

TECHNICAL SOLUTION FOR PLAYGROUNDS



Vertical Drainage Systems
EN 1177:2018





Comfort, sicurezza e costi contenuti sono i punti di forza dei sotto tappeti della linea REFOPLAY di APETEK, destinati all'installazione in parchi gioco e su tutte le superfici che necessitano di un ottimo livello di ammortizzazione dei colpi. Gli shock pads, di semplice posa, sono composti da una superficie a puzzle dalle notevoli qualità drenanti che fanno sì che, anche a seguito di forti e prolungate piogge, le mattonelle ad incastro restino asciutte. REFOPLAY garantisce divertimento e protezione per bambini di qualunque età.

Confort, seguridad y bajos costes son los puntos fuertes de la base elástica de la línea REFOPLAY de APETEK destinados a la instalación de parques infantiles y a todas las superficies que necesiten de un excelente nivel de amortiguación ante golpes. Los shock pads, de fácil colocación, tienen un diseño en forma de puzzle, con un gran drenaje que permite que las superficies se mantengan secas incluso después de un periodo prolongado de fuerte lluvia. REFOPLAY asegura diversión y seguridad para los niños de todas las edades.

Le confort, la sécurité et le coût sont les atouts du SHOCK PAD, de la ligne REFO PLAY d'APETEK destinée à être installée dans les aires de jeux et sur toutes les surfaces nécessitant un niveau élevé d'amortissement des coups. Les coussinets de choc, une installation facile, sont composés d'une surface au casse-tête, en drainant des qualités remarquables qui le font, même après des pluies fortes et prolongées, les carreaux entrelacés restent secs. REFO PLAY garantit l'amusement et la protection des enfants de tout âge.

Komfort, Sicherheit und Preiswert sind die Stärken von den Fallschutzmatten der REFO PLAY Linie von APETeK. Diese Matten sind entwickelt und werden gefertigt für Einbau in Spielplätze mit Oberfläche die eine hohe Standard für sanfte Fallschutz vorschreiben. Die Fallschutzmatten sind sehr einfach zu verlegen und sind entworfen und ausgeführt mit einem Puzzle. Bei Nässe hat die Matte eine bemerkenswerte Qualität an Drainagekapazität, sodass sogar nach schweren und anhaltenden Regenfälle die Oberflächen und Fallschutzmatten in kurze Zeit wieder trocken und einsatzbereit sind. REFO PLAY garantiert Spaß und Schutz für Kinder aller Alters.

• protezione anticaduta • eccellenti proprietà drenanti • semplicità di installazione • stabilità e resistenza senza pari all'usura • ottima qualità/prezzo • nessuna necessità di manutenzione • ottima durabilità nel tempo

• Protección contra las caídas. Excelentes propiedades de drenaje. Sencillez de instalación. Estabilidad y resistencia incomparables. Óptima relación calidad-precio. Sin necesidad de mantenimiento. Máxima duración.

• Protection contre les chutes • Excellentes propriétés de drainage • Installation simple • Stabilité et résistance inégalée • Excellent prix-qualité • Aucun entretien • Excellente durabilité

• Hohe Fallschutzwerte • Hervorragende Drainage Eigenschaften • Einfache Installierung • Stabilität und Stärke ohne Vergleich • Sehr Preiswert • REFOPLAY ist Umweltfreundlich, mit hoher Flexibilität. • Keine Verpflegung • Eine langjährige und dauerhafte Benutzung



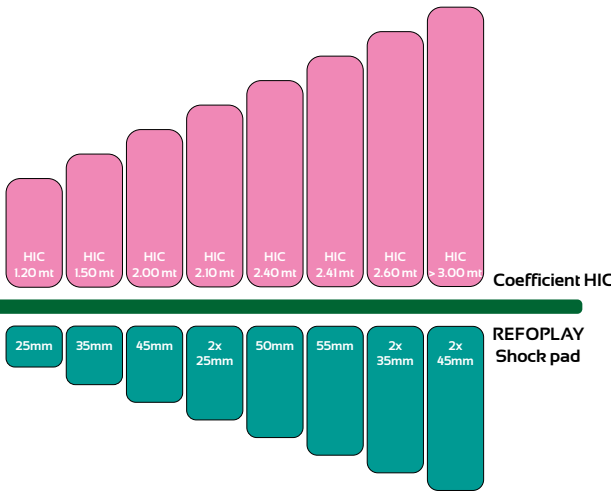
N	Misure normali	Medidas normales	Est pour une mesure normale	Normale Abmessung
S	Misure speciali	medidas especiales	Est pour une mesure spéciale	Spezielle Abmessung
35X2	Due spessori da 35mm = 70mm	Dos espesores de 35mm = 70mm	Deux épaisseurs de 35 mm (l'une au-dessus de l'autre) = 70 mm	Zwei Stärken von 35 mm (Aufeinander) = 70 mm
45X2	Due spessori da 45mm = 90mm	Dos espesores de 45mm = 90mm	Deux épaisseurs de 45 mm (l'une au-dessus de l'autre) = 90 mm	Zwei Stärken von 45 mm (Aufeinander) = 90 mm
RA	Angolo retto (Possibilità di taglio quadro) Dimensione 2290x950mm (2,18mq)	Ángulo recto (puede corte recto) medidas 2290x950mm (2.18 sqm)	Angle droit (plaques avec la possibilité de carré) taille mm 2290 x 950 mm (2,18 mètres carrés par feuille	Sind Fallschutzplatten ohne Puzzle , mit rechte Winkeln. Maße: 2290 x 950 mm
USA cu	Misure americane personalizzate	USA Medidas personalizadas	Mesures personnalisées aux États-Unis	Benutzerdefinierte Maße U.S.

