PELLETIZING SYSTEM	United States	8,007,701	8/30/2011
POSITIONABLE GAS INJECTION NOZZLE ASSEMBLY FOR AN UNDERWATER PELLETIZING SYSTEM	United States	8,011,912	9/6/2011
METHOD AND APPARATUS TO ACHIEVE CRYSTALLIZATION OF POLYMERS UTILIZING MULTIPLE PROCESSING SYSTEMS	United States	8,080,196	12/20/2011
STARTER VALVE	United States	8,187,512	5/29/2012
CENTRIFUGAL PELLET DRYER SCREEN WITH INTEGRAL EMBOSSED DEFLECTOR STRIPS	United States	8,220,177	7/17/2012
APPARATUS AND METHOD FOR CONTROLLED PELLETIZATION PROCESSING	United States	8,303,871	11/6/2012
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	United States	8,361,364	1/29/2013
CENTRIFUGAL DRYER (EM DESIGN)	United States	8,365,430	2/5/2013
METHOD AND APPARATUS FOR MAKING CRYSTALLINE PET PELLETS	United States	8,366,428	2/5/2013
STARTER VALVE	United States	8,414,283	4/9/2013
METHOD AND APPARATUS TO ACHIEVE FORMULATION AND REACTIVE POLYMERIZATION UTILIZING A THERMALLY ATMOSPHERICALLY CONTROLLED FEEDING SYSTEM FOR THERMOPLASTIC MATERIALS	United States	8,444,923	5/21/2013
SOLID FACE DIE PLATE	United States	8,512,021	8/20/2013
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	United States	8,708,688	4/29/2014
METHOD AND DEVICE FOR EXTRUSION OF HOLLOW PELLETS	United States	8,834,760	9/16/2014
VALVE DEVICES, SYSTEMS, AND METHODS FOR CONTROLLING THE DISTRIBUTION OF MATERIALS	United States	8,863,931	10/21/2014
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	United States	8,955,294	2/17/2015
METHOD AND APPARATUS FOR ENHANCED MINIMAL SHEAR MOLDING UTILIZING EXTRUSIONAL, PELLETIZATION, AND MELT RHEOLOGICAL CONTROL OF PELLETS AND MICROPELLETS AND MOLDED OBJECTS MADE THEREFROM	United States	8,969,435	3/3/2015
METHOD AND APPARATUS FOR MAKING CRYSTALLINE POLYMERIC PELLETS AND GRANULES	United States	9,032,641	5/19/2015
PELLETIZING DEVICE AND BLADE HEAD AND/OR GRINDING HEAD FOR SUCH A PELLETIZING DEVICE	United States	9,079,333	7/14/2015
SOLID FACE DIE PLATE	United States	9,149,954	10/6/2015
VALVE DEVICES, SYSTEMS, AND METHODS FOR CONTROLLING THE DISTRIBUTION OF MATERIALS	United States	9,187,247	11/17/2015
PCS/Split Flow	United States	9,259,857	2/16/2016
Asphalt Pelletizing & Coating Process	United States	9,382,423	7/5/2016
EAC Cutterhub	United States	9,481,122	11/1/2016

METHOD AND APPARATUS FOR MAKING CRYSTALLINE PET PELLETS	United States	9,492,948	11/15/2016
PIN DRIVE QUICK DISCONNECT HUB	United States	9,630,347	4/25/2017
WAX PROCESS	United States	9,649,802	5/16/2017
Polyamide Beads and Method of Production Thereof	United States	9,676,121	6/13/2017
Tumbler System	United States	9,782,705	10/10/2017
STARTER VALVE	United States	9,789,640	10/17/2017
HOLLOW PELLETS	United States	9,815,223	11/14/2017
MELT CUTTER II	United States	9,821,503	11/21/2017
DEVICE FOR SELF-ALIGNING OF CUTTING HUB ASSEMBLY	United States	9,873,211	1/23/2018
Melt Cutter	United States	9,873,220	1/23/2018
PIN DRIVE QUICK DISCONNECT HUB	United States	9,902,086	2/27/2018
CONTINUOUS BAGGING PROCESSES AND SYSTEMS	United States	9,925,694	3/27/2018
FILTRATION DEVICE	United States	9,962,634	5/8/2018
Curved Pellet Outlet	United States	10,041,732	8/7/2018
DRYER SYSTEM WITH IMPROVED THROUGHPUT	United States	10,119,762	11/6/2018
DIE PLATE WITH DIE PLATE BODY HAVING AN APERTURED DOWNSTREAM FACE COVERED BY A SOLID FACE PLATE	United States	10,124,523	11/13/2018
TUMBLER SYSTEMS AND METHODS	United States	10,363,499	7/30/2019
MELT COMPONENT CONNECTION ADAPTER	United States	10,384,390	8/20/2019
HARD SHELL FOAM PELLETS	United States	10,500,777	12/10/2019
ADJUSTABLE DEWATERING INLET	United States	10,557,665	02/11/2020
DRYER SCREEN/HOUSING VIBRATION DAMPER	United States	10,648,734	05/12/2020
CENTRIFUGAL DRYER WITH INTERIOR BLOWER DUCTING	United States	10,655,915	05/19/2020
POLYAMIDE BEADS AND METHOD OF PRODUCTION THEREOF	United States	10,940,612	03/09/2021
TUMBLER SYSTEMS AND METHODS	United States	10,987,616	4/27/2021
FILM FOR BAGGING TACKY MATERIALS	United States	11,383,496	7/12/2022
METHODS AND SYSTEMS FOR CRYSTALLIZING TACKY MATERIALS USING A TUMBLER	United States	11,623,367	4/11/2023
Title	Country	Patent Number	Issue Date
DRYER SYSTEM WITH IMPROVED THROUGHPUT	Vietnam	20403	01/02/2019
THERMALLY INSULATED DIE PLATE ASSEMBLY FOR UNDERWATER PELLETIZING AND THE LIKE	Vietnam	20576	01/29/2019