PLAYGROUNDS

Comfort, safety and cost are the strengths of the SHOCK PAD, of the REFO PLAY line of APETEK intended for installation in playgrounds and on all surfaces that require a high level of cu-shioning the blows.

The shock pads, easy installation, are composed of a surface to the puzzle, by draining remarkable qualities that make that, even after strong and prolonged rainfall, the tiles interlocking stay dry. REFO PLAY guarantees fun and protection for children of any age.

- Fall Protection
- Excellent drainage properties
- Simple installation
- Stability and strength unmatched wear
- Excellent quality price
- No maintenance
- Excellent durability



Tested Following EN 1177:2018

Benefits

Meanings

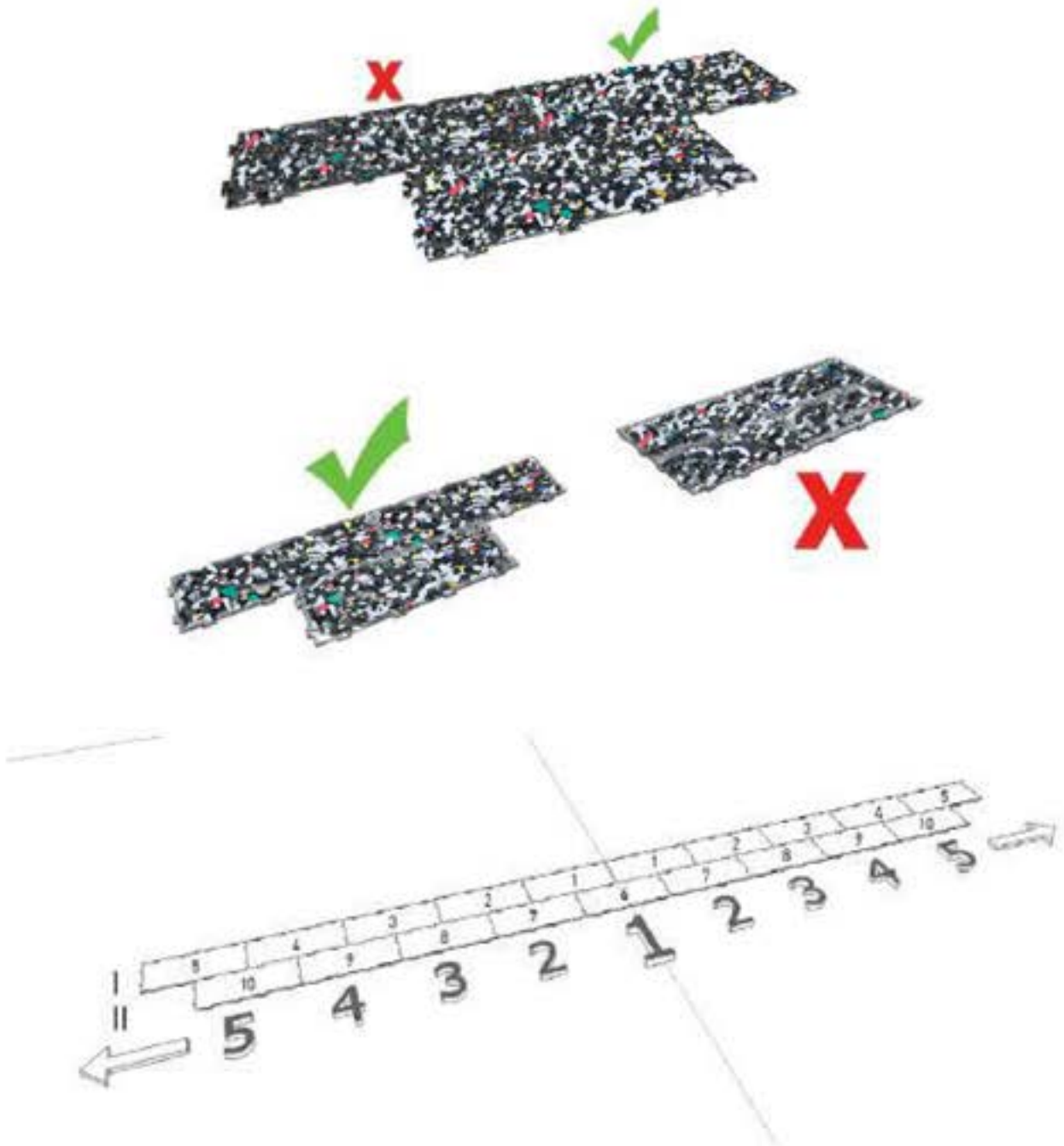
- N Normal measures (ex. REFO PLAY 25 N)
- S Special measures (ex. REFO PLAY 25 S)
- 35x2 Two thicknesses from 35 mm = 70mm
- 45x2 Two thicknesses from 45 mm = 90mm
- RA Right Angle (Plates with the possibility of square cut) Size mm 2290 x 950 mm (2,18 square meters per plates)

USA cu USA Customary Units

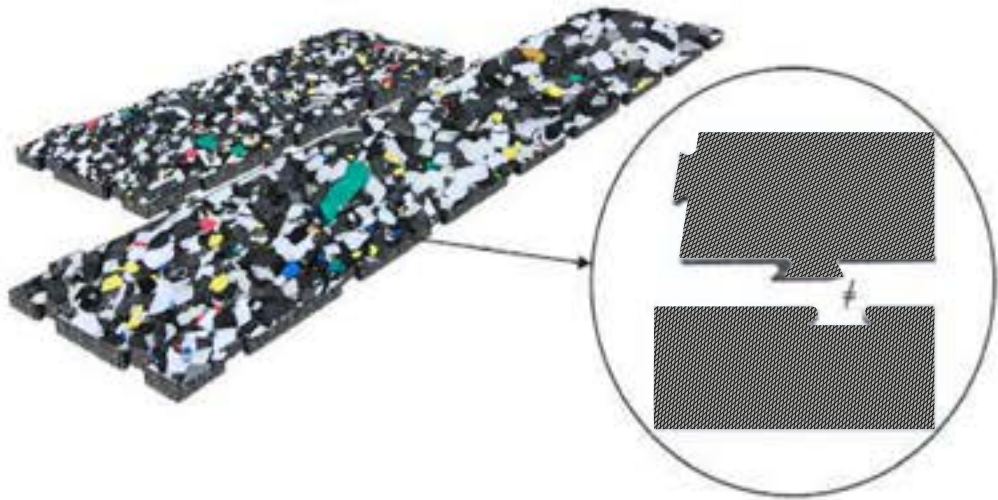
* yd² = m Yard quadrato (American measures)



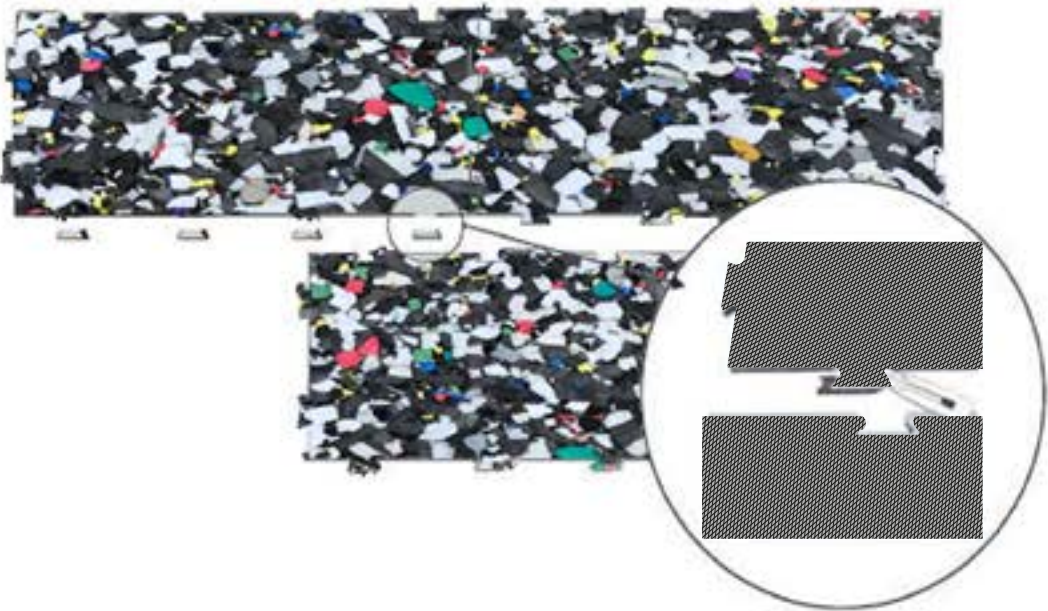
Installation Guide
for all models



1.



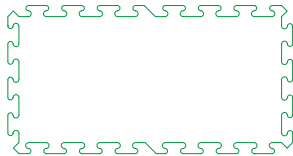
2.



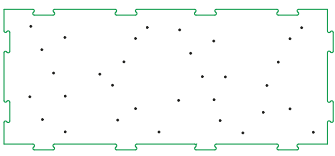
Model "RA"



Model "N"

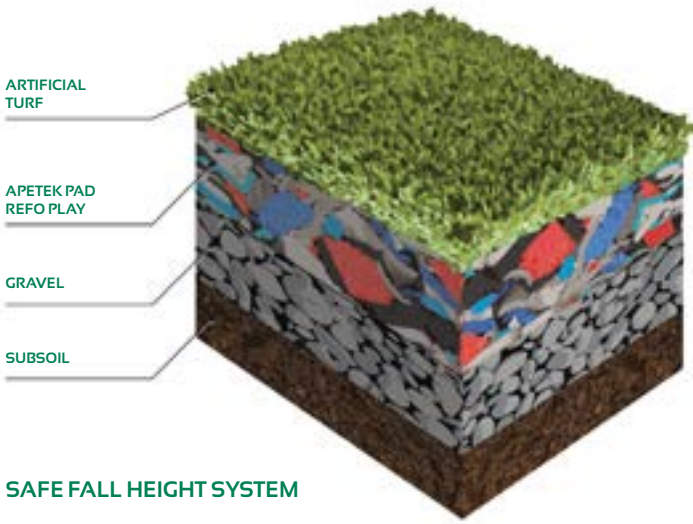


Model "S"



Graphic section of children’s playgrounds

 Safety is paramount when choosing the right surface for your playground or play area. Whether it’s a residential playground, day care facility, or community play area, an artificial surface with APETEK pads stands up to daily wear-and-tear and insurance and safety regulations. All APETEK pads are recommended with surfaces that use advanced backing systems to allow maximum drainage, to make them ideal for children and pets alike.



 La sicurezza è fondamentale quando si sceglie la superficie giusta per il parco giochi o l’area di gioco. Se si tratti di un parco giochi residenziale, di un centro per la cura quotidiana o di un parco giochi comunitario, una superficie artificiale con gli shock pad di APETEK si adatta alle normali normative di usura e sicurezza. Tutti i shock pad APETEK sono consigliati con superfici che utilizzano sistemi di supporto avanzati per consentire il massimo drenaggio, per renderli ideali per bambini e animali domestici.

 Cuando se elige la superficie adecuada para un patio de recreo o una zona de juego la seguridad es primordial. Ya se trate de una terraza o patio residencial o de una zona de juego comunitario, las bases aglomeradas de APETEK resisten el desgaste diario y cumplen con las normas de seguridad vigentes. Las bases aglomeradas de APETEK están recomendadas para superficies basadas en sistemas avanzados que aseguran el máximo drenaje y son ideales para niños y mascotas.

 La sécurité est primordiale lorsque vous choisissez la bonne surface pour votre parc de jeux ou votre aire de jeux . S’il s’agit d’une aire de jeux résidentielle, d’un centre de soins quotidiens ou de jeux communautaire, une surface artificielle avec des plaques APETEK résiste à l’usure quotidienne et respecte les règles de sécurité . Toutes les plaques APETEK sont recommandées avec des surfaces qui utilisent des systèmes de support avancés pour permettre un drainage maximal, afin de les rendre idéales pour les enfants et les animaux de compagnie.

 Sicherheit ist die wichtigste treibende Kraft bei der Auswahl eines Bodens für Spielplatz oder Spielgelände .Ob es ein Spielplatz für zu Hause, Kindergarten, Schule oder ein öffentliches Spielgelände betrifft, eine künstlich gefertigten Fläche mit APETEK Fallschutzplatten garantiert Tag für Tag eine verschleißfeste und sichere Benutzung. Alle APETEK Fallschutzplatten werden empfohlen für Flächen die ein fortgeschrittenes Trägersystem benötigen für maximale Drainage, und zugleich eine ideale Spielfläche für Kinder und Haustiere sind



REFO PLAY 25

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

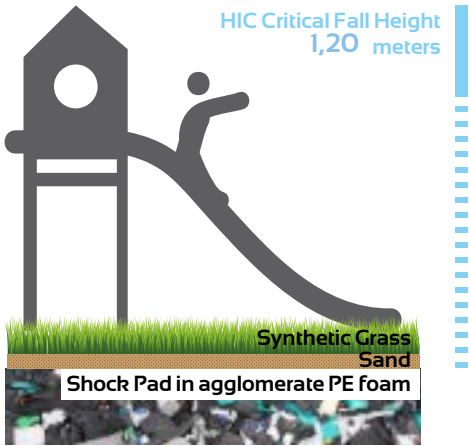
HIC

1177:2018

1.20mt

TECHNICAL SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 25 N	REFO PLAY 25 USA cu	REFO PLAY 25 S
	25 mm	0,98 in	25 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	>118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request



REFO PLAY 35

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

HIC

1177:2018

1.50mt



REFO PLAY 45

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

HIC

1177:2018

2,00mt

TECHNICAL SPECIFICATIONS

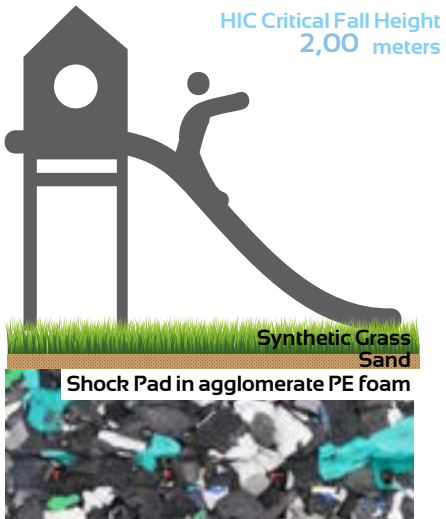
Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 35 N	REFO PLAY 35 USA cu	REFO PLAY 35 S
	35 mm	1,38 in	35 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

TECHNICAL SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 45 N	REFO PLAY 45 USA cu	REFO PLAY 45 S
	45 mm	1,77 in	45 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

REFO PLAY 50
25x2

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

HIC

1177:2018

2,10mt



REFO PLAY 50

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

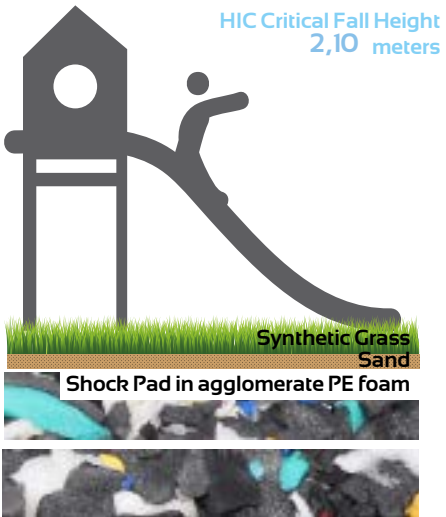
HIC

1177:2018

2,40mt

TECHNICAL
SPECIFICATIONS

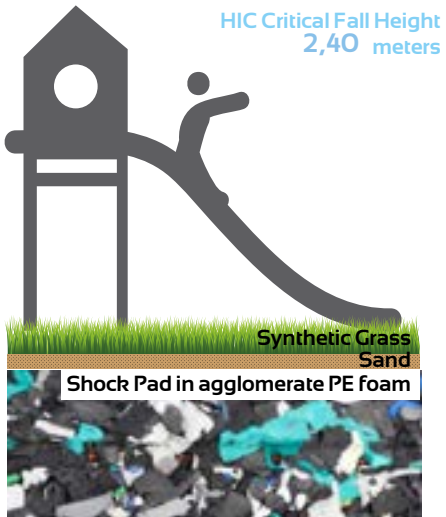
Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 50 N	REFO PLAY 50 USA cu	REFO PLAY 50 S
	25+25 = 50 mm	2,17 in	25+25 = 50 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

TECHNICAL
SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 50 N	REFO PLAY 50 USA cu	REFO PLAY 50 S
	50 mm	1,96 in	50 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

REFO PLAY 55

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

HIC

1177:2018

2,4lmt



REFO PLAY 70 35x2

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

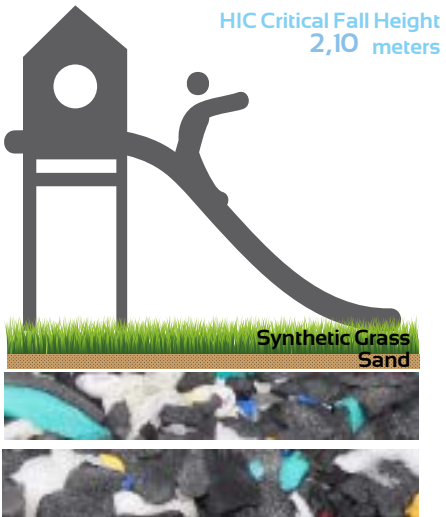
HIC

1177:2018

2,60mt

TECHNICAL SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 55 N	REFO PLAY 55 USA cu	REFO PLAY 55 S
	55 mm	0,98+0,98 = 1,96 in	55 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

TECHNICAL SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 35x2 N	REFO PLAY 35x2 USA cu	REFO PLAY 45x2 S
	35+35 = 70mm	1,38+1,38 = 2,76 in	35+35 = 70mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

REFO PLAY 90 45x2

Vertical Drainage

Is a material that allows water infiltration through the holes preventing any kind of stagnations inside shock pad

HIC

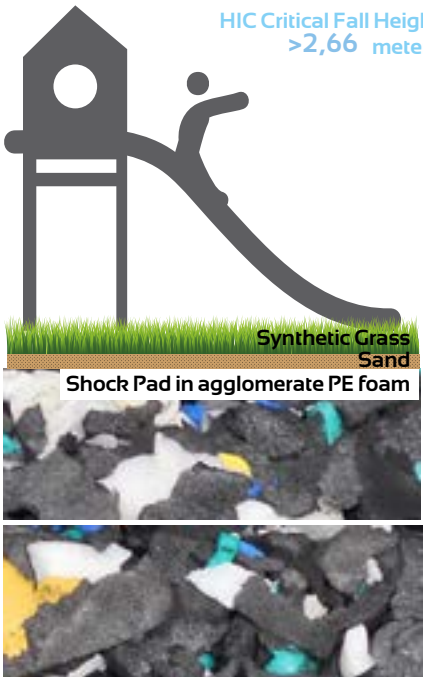
1177:2018

>3.00mt



TECHNICAL SPECIFICATIONS

Caratteristiche tecniche
Características técnicas
Caractéristiques techniques



	REFO PLAY 45x2 N	REFO PLAY 45x2 USA cu	REFO PLAY 45x2 S
	45+45 = 90 mm	1,77+1,77 = 3,54 in	45+45 = 90 mm
	plate with interlocking systems	plate with interlocking systems	plate with interlocking systems
	194,6x101 cm	76,62x39,76 in	225x90 cm
	229x95 cm	90,16x37,40 in	229x95 cm
	1,75 sqm	2,09 yd²	2,025 sqm
	80 Kg/m3	80 Kg/m3	80 Kg/m3
	Vertical	Vertical	Vertical
	> 3000 mm/h	> 118 in/h	> 3000 mm/h
	25 Kg/m²	25 Kg/m²	25 Kg/m²
	On Request	On Request	On Request

CERTIFICATIONS

TEST REPORT

HIC TEST EN 1177:2018 - Method1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 181
Date 31/07/2018

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 18, 24040 Osio Sopra (BG)

Sampling done by: Apetek s.r.l.
Sample arrived on: 20/07/2018
Test date: 30/07/2018
Place of test execution: Laboratory
☒ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 26°C
humidity: 42%

MB_HIC_RDP Ed 02 Rev 00

TEST REPORT

HIC TEST EN 1177:2018 - Method1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 182
Date 31/07/2018

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 18, 24040 Osio Sopra (BG)

Sampling done by: Apetek s.r.l.
Sample arrived on: 20/07/2018
Test date: 30/07/2018
Place of test execution: Laboratory
☒ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 26°C
humidity: 44%

MB_HIC_RDP Ed 02 Rev 00

REFOPLAY 25

REFOPLAY 35

CERTIFICATIONS



TEST REPORT
HIC TEST EN 1177:2018 - Method1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 183
Date 01/08/2018

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 19, 24040 Osio Sopra (BG)

Sampling done by: Apetek s.r.l.
Sample arrived on: 20/07/2018
Test date: 31/07/2018
Place of test execution: ☒ laboratory
☐ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 26°C
humidity: 37%

M3_HIC_RDP Ed.02 Rev.00

REFOPLAY 45



TEST REPORT
HIC TEST EN 1177:2018 - Method1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 184
Date 02/08/2018

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 19, 24040 Osio Sopra (BG)

Sampling done by: Apetek s.r.l.
Sample arrived on: 20/07/2018
Test date: 31/07/2018
Place of test execution: ☒ laboratory
☐ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 26°C
humidity: 40%

M3_HIC_RDP Ed.02 Rev.00

REFOPLAY 50



TEST REPORT
HIC TEST EN 1177:2018 - Method 1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 185
Date 06/08/2018

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 19, 24040 Osio Sopra (BG)

Sampling done by: Apetek s.r.l.
Sample arrived on: 20/07/2018
Test date: 06/08/2018
Place of test execution: ☒ laboratory
☐ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 26°C
humidity: 40%

M3_HIC_RDP Ed.02 Rev.00

REFOPLAY 50 (25x2)



TEST REPORT
HIC TEST EN 1177:2018 - Method1
Impact attenuating playground surfacing
Methods of test for determination of critical fall height

N° 106
Date 16/04/2019

APPLICANT INFORMATION
Company: Apetek s.r.l.
Address: Corso Italia 19, 24040 Osio Sopra (BG)

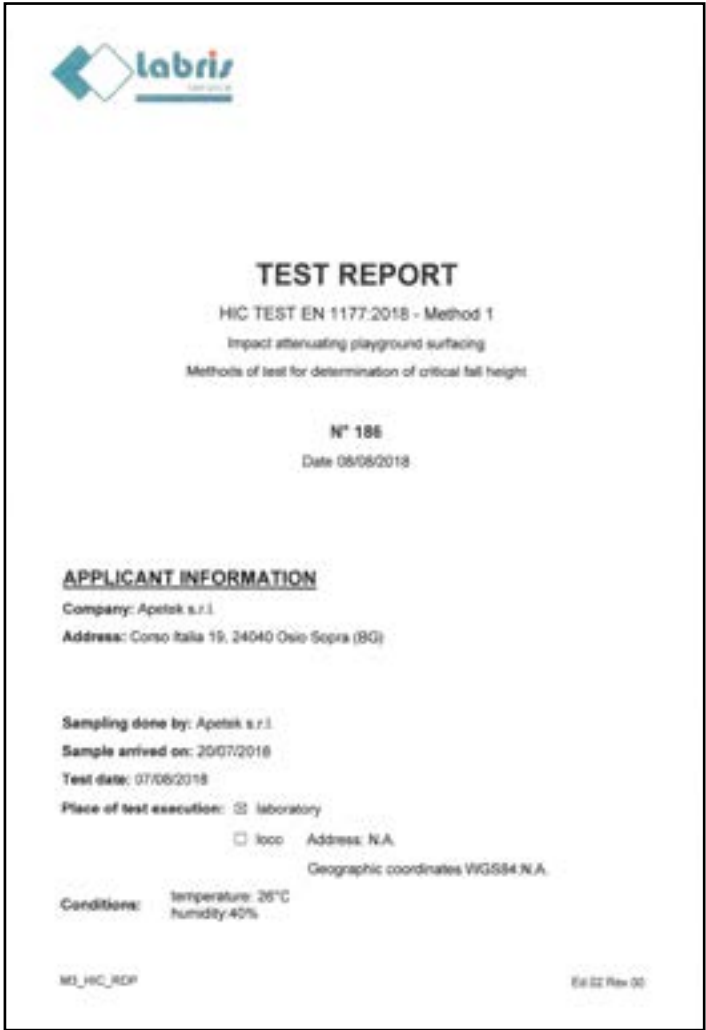
Sampling done by: Apetek s.r.l.
Sample arrived on: 10/04/2019
Test date: 16/04/2019
Place of test execution: ☒ laboratory
☐ loco Address: N.A.
Geographic coordinates WGS84: N.A.

Conditions: temperature: 23°C
humidity: 43%

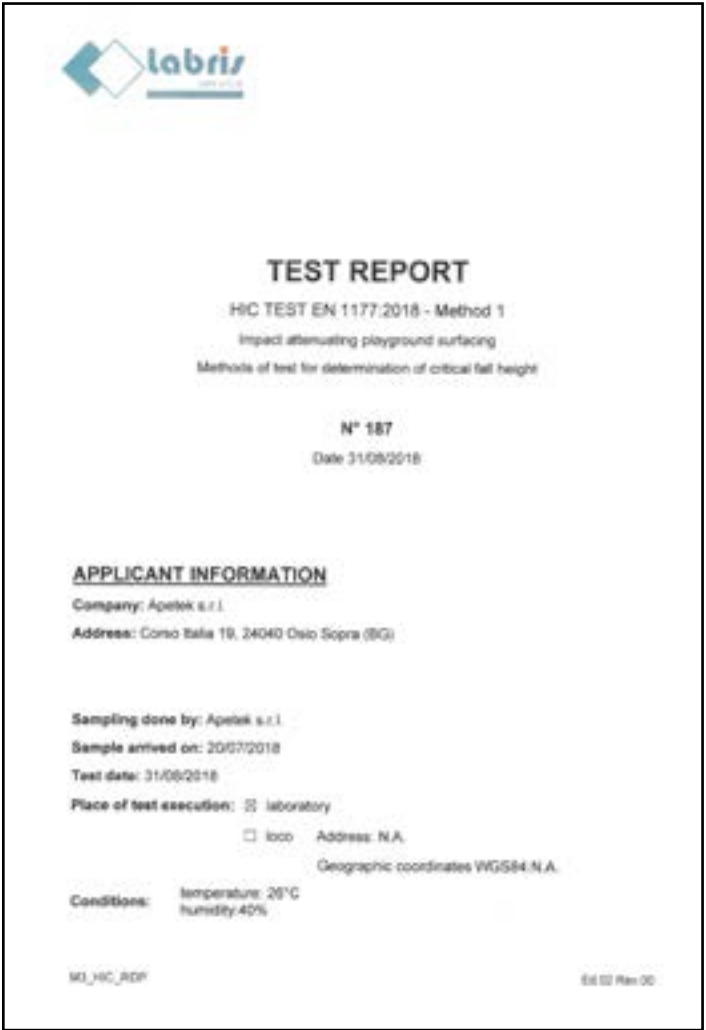
M3_HIC_RDP Ed.02 Rev.00

REFOPLAY 55

CERTIFICATIONS



REFOPLAY 70 (35x2)



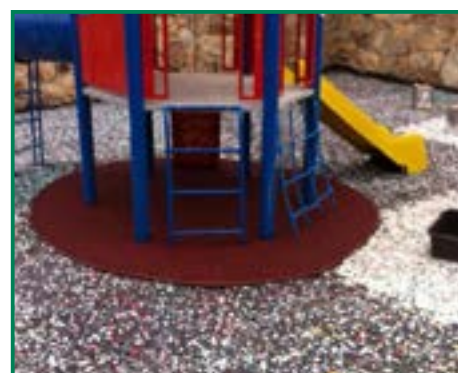
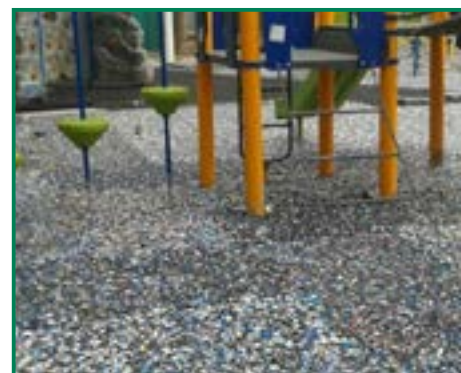
REFOPLAY 90 (45x2)

Iconography

	Thickness	Spessore	Espesor	Epaisseur	Dicke
	Type of material	Tipo di materiale	Tipo de material	Type de matériel	Art der Ausrüstung
	Material supplied	Materiale fornito	Material proporcionado	Matériel fourni en	Materialien zur Verfügung gestellt
	Measures plates/rolls	Misura lastre/rotoli	Medidas placa/rollo	Mesures plaques/rouleaux	Messplatten / Rollen
	Profit plates/rolls	Utile lastra/rotoli	Util placa/rollo	Profit feuilles/rouleaux	Profitblätter / Rollen
	Density m3	Densità	Densidad	Densité	Dichte
	Type of drainage	Tipo di drenaggio	Tipo de drenaje	Type de drainage	Art der Entwässerung
	Shock absorption	Assorbimento allo shock	Absorción impacto	Absorption au choc	Schockabsorption
	Dimensional stability	Stabilità dimensionale	Estabilidad dimensional	Stabilité dimensionnelle	Dimensionsstabilität
	Permeability	Perm. dello shock pad	Perm. del material	Perm. Du choc pad	Perm. Schock-Pad
	Vertical deformation	Deformazione verticale	Deformación vertical	Déformation verticale	Vertikale Verformung
	Hydraulic Capacity	Capacità Idraulica	Capacidad hidráulica	Capacité hydraulique	Hydraulische Kapazität
	Field of application	Campi di applicazione	Campos de aplicación	Applications	Anwendungen
	Certifications	Certificazioni	Certificaciones	Certifications	Zertifizierungen
	Energy Restitution	Energia di restituzione	Retorno de energia	Retour énergie	Energie zurückgeben
	Value HIC	Valore HIC	Valor HIC	Valeur HIC	HIC-Wert
	Measures Angle	Misura angoli	Medidas angulares	Angle de mesure	Misst Winkel
	Infill	Intaso	Relleno	Remplissage	Füllung
	Fire Classification	Certificazione al fuoco	Clasificación al fuego	Classification au feu	Feuerklassifizierung
	Synthetic grass	Erba sintetica	Hierba sintética	Herbe synthétique	Synthetisches gras
	Right Angle	Angolo retto	Ángulo recto	Angle droit	Rechter Winkel



REFERENCES



REFERENCES

NOTE / Nota / Remarque

NOTE / Nota / Remarque

REfoclick

easy installing sportgrounds

REfosport

protective sportgrounds

REfotarget

easy target solutions

REfoprotect

protective grounds



APETEK SRL Corso Italia, 19 24040 Osio Sopra (BG) P.IVA 02984790168- info@apetek.